December 2020

Training Academies for politicians on Climate Adaptation

Compilation of material

An action of the Climate Adaptation Partnership of the EU Urban Agenda, December 2020

Compilation from 6 training academies led by CEMR

in collaboration with EUROCITIES, COSLA and the Cities of Glasgow, Genoa and Potenza

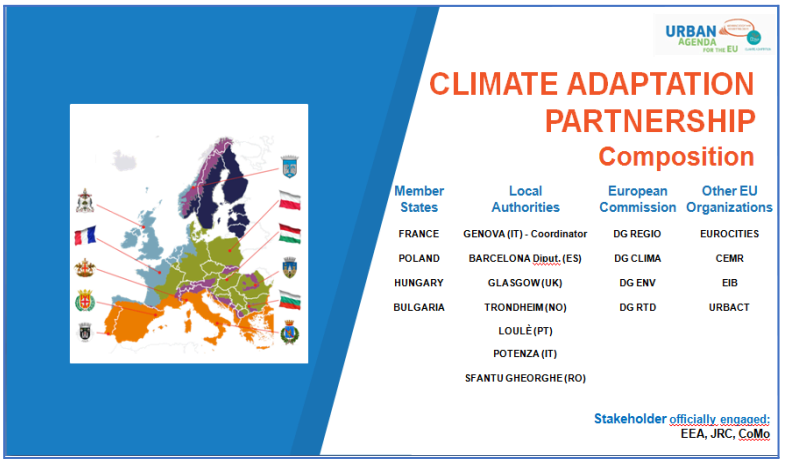
URBAN AGENDA FOR THE EU

WORKING TOGETHER FOR BETTER CITIES

URBAN MOBILITY

Contents

1. Introduction



The Urban agenda has 14 partnerships, and one of them focuses on Climate Adaptation. This one was set up in 2017 as a multilevel and cross-sectoral cooperation instrument and delivery mechanism for the priority theme Climate Adaptation. The objective of the Partnership has been defined as: "To anticipate the adverse effects of climate change and take appropriate action to prevent or minimise the damage it can cause to Urban Areas. The focus is on vulnerability assessments, climate resilience and risk management (including the social dimension of climate adaptation strategies). The coordinator of the partnership is the City of Genoa. These are the partners of this partnership:

The Partnership has developed an Action Plan to provide concrete proposals for the design of future and the revision of existing EU legislation, instruments and initiatives relating to the adaptation to climate change in urban areas in the EU. Its purpose is to operationalise suggested policy and governance solutions for the identified key bottlenecks hindering successful adaptation to climate change in the EU urban areas consists of 10 actions for Better Regulation, Better Funding and Better Knowledge. The climate adaptation Partnership continues now implementing all the activities of the action plan. And one of the actions, Action K3, is called "Political Training Academy on Climate Adaptation". This action has been led by the Council of European Municipalities and Regions (CEMR) in collaboration with other partners: EUROCITIES and the cities of Glasgow, Genova, Loulé and Potenza.

Not every local politician has in-depth knowledge of what climate adaptation means to a city and its' citizens. Politicians can thus benefit from a targeted training dedicated to them on climate adaptation in the urban context. Multiple training sessions for politicians are therefore organized by the Climate Adaptation Partnership to provide general information on what adaptation means for cities, raise awareness of the costs of inaction and provide knowledge of the co-benefits of adaptation actions.

There have been 3 general and 3 local academies: the general academies have targeted a general geographical scope while the local ones have targeted public in one city only. The general academies have been held in: Oslo, 22nd May 2019 in the context of the Urban Future Forum; Brussels, 9 October 2019, in the context of the European Week of Cities and Regions; online, hosted from CEMR in Brussels) on 4th December 2020. The three local academies have been: Glasgow 19th June 2019; Genova, 26 November 2019; Potenza, 17 February 2020.

This document compiles the material provided for each of the 6 academies. The goal is simply to serve as inspiration to politicians and city officials willing to organize similar academies in their cities. The Commission is not responsible for the content provided in this document.

Contact of the lead of the action of training academies for politicians:

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2. Factsheet of the Adaptation partnership

Climate Adaptation Partnership of the Urban Agenda under the EU

What is the Urban Agenda?

The Urban Agenda for the European Union is an intergovernmental cooperation initiative, agreed by the EU Ministers responsible for urban matters in May 2016 during the Pact of Amsterdam. Based on the Pact, thematic partnerships have formed that cover the most pertinent urban challenges in Europe. Each partnership consists of representatives of European cities, national governments, EU institutions and other partners who work together on solutions and recommendations for improving regulations, financing and knowledge in the given thematic areas.

Local impact of climate change

One of 14 thematic areas identified for the Urban Agenda is the impacts of climate change in cities. It is widely recognised that vulnerability and the potential scale of damage due to climate change is especially high in urban areas, which host high density populations, have a high concentration of valuable assets and economic investments as well as essential infrastructure networks and nodes. The key climate change impacts European urban areas are facing are: increasing temperatures, leading to the Urban Heat Island Effect, increased precipitation and extreme precipitation events leading to pluvial and fluvial flooding, water scarcity, as well as increased storm damage and the threat of nearby forest fires.

Climate adaptation Partnership

The *Climate Adaptation Partnership* was established in 2017. The main focus of the Partnership has been defined as:

> *"to anticipate the adverse effects of climate change and take appropriate action to prevent or minimise the damage it can cause to Urban Areas. The focus will be on: vulnerability assessments, climate resilience and risk management (including the social dimension of climate adaptation strategies)."*

Members

The Climate Adaptation Partnership Members represent all governance levels – from the European to the local level - and key decision-makers and stakeholders engaged in urban adaptation to climate change in the EU. Within the Partnership, Action Leaders are responsible for the implementation of the specific actions, supported by Contributing Partners. The Coordinator of the Climate Adaptation Partnership is the City of Genoa.

The Action Plan

The Climate Adaptation Partnership has developed an *Action Plan*, to operationalise suggested policy and governance solutions for key bottlenecks hindering successful adaptation to climate change in the EU urban areas. The Action Plan has been developed in a participatory process involving key stakeholders from the EU institutions, national governments, regional and local authorities. This bottom-up approach ensures that local realities and needs are brought together with a wide-ranging international expertise as well as (inter)national legislative and strategic mandates.

Climate Adaptation Partnership of the Urban Agenda under the EU

GENOVA

Within the Action Plan, *10 Actions* have been defined: solutions aimed to increase the number of urban areas adopting and implementing adaptation plans and strategies resulting in reduced human and economic losses due to climate change impacts. The actions mostly focus on the aspects of integration between adaptation planning and urban planning, cooperation and coordination across sectors and governance levels and capacity and awareness-building activities.

TRONDHEIM

The Actions

The actions address a selection of the key bottlenecks and contribute to the three Pact of Amsterdam objectives: 1) Better Regulation; 2) Better Funding and 3) Better Knowledge.

LOULÉ

BETTER REGULATION

- R1 Analysis of national multilevel urban development and planning regulations with focus on climate adaptation

PROVÍNCIA DE BARCELONA

BETTER FUNDING

- F1 Guidelines and toolkit for the economic analysis of adaptation projects
- F2 Including recommendations for the OPs of the ERDF in order to improve its accessibility for municipalities
- F3 A new LIFE for urban adaptation projects

SFÂNTU GHEORGHE

BETTER KNOWLEDGE

- K1 Improving EU municipalities knowledge in the framework of Copernicus Climate Change Service
- K2 Enhancing the local content of Climate-ADAPT
- K3 Political training on climate adaptation
- K4 Enhancing stakeholder involvement at regional and local levels
- K5 Promote open access of insurance data for climate risk management
- K6 Further engagement of national and sub-national government's associations as key facilitators (and relevant Covenant of Mayors supporters) to best support local authorities in their adaptation process

GLASGOW

POTENZA

Spotlight on Action R1

Climate adaptation requires a long-term strategy, which is difficult to realise within the current institutional and political context. The existing case studies and good practice examples on regulation are diverse, but also too few and not always accessible for their target groups. Therefore, one of the actions of the Partnership is to collect and disseminate best practice examples of national, regional and local regulation to develop conclusions and suggestions for multilevel regulation and operational programs on national level, making them available for each EU Member State.

POLSKA

Spotlight on Action F3

This action consists of enhancing urban municipalities', cities' and towns' capacity to access LIFE funding for urban adaptation projects. The LIFE programme is the EU funding instrument for the environment and climate action. National Contact Points of the LIFE program throughout the EU have been interviewed to identify good practices of Member States or regions working effectively with cities on urban adaptation using LIFE funding. The results of the study are being disseminated across the

FRANCE

EU, making them available to cities, regions and Member States through workshops, city networks and other initiatives such as the Covenant of Mayors. Furthermore, the **cities' feedback on the LIFE** programme will be conveyed to the European Commission making concrete suggestions to improve access of cities to LIFE programme.

Spotlight on Action K3

Not every local politician has a deep knowledge of what **adaptation means to a city and its' citizens** and which specific actions can be proposed. In addition, adaptation measures sometimes require substantial investment that can only be secured if there is sufficient political buy-in. Therefore, under this action various training academies for (local) politicians on climate adaptation are organized. 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.

For more information on the Urban Agenda, the Climate Adaptation Partnership and the Action Plan, please visit https://ec.europa.eu/futurium/en/urban-agenda

3. General academy held in Oslo on 22nd May 2019 in the context of the Urban Future Forum

Agenda

First Political Training Academy on Climate Adaptation, an action of the Climate Adaptation Partnership of the EU Urban Agenda

Initiative financed by the European Commission

Oslo, 22nd May 2019, 14:30-15:30. Session ID 11.6

Session hosted during the Urban Futures Conference

Venue & room name: The Hub | H5 (as of Apr 25) Room capacity: 70

Please mind that UFGC19 takes place in 5 different venues in walking distance to each other. Find an overview of all venues here: https://www.urban-future.org/oslove/

Target group: Local politicians

Objectives: Create awareness for the needs of climate change adaptation and knowledge of adaptation measures/ options
Overview on climate change impacts and challenges; options to act; benefits of early action; where to find support

Agenda

- Climate change impacts in Europe's cities, the urgency to adapt and benefits to gain (including the risks of not adapting)
- International and EU framework on adaptation
- Examples of different adaptation options and linkages to other urban challenges?
- Success factors to develop and implement effective adaptation action and generating additional and immediate benefits
- Financing options, support tools and supporters for urban adaptation in Europe

Trainer of this session: Birgit Georgi, Germany. "Strong cities in a changing climate"

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Background of the Climate Adaptation Partnership

The Urban Agenda for the EU was launched in May 2016 with the Pact of Amsterdam. It represents a new multi-level working method promoting cooperation between Member States, cities, the European Commission and other stakeholders in order to stimulate growth, liveability and innovation in the cities of Europe and to identify and successfully tackle social challenges.

The Urban agenda has 14 partnerships, and one of them focuses on Climate Adaptation. This one was set up in 2017 as a multilevel and cross-sectoral cooperation instrument and delivery mechanism for the priority theme Climate Adaptation. The objective of the Partnership has been defined as: "*To anticipate the adverse effects of climate change and take appropriate action to prevent or minimise the damage it can cause to Urban Areas. The focus will be on: vulnerability assessments, climate resilience and risk management (including the social dimension of climate adaptation strategies).*

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The climate adaptation Partnership has entered the implementation phase of the action plan. And one of the actions is (Action K3): "Political Training Academy on Climate Adaptation". This action is led by the Council of European Municipalities and Regions (CEMR) in collaboration with other partners: EUROCITIES and cities of Glasgow, Genova, Loulé and Potenza.

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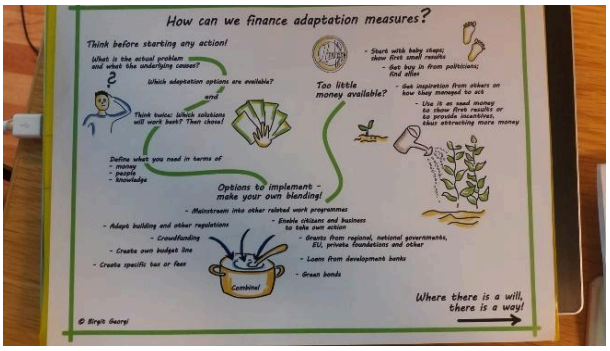
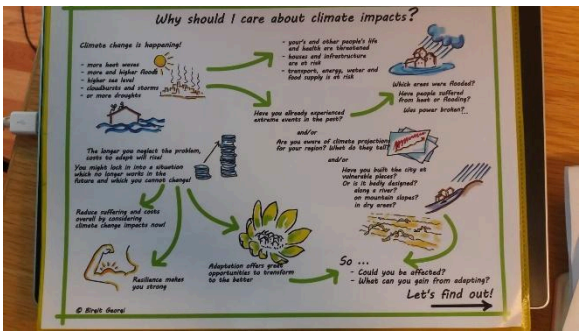
There are 3 general and various local academies:

1. General academies
    a. Oslo, 22nd May 2019 in the context of the Urban future forum.
    b. Brussels, October, in the context of the European Week of Cities and Regions to be held between 7-10th October 2019 (exact date of the academy TBC).
    c. Innsbruck, Austria, 6-8th May 2020 in the context of the CEMR congress, open to any politician wishing to attend
2. Local academies
    a. Glasgow 19th June 2019
    b. Genova, Autumn 2019 (exact date TBC)

c. Loulé End 2019 - TBC
d. Potenza – Nov 2019 TBC
e. Trondheim? TBC

Presentation by the trainer





Full set of slides. Click here link (28 slides)

Pictures of the session

Article produced for distribution

Training political academy on adaptation" within the context of the EU Adaptation Urban Partnership

On 22 May 2019, at the Urban Future global conference in Oslo

Birgit Georgi, 12/6/2019

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 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. The first academy took place in Oslo at the Urban Future global conference on May 22 2019. The trainer was Birgit Georgi (from "Strong cities in a changing climate" consultancy), supported by Eva Baños de Guisasola (CEMR). More events are planned (see at the end of the document).

Around 30 city stakeholders joined the training, among them various mayors, vice mayors and city representatives from these countries: Norway, Ireland, The NL, Finland, Sweden, Island,US, Latvia, Portugal and organisations from Hungary and Italy. These stakeholders

are just approaching the topic of adaptation to cities well on their way although, they still see areas for further improvement.

Training approach

The duration of the training was 1 hour and consisted of a presentation by the trainer and interactions with the audience in the form of hand raisings, constellation exercises and Q&A. Cities in the room 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 had been heavily constrained for this complex topic.

The training offered information on: Climate change impacts in cities, adaptation needs and benefits, European policy on urban adaptation, examples of adaptation, success factors, financing, tools and information sources.

Summary of the content of training and discussion:

(Note: For further visualisation, see the enclosed slides of the presentation)

While enormous efforts are necessary to mitigate climate change and keep the increase of the annual global temperature well below 2 degree and pursue 1.5 degree, some climate change impacts remain and became already a reality in many cities and regions. There is an urgent need to adapt to the impacts that will occur despite all mitigation efforts. Climate change mitigation and adaptation are two different strategies to tackle climate change; both are needed and go hand in hand.

Cities across Europe are affected by ***climate impacts*** of heat waves, droughts and water scarcity, wildfires close to the urban fringe and river, coastal and pluvial floods. While the impacts differ between the regions and cities in Europe, also Northern and North-Western cities experience heat waves, droughts or extensive wildfires as the summer 2018 had shown in Sweden and other countries and also vividly recognised by the many participants of Northern European cities in the room. Furthermore, cities that expect less rain fall in the future can still be hit by local cloudbursts to appear more frequently and intensive. Thus, Lisbon explained that it is not just preparing for drought situations, but also for flood events. Impacts of climate change in cities are manifold and reach from thermal discomfort, premature death due to heat, floods, the damage of building and infrastructures and interruption of services such as transport, energy and water supply. These can trigger secondary and tertiary impacts like lower production rates and loss of income affecting strongly quality of life in the city.

Cities themselves can worsen the situation. The share of built up land and impermeable surfaces and lack of green leads to the urban heat island effect, which increases the risk of temperatures during heat waves even more. The impervious areas do not allow storm water to drain naturally into the ground and the sewage system might not be able to handle the excess storm water, thus generating pluvial floods. Also, cities continue to build into low lying areas. Even if that might be currently protected by dykes, these might fail under the magnitude of future flood events. Then, the damage will be even bigger due to accumulated assets in these areas.

The ***costs of inaction*** can be high. Not acting or delaying action puts people's life at risk. Recently released numbers showed that around 490 people died in the 2018 heatwave in Berlin, many of these could have been prevented by better information and care. Infrastructures, buildings and related services are at risk. Delaying action means to miss windows of opportunities for more sustainable and cheap adaptation action, e.g., when integrating adaptation concerns in maintaining and upgrading infrastructure happening anyway or when designing new houses. In the extreme, neglecting to include adaptation needs into local planning can lead to lock-ins: once buildings and infrastructures are built it can be hard to change them afterwards. A cheap solution would have been a slight modification of the building design or a different location or corridor. An extreme example is the decision to move the capital of Indonesia from Jakarta to another place as Jakarta is frequently flooded and expected to be worse in the future. This is due to a combination of building close to the sea, sea level rise and a sinking city due to high water abstraction that led to that drastic decision involving high costs.

European policy has early acknowledged the role of cities in adapting to climate change. Action 3 of the EU Adaptation Strategy (2013) focusses on cities and led to the Mayors Adapt initiative. It was merged with the Covenant of Mayors for Climate and Energy in 2015. Among the more than 9000 signatories committing to reduce their greenhouse gas emissions, a bit more than 2000 cities have also pledged adaptation action. European policies and initiatives are supplemented by national and regional policies.

Cities have many different ***adaptation options*** at hand. These are: soft measures, such as regulations, standards, incentives, behaviour change; grey measures, such as technical infrastructures and building design, and green and blue measures, nature-based solutions such as parks, gardens, wetlands, open water, green roofs and facades, trees.

In reality, these options are often mixed to find the most effective combination for the specific location. Depending on the specific solution they can come at low costs, e.g. change of behaviour, information, change of planning regulations, middle costs, such as nature-based solutions or high cost like technical defences, like dykes. On top, the measures require different maintenance costs over time.

In the discussion, the cities showed a high preference for nature-based solutions, because of multiple additional benefits and usually lower costs than grey solutions. Also, the vast but little explored potential of soft solutions was of particular interest as these come at low costs and can often be implemented fast and help getting started.

Cities can choose ***different strategies*** to cope with climate change impacts:

- *Coping* with the damages of extreme events with emergency procedures can be effective if the event is expected to be very rarely or to protect against a remaining risk from other adaptation measures.
- *Incremental* adaptation measures are usually well proven. They comprise business as usual technologies, such as dykes, sewage systems, air condition. However, experts warn that the magnitude of expected climate change impacts will challenge these solutions, their capacity can be depleted, and they might fail or their upgrade and maintenance come at very high cost.
- Here, *transformative* adaptation options can be a way out – dealing differently with the impacts. Instead of keeping flood water away, one can live with water, e.g. building elevated ground floors, building floating houses and infrastructures, providing additional space and temporarily storage capacity for storm water. Many nature-based solutions fall in this category.

We should consider several ***success factors*** to develop and implement effective adaptation measures, such as:

- The commitment to act by the mayor and local politicians is key for the staff developing and implementing adaptation solutions
- Grabbing or generating all type of relevant knowledge reaching from data and maps from scientific bodies to local data and local knowledge of citizens or historic records, thus creating awareness and the foundation of action
- A systematic approach, like described in the Urban adaptation support tool enables to identify the most appropriate adaptation options and to adjust action
- The integration of different sectors is key for adaptation as a cross-cutting topic linked to water management, health, urban planning, urban green among others
- Adaptation concerns everybody in one or another way and requires a participatory approach to work effectively
- Other co-benefits should be in focus. These can deliver immediate benefits to citizens, while the benefits for adaptation (like avoided damage) is harder to demonstrate and eventually only in the long run. The immediate benefits are important for local politicians as a by in into their policy. This was heavily confirmed by the participants
- Lisbon added that also a proper monitoring is needed to show the effectiveness of adaptation action

Financing adaptation action can be done in different ways. Generally, there are:

- Governmental sources in the form of the municipal budget, tax revenues, funding programmes, grants of national or European institutions or compensation schemes
- Banks and other financial institutions offer loans or green bonds
- Private stakeholders, such as house or business owners, can finance measures on their own properties, raise money in foundations or contribute to crowd funding
- Some measures, like finding a better location or mainstreaming adaptation into urban design come without or very little costs.

Here again, the key lies in combining these different financial options to get the optimal mix. There are multiple variations and combinations possible.

Tools and sources for information on adaptation are various. The challenge is rather to get a simple overview and select the best fitting information and tools. Climate-ADAPT is the European Climate Adaptation Platform and is designed as a one stop-shop for this kind of information to make it accessible from one platform. Cities can explore this information on tools, data, maps, options, case studies, guidance and reports systematically. A good entry point for cities with all that information can be the Urban Adaptation Support Tool on Climate-ADAPT, which is developed by the Covenant of Mayors as guidance. It sorts all types of other guidance and information in one systematic approach. Finally, the Covenant of Mayors itself offers information as well as many countries do.

Information sources:

General

- Climate-ADAPT: The European Climate Adaptation Platform (guidance, reports, maps, data, case studies)
- IPCC report 1.5: on the impacts of global warming of 1.5 °C above pre-industrial levels

- Urban adaptation to climate change in Europe 2016 - Transforming cities in a changing climate (EEA report 12/2016
- Urban adaptation to climate change in Europe - Challenges and opportunities for cities together with supportive national and European policies (EEA report 2/2012)

Policies

- EU Adaptation Strategy
- EU Urban Agenda Climate Adaptation Partnership
- Covenant of Mayors for Climate and Energy Europe

Tools

- Urban Adaptation Support Tool

Maps

- Urban Adaptation Map Viewer – interactive maps on cities vulnerabiity 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

Outlook:

There are more general as well as local academies planned:

3. General academies
    a. Brussels, 9th October 11:30-13h, in the context of the European Week of Cities and Regions
    b. Innsbruck, 6-8th May 2020 in the context of the CEMR congress, open to any politician wishing to attend
4. Local academies
    a. Glasgow 19th June 2019
    b. Genova, November 2019
    c. Potenza – Nov 2019 TBC
    d. Loulé April 2020 - TBC
    e. Trondheim? Spring 2020 - TBC
    f. Others in 2020?

Contact to trainer: www.birgitgeorgi.eu

BIRGIT GEORGI
Strong cities in a changing climate

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4. Local academy held in Glasgow on 19th June 2019

Agenda

Session for Elected Members on Climate Adaptation
Glasgow City Chambers, Tuesday June 18 09:30 – 13:00

On Wednesday June 19 from 10:00 at Glasgow City Chambers, Glasgow City Council and COSLA will organise an information session for elected members on climate adaptation. The aim is to support elected members gain knowledge, communicate and lead local responses to climate adaptation. The event will include short contributions from Scottish and international stakeholders, policy guidance and tools, space for discussion and networking with key actors in the field. The idea is for elected member to gain an overview of activity at international, national and local level to consider in their authority on a basis they see fit. The session aims to:

- Offer a global perspective to building resilience to disaster and climate risks
- Increase knowledge, consider research to inform practice and local decision-making
- Relate to national context, share learning from Councils, foster further cooperation
- Detail tools to plan for climate-related disaster resilience and adaptation and develop adaptive and resilient capacity

Order of Proceedings

Climate Adaptation Session	
09:30 – 10:00	**Registration** Welcome Coffee
Opening and Welcome	
10:00 – 10:05	**Cllr Anna Richardson** Convenor for Sustainability and Carbon Reduction Glasgow City Council
10:05 – 10:10	**Interactive poll – Question 1**
International Setting	

10:10 – 10:25	**Andrew Mackay Bower** Programme Management Officer United Nations Office for Disaster Risk Reduction (UNISDR) UN global processes, linking disaster risk reduction, climate adaptation and sustainable development to activities for local government.
10:25 – 10:40	**Eugenia Mansutti** Project Officer - Covenant of Mayors Council of European Municipalities and Regions Tools and International Best Practice from the Covenant of Mayors Community
10:40 – 10:45	**Interactive Poll – Question 2 and Question 3**
Understanding the Challenge	
10:45 – 11:00	**Anne Marte Bergseng** ClimateXChange
11:00 – 11:25	**Networking Coffee Break**
11:25 – 11:40	**Kathryn Brown** Head of Adaptation UK Committee on Climate Change Title (TBC)
11:40 – 11:55	**Susie Townend** Head of Climate Policy Unit Decarbonisation Division - Scottish Government National policy and Scotland's Climate Change Adaptation Programme (TBC)
11:55 – 12:00	**Interactive Poll – Question 4**
Collaborative Approaches and Local Impact	
12:00 – 12:15	**Kit England** Climate Ready Clyde Manager Embedding climate adaptation into regional development
12:15 – 12:25	**Anna Beswick** Programme Manager - Adaptation Scotland Why and how to build resilience to climate-related risks
12:25 – 13:00	Interactive question 5 (3 mins)

	Facilitated discussion: Role of elected members in leading and influencing local adaptation work. (20 mins) Closing remarks Cllr Anna Richardson (2/ 3 mins)
13:00	**Networking Lunch** Photos and Exhibition

This event is delivered as part of the EU Urban Agenda Partnership for Climate Adaptation, Glasgow City Council, COSLA and CEMR. It is supported by Adaptation Scotland.

Schedule of activities

EU Urban Agenda Adaptation Partnership
Training Event for Elected Members - Glasgow City Session

Schedule of Activities

	Activities	**Expected Results**
Jan 2019	Scope examples of adaptation training and determine outline/ key issues.	Template of training session and key issues determined
	Identify possible trainers and involve in planning	Trainer involved in content development
	Decide date of Glasgow session	Date set
	Make venue reservation	Venue set
	Engage domestic organisations (SG, SSN, Sniffer, Climate Ready Clyde)	Domestic support and alignment with existing work on adaptation
	Engage international organisations (CEMR, UN, CoM)	Involvement of international organisations working on adaptation
Feb 2019	Develop content of training package	Template expanded, and content developed
	Save the Date email	Elected member participation
March 2019	Present concept to COSLA political structures	Engagement of 32 elected members
	Present concept to GCC/ Climate Ready Clyde	Engagement of elected members across a number of LAs
	Seek elected member feedback	Relevance for local decision makers assured
April 2019	Publicise event (social media and network channels – COSLA, CEMR, Eurocities, CoM)	Broad dissemination and engagement of low carbon and sustainability officers

	Send invitations and travel guidance	Engagement of EU/EEA elected members and members of the Partnership
	Open registration	Accessible process to register, clear understanding of intended purpose
	Draft agenda of training event	Good execution of event
	Finalise training content	Relevant module to elected members, tying in both domestic and EU/international context
May 2019	Finalise agenda	Clear understanding of the order of proceedings, opportunity for networking established
	Incorporate feedback from the Urban Future Global conference in Oslo	Build on first training academy, incorporate lessons and avoid pitfalls
June 2019	Close registration	Good execution of event
	Practical events management	Good execution of event
	Delivery of event	Aims of action achieved
	Issue press release and utilise social media	Wider communication of Partnership and actions
	Write outcome report	Take stock of outcomes and share learning

General background note

Background information for the "Training political academy on adaptation" within the context of the EU Adaptation Urban Partnership

Version for the Glasgow Adaptation Session, 19 June 2019

The Urban Agenda for the EU was launched in May 2016 with the Pact of Amsterdam. It represents a new multi-level working method promoting cooperation between Member States, cities, the European Commission and other stakeholders in order to stimulate growth, liveability and innovation in the cities of Europe and to identify and successfully tackle social challenges.

The Urban agenda has 14 partnerships. One of them focuses on Adaptation. And within this context, there is one action called "Training academy for politicians on adaptation", led by the

Council of European Municipalities and Regions (CEMR) in collaboration with other partners: EUROCITIES and cities of Glasgow, Genova, Loulé and Potenza.

The purpose of these academies is to provide information to politicians to assist them in their decision-making on issues related to adaptation. This background note aims at providing material ahead of these academies so the time spent during the sessions can concentrate on clarification of issues and productive discussions.

There are general and local academies planned as following:

1. General academies
    a. Oslo, 22nd May 2019 in the context of the Urban future forum.
    b. Brussels, October, in the context of the European Week of Cities and Regions to be held between 7-10th October 2019 (exact date of the academy TBC).
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    a. Glasgow 19th June 2019
    b. Genova, Autumn 2019 (exact date TBC)
    c. Loulé April 2020 - TBC
    d. Potenza – Nov 2019 TBC
    e. Trondheim – Spring 2020 - TBC
    f. Others in 2020?

Disclaimer: This note does engage nor the Commission nor any of the partners, it only informs on adaptation matters in a very informal way.

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1. Definitions

Adaptation

- The UNFCCC defines it as actions taken to help communities and ecosystems cope with changing climate condition.
- The IPCC describes it as adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- The UN Development Program calls it a process by which strategies to moderate, cope with and take advantage of the consequences of climatic events are enhanced, developed, and implemented.
- The UK Climate Impacts Program defines it as the process or outcome of a process that leads to a reduction in harm or risk of harm, or realisation of benefits associated with climate variability and climate change.

- NCCARF regards it as consisting of actions undertaken to reduce the adverse consequences of climate change, as well as to harness any beneficial opportunities.
- The Victorian Government says adapting to climate change is about taking deliberate and considered actions to avoid, manage or reduce the consequences of a hotter, drier and more extreme climate and to take advantage of the opportunities that such changes may generate.

Climate change risk: means a risk resulting from climate change and affecting natural and human systems and regions. In the course of increasing global temperature and extreme weather phenomena the Intergovernmental Panel on Climate Change (IPCC) has been founded by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) for a better understanding of climate change and meeting concerns of these observations. Its main aim is evaluating climate risks and exploring strategies for the prevention of these risks.

VULNERABILITY TO CLIMATE CHANGE (IPCC): is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude and rate of climate change and variation to which a system is EXPOSED, its SENSITIVITY, and its ADAPTIVE CAPACITY

EXPOSURE (IPCC): the presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social or cultural assets in places and settings that could be adversely affected. SENSITIVITY (IPCC): the degree to which a system or species is affected, either adversely or beneficially, by climate variability or change. The effect may be direct (e.g. a change in crop VULNERABILITY = potential impact (sensitivity x exposure) – adaptive capacity VULNERABILITY - DEFINITION (2) Coordinated by Project financed with the contribution of LIFE Programme 2014-2020 beneficially, by climate variability or change. The effect may be direct (e.g. a change in crop yield in response to a change in the mean, range or variability of temperature) or indirect (e.g. damages caused by an increase in the frequency of coastal flooding due to sea level rise). POTENTIAL IMPACT (IPCC): impacts of climate change are the effects of climate change o n natural (e.g. water resources, biodiversity, soil, etc) and human systems (e.g. agriculture, health, tourism, etc). Potential impacts are all impacts that may occur given a projected change in climate, without considering adaptation. ADAPTIVE CAPACITY (IPCC): the ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantages of opportunities, or to cope with the consequences

Key Terms from World bank

Adaptive capacity: The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences of hazards.[1]

Climate hazard: A physical process or event (hydro-meteorological or oceanographic variables or phenomena) that can harm human health, livelihoods, or natural resources. A hazard is not simply the potential for adverse effects.[2]

Exposure: The presence of people, livelihoods, species or ecosystems, environmental services and resources, infrastructure, or economic, social, or cultural assets in places that could be adversely affected by a hazard.[1]

Geophysical hazard: Natural land processes and events with the potential to cause harm to human health, livelihoods, systems, or natural resources. In this tool, "hazard" refers to the physical event itself, not its potential for adverse effects.[2]

Potential impact: The potential effects of hazards on human or natural assets and systems. These potential effects, which are determined by both exposure and sensitivity, may be beneficial or harmful.

Resilience: The capacity of a social-ecological system to cope with a hazardous event or disturbance, responding or reorganizing in ways that maintain its essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation.[1]

Risk: The potential for consequences where something of human value (including humans themselves) is at stake and where the outcome is uncertain.[1] This tool defines climate risk as a combination of hazard exposure, sensitivity to impact, and adaptive capacity. It does not define risk as the product of the probability of hazardous events and the consequences of those events, as is frequently used.

Sensitivity: The degree to which a system, asset, or species may be affected, either adversely or beneficially, when exposed to climate variability or change or geophysical hazards.

2. EU context of Adaptation (EU legislation): Source : EU Commission website

In 2013, the European Commission adopted an EU strategy on adaptation to climate change, welcomed by the EU Member States. The strategy aims to make Europe more climate-resilient. By taking a coherent approach and providing for improved coordination, it aims to enhance the preparedness and capacity of all governance levels to respond to the impacts of climate change.

The EU Adaptation Strategy focuses on three key objectives: **Promoting action by Member States**: The Commission encourages all Member States to adopt comprehensive adaptation strategies (currently 25 have strategies) and provides funding to help them build up their adaptation capacities and take action. It also supports adaptation in cities through the Covenant of Mayors for Climate and Energy initiative. **'Climate-proofing' action at EU level** by further promoting adaptation in key vulnerable sectors such as agriculture, fisheries and cohesion policy, ensuring that Europe's infrastructure is made more resilient, and promoting the use of insurance against natural and man-made disasters. **Better informed decision-making** by addressing gaps in knowledge about adaptation and further developing the European climate adaptation platform (Climate-ADAPT).

The Commission published an evaluation of the strategy in November 2018. The evaluation was accompanied by a public consultation from December 2017 to March 2018 (page available in most EU languages). The analysis resulted in a report on lessons learned and reflections on improvements for future action, accompanied by a staff working document presenting the evaluation in detail.

Climate adapt: The European Climate Adaptation Platform Climate-ADAPT is a partnership between the European Commission and the European Environment Agency.

EU strategy is https://climate-adapt.eea.europa.eu/eu-adaptation-policy/strategy

3. Scottish Adaptation legislation: Source : Adaptation Scotland website

Climate change policy in Scotland responds to both a UK and a Scottish framework. There are two key pieces of legislation: the UK Climate Change Act 2008 and the Climate Change (Scotland) Act 2009. The UK Act requires a Climate Change Risk Assessment (CCRA) every five years. The CCRA is the basis for adaptation policy in both Scotland and the UK.

The Scottish Climate Change Adaptation Programme (SCCAP) addresses the impacts identified for Scotland in the UK Climate Change Risk Assessment (CCRA). It sets out the Scottish Government's objectives in relation to adaptation to climate change.

The Climate Change (Scotland) Act 2009 established the Public Bodies Climate Change Duties which came into force on 1 January 2011. It requires that Public Bodies exercise their functions:

- in a way best calculated to contribute to deliver the Act's emissions reduction targets;
- in a way best calculated **to deliver any statutory adaptation programme**; and
- in a way that it considers most sustainable.

Part of delivering the adaptation programme involves reporting on adaptation work through the Public Bodies Climate Change Reporting. This was introduced on a voluntary basis in November 2015 and became mandatory to report on an annual basis in 2016.

Climate change adaptation is supported by a wide range of legislative and policy drivers, including those listed below.

Legislation

- The Civil Contingencies Act (2004)
- Planning etc (Scotland) Act 2006
- Marine (Scotland) Act 2010
- Flood Risk Management (Scotland) Act 2009

Policies and Frameworks

- National Planning Framework 3 (2014)
- Scottish Planning Policy (2014)
- Scottish Soil Framework (2009)

Strategies and plans

- Flood Risk Management Strategies
- Local Flood Risk Management Plans
- Local Development Plans
- Land Use Strategy

4. Funding sources

Information available from the Covenant of Mayors on funding:

https://www.covenantofmayors.eu/support/funding.html;
https://www.eea.europa.eu/publications/financing-urban-adaptation-to-climate-change

5. Tools to adapt

- Urban Adaptation Support Tool (developed by the Covenant of Mayors for Climate and Energy in Collaboration with EEA) It is a meta tool and links to all kind of other tools: https://climate-adapt.eea.europa.eu/knowledge/tools/urban-ast
- Covenant of Mayors Europe
- Covenant of Mayors Sub Saharan Africa
- Climate adapt
- Information sources the two EEA reports that together provide a comprehensive and illustrative overview on the situation and are both still relevant:
  - Urban adaptation to climate change in Europe 2016 – Transforming cities in a changing climate (https://www.eea.europa.eu/publications/urban-adaptation-2016)
  - Urban adaptation to climate change in Europe 2012 – challenges and opportunities for cities together with supportive national and European policies (https://www.eea.europa.eu/publications/urban-adaptation-to-climate-change)

And

- The interactive Urban Adaptation Map Viewer; https://climate-adapt.eea.europa.eu/knowledge/tools/urban-adaptation

- The Adaptation Scotland programme supports organisations, businesses and communities in Scotland to adapt to the impacts of climate change. Guidance, tools, case studies, training and peer to peer learning are offered to support public sector action to adapt: https://adaptationscotland.org.uk/how-adapt/your-sector/public-sector

6. Global conventions

- Sendai convention on "Disaster Risk Reduction, Framework which was adopted by UN Member States on 18 March 2015). The Sendai Framework is a 15-year, voluntary, non-binding agreement which recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders. It aims for the following outcome:

  The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters. It is the outcome of stakeholder consultations initiated in March 2012 and inter-governmental negotiations held from July 2014 to March 2015, which were supported by the UNISDR upon the request of the UN General Assembly. UNISDR has been tasked to support the implementation, follow-up and review of the Sendai Framework

- The Adaptation Committee of the UN Framework Convention on Climate Change (UNFCCC) has published its 2014 Thematic Report designed to raise awareness of the importance of institutional arrangements for adaptation. Link

- Global Commission on Adaptation launched in the The Hague in 2018 **to enhance the political visibility of adapting to climate change.**The Global Commission, an unprecedented and timely international initiative on adaptation, will also focus on solutions, catalysing the global adaptation movement and accelerating action. It will be overseen by former UN Secretary-General Ban Ki-moon, Bill & Melinda Gates Foundation co-chair Bill Gates and World Bank CEO Kristalina Georgieva.

7. Evidence from latest science

IPCC report 1.5: An IPCC special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.

Climatexchange is Scotland's centre of expertise connecting climate change research and policy https://www.climatexchange.org.uk/

More information

- For more information about adapting to climate change visit: www.adaptationscotland.org.uk or contact Anna Beswick, Adaptation Scotland Programme Manager: anna@sniffer.org.uk
- For more information on Glasgow City Council's Climate Adaptation Policy, please contact: Sonia.Milne@Glasgow.gov.uk

For more information on EU and International Policy, please contact COSLA EU Policy Officer: Judith@cosla.gov.uk

Full background note for the Glasgow training

Adapting to Climate Change: Background Note for Elected Members: Download the Session Briefing Note and presentations:

Purpose

This note summarises key facts about Scotland's changing climate and implications for Local Authorities. It provides background information for delegates of the Climate Change Adaptation Session for Elected Members taking place in Glasgow on 19 June 2019.

Background

Climate trends show that Scotland's climate is changing with more frequent severe weather events expected and this is projected to continue. Local Authorities stand at the frontline of reducing vulnerability in local communities to the various impacts of climate change. Building further capacity and increasing knowledge allows Local Authorities and their elected representatives to play their full part in responding to climate change.

As part of the EU Urban Agenda Partnership for Climate Adaptation, Glasgow City Council and COSLA have organised this session on climate adaptation for all of Scotland's 32 Councils and their elected members. It aims to provide an overview of activity at international, national and local level to create awareness of the importance of climate adaptation and to showcase practical methods.

Scotland's Changing Climate

Scotland's climate is already changing…

- Scotland's **10 warmest years on record have all been since 1997.** The average temperature in the last decade (2009-2018) was 0.67°C warmer than the 1961-1990 average.
- In the past few decades there has been an increase in rainfall over Scotland. The annual average rainfall in **the last decade (2009-2018) was 15% wetter than the 1961-1990 average, with winters 25% wetter**.
- Mean sea level around the UK has risen by approximately **1.4 mm/year from the start of the 20th century**, when corrected for land movement.

…and will continue to change in the decades ahead[1]:

- Average temperatures will increase in all seasons (**H**), with the greatest increase in summer (**M**)
- What is considered a heatwave or extremely hot summer today will occur more frequently in future (**M**).
- Rainfall is projected to become more seasonal, with an increase in average winter and autumn rainfall (**M**). Average summer rainfall may decrease (**L**).
- Heavy rainfall events may occur more frequently in winter, spring, and autumn (**M**). An increase in summer heavy rainfall events is uncertain (**L**)
- Snow is projected to be less frequent in coastal locations like Edinburgh with rising temperature (**H**), although by how much is complicated by increased winter precipitation (**L**).
- The growing season will continue to lengthen due to increasing temperatures in spring and autumn (**H**).
- Winter storms with extreme rainfall may become more frequent (**L**), although there is large uncertainty in models.
- Sea level will rise (**H**).

Impacts

Changes in climate have far reaching impacts including:

- ***Damage and reduced performance of buildings, assets and infrastructure***

Most existing buildings, assets and infrastructure are not designed to cope with the climate that we are now experiencing. Severe weather damage, overheating and damp conditions are challenges that need to be addressed through improved maintenance and retrofit. New buildings, assets and infrastructure should be designed, constructed and managed so that they are resilient to current climate impacts and able to adapt in future.

- ***Increased risk of flooding and change at our coast***

Planning, investment and land use decisions must take account of the impacts of current and future river, surface water and coastal flood risk. Coastal erosion and coastline retreat will also have serious implications in the years ahead. Locations that are currently at risk are

[1] Assessment of 'Overall Confidence' in scientific evidence for individual statements: High (H), Medium (M) and Low (L). Report: Future changes in precipitation and temperature, ClimateXChange 2017. Note that these were assessed prior to release of UKCP18.

likely to become increasingly vulnerable and new areas may become vulnerable in the years ahead.

- ***Impacts on the health and wellbeing of people***

Climate impacts will increasingly affect the mental and physical health and wellbeing of people and have the potential to widen existing health inequalities. For example, those living in poor quality housing may be most affected and least able to respond to damage to homes caused by severe weather events. People may also benefit from a warming climate which could provide more opportunities to be outdoors and enjoy a healthy and active lifestyle, while reducing mortality in winter.

- ***The health and value of our natural environment***

Our natural environment needs to be protected to enable it to adapt to long term changes in rainfall and temperature as well as damage from severe weather events and increases in pests and disease. A healthy natural environment is vital in order to sustain productive land and water supply and provide protection from flooding and overheating. Wetland areas, woodlands and sand dunes provide Scotland with the equivalent of £13 billion of protection from coastal flooding alone.

- ***Resilience and business continuity***

Increases in severe weather events, including heavy rainfall, flooding and summer heatwaves will put further pressure on emergency responders and those responsible for providing essential services across the public sector. Disruption to supply chains is also likely and could also affect timescales and costs of projects and services.

Response

Although a complex issue, responding to climate change has two main types of activity: mitigation and adaptation. While mitigation means action aimed generally at decreasing carbon emissions, the response to the challenges of a changing climate is ‘adaptation’.

Adaptation is *‘the adjustment in economic, social or natural systems in response to actual or expected climate change, to limit harmful consequences and exploit beneficial opportunities’* (Scottish Climate Change Adaptation Programme, The Scottish Government, 2014).

While the challenges we face from the impacts of climate change are significant, good adaptation will deliver both short-term benefits and progress towards long term outcomes. Adaptation takes place at all scales. From small incremental measures, like adjusting working practices for severe weather, to ensuring that new housing developments or infrastructure projects are fit for our future climate. What is clear is that with climate change set to increase, Scotland will benefit from both mitigation and adaptation activity delivered at the local level.

Legal and Policy Drivers

The **Climate Change (Scotland) Act 2009** requires the Scottish Government to implement a statutory Scottish Climate Change Adaptation Programme. The Public Bodies Climate Change Duties contained within the Act requires Local Authorities to act in the way best calculated to implement the statutory programme and report progress annually.

Other legislative drivers in Scotland include the **Flood Risk Management (Scotland) Act 2009** which requires that Flood Risk Management Plans take account of any impacts of climate change on the occurrence of floods. In addition to coastal protection work permitted under the **Coast Protection Act 1949**, the National Planning Framework, Scottish Planning Policy, the Land Use Strategy and the Scottish Forestry Strategy all act as drivers in climate change adaptation.

The **UK Climate Change Act 2008** put in place a policy framework to promote adaptation action in the UK, which includes the UK Climate Risk Assessment (a five-yearly assessment of the major risks and opportunities) to inform UK and Scottish practice. It also mandated reporting of climate risks and adaptation action for Infrastructure providers, through an Adaptation Reporting Power, and organisations such as Electricity Distribution Network Operators and Gas distribution organisations which operate in Scotland report on this every five years.

The **United Nations Paris Climate Agreement** recognises the role of local governments in addressing climate change and promotes local approaches to building resilience. It also defines a global goal on adaptation and encourages parties to engage in adaptation planning at all levels of government. There is also provision at EU level, such as the EU Adaptation Strategy and the EU Covenant of Mayors for Climate and Energy.

Role of Local Authorities

Scottish Local Authorities are involved in adaptation in a variety of ways. Some authorities will embed adaptation into existing policies and plans (e.g. land use planning), whilst some will develop standalone strategies, action plans or risk assessments on an individual or regional level. Others will take forward short-term or longer-term actions for local resilience, either in a specific service area or integrated across the administration. In any case, Local Authorities have an increasingly crucial role in delivering adaptation:

- **Building resilience** – it is essential that homes, buildings, infrastructure and services which operate in, or are delivered by Local Authorities are built and managed to adapt to the impacts of climate change. These assets are crucial to society and ensuring that they adapt will create a strong foundation for adaptation across all sectors and places.
- **Engaging communities** – good adaptation will enable progress towards healthier, fairer and more sustainable communities, and will ensure that vulnerable and disadvantaged communities are explicitly considered. Communities are concerned about climate impacts and should be supported to increase resilience.
- **Strategic planning** – Local Authorities have a responsibility to take a long-term view – with the needs of current and future generations in mind. Climate impacts should be considered in strategic decision-making, including spatial planning, capital and inward investment and regeneration.
- **Procurement** – Local Authorities have significant purchasing power and ability to influence products, services, supply chains and investment decisions. High standards of resilience and adaptation should be required in contracts and procurement. This would safeguard business continuity and future proof investments, as well as stimulating broader action within the private sector.

Role of Elected Members

Elected members may find it helpful to ask officers within their Local Authority the following questions to help gauge current adaptation activity:

- Are you experiencing severe weather conditions and impacts locally?
- Which service is leading adaptation?
- Are climate risks assessed? How are risks being managed?
- Are climate risks being factored into the business cases for long term investments – for example in development planning, built environment and infrastructure projects?
- Which communities might be particularly at risk from climate impacts?
- What business continuity plans are in place to safeguard service delivery and vulnerable residents during severe weather events?

Wider strategic issues affecting Local Authority adaptative capacity can include collaboration between departments, different levels of governance, knowledge and information gaps at the local level and resources for climate adaptation actions. Adaptation can involve long-term strategic planning and investment which can in turn require sustained political commitment.

More Information: For more information about adapting to climate change visit: www.adaptationscotland.org.uk or contact Anna Beswick, Adaptation Scotland Programme Manager: anna@sniffer.org.uk. For more information on Glasgow City Council's Climate Adaptation Policy, please contact: Sonia.Milne@Glasgow.gov.uk . For more information on EU and International Policy, please contact COSLA EU Policy Officer: Judith@cosla.gov.uk

Background to the EU Urban Agenda Climate Adaptation Partnership

The Urban Agenda for the EU was launched in May 2016 with the Pact of Amsterdam. It represents a new multi-level working method promoting cooperation between Member States, cities, the European Commission and other stakeholders to stimulate growth, liveability and innovation in the cities of Europe and to identify and successfully tackle social challenges.

The Urban Agenda has 14 partnerships, one of them focussed on Climate Adaptation. The one for Climate Adaptation was set up in 2017 as a multilevel and cross-sectoral cooperation instrument and delivery mechanism for delivering under this priority theme. The Partnership has developed an Action Plan to provide concrete actions for the design of future and of existing legislation, instruments and initiatives relating to the adaptation to climate change in urban areas in the EU.

One of the actions is "Political Training Academy on Climate Adaptation". This action is led by the Council of European Municipalities and Regions (CEMR) in collaboration with partners: EUROCITIES and cities of Glasgow, Genova, Loulé and Potenza. COSLA is involved through CEMR, COSLA's European umbrella body, where we are based together in the House of Municipalities in Brussels with our sister associations from other countries.

Training sessions for politicians are being organised by the Climate Adaptation Partnership to provide general information on what adaptation means for cities and local authorities and provide knowledge of the co-benefits of adaptation actions. There are 3 general academies and various local sessions, with today's session in Glasgow being the first local session:

General Academies

a. Oslo, 22nd May 2019 in the context of the Urban future forum
b. Brussels, October, in the context of the European Week of Cities and Regions to be held between 7-10th October 2019 (date TBC)
c. Innsbruck, Austria, 6-8th May 2020 in the context of the CEMR Congress

Local Sessions

a. Glasgow 19 June 2019
b. Genova, Nov 2019
c. Potenza Nov 2019 TBC
d. Loulé April 2020 – TBC
e. Trondheim Spring 2020 – TBC

Presentation by the trainer

Watch the film of the training here: in the link: Adaptation Scotland :: Adaptation Session for elected members. Wathch in you tube: https://youtu.be/DVO3aepqz_A

Article produced for distribution

A local approach to the global climate crisis

Councillors across country in front line of battle to make Scotland climate-ready

On Wednesday 19 June, Councillors from across Scotland met at Glasgow City Chambers to discuss climate adaptation and local government's role in strengthening resilience to climate related risks at the local level. This was in support of Scottish Local Government's longstanding and strong political support for combatting climate change, working towards ambitious emission targets and early action.
Attended by more than 60 Councillors from over half of Scotland's Councils, the session aimed to support members to understand, communicate and lead local responses. It was a key step in bringing together international, UK and Scottish stakeholders to raise the profile of climate adaptation.
The event was part of a series of information sessions for elected members, delivered as part of the EU Urban Agenda Partnership for Climate Adaptation and led by the European body for Local and Regional Governments – the Council of European Municipalities and Regions (CEMR). Glasgow City Council is a member of this partnership given its extensive work on climate change, and COSLA supported delivery recognising the need to support local climate change leadership.
Councillors received presentations from the United Nations Office for Disaster Risk Reduction (UNDRR), UK Climate Change Committee (CCC), Scottish Government, Climate Ready Clyde and ClimateXChange, with Adaptation Scotland providing technical expertise.
The UNDRR is the lead UN agency for the UN Sendai Framework for Disaster Risk Reduction, which covers climate related disasters such as extreme weather. Given their proximity, local government involvement in the Sendai Framework is part of UN level indicators for the UN Sustainable Development Goals (SDG11 and SDG13) and hence members heard about UN campaigns and scorecards developed for local government to manage disaster risks.

Delegates received first-hand, the UK CCC assessment on Scotland's progress in adapting to climate change at a national level and also heard from Scottish Government and ClimateXChange who discussed Scotland's national programme and using research to inform policy respectively.
Existing practice was brought to life by Climate Ready Clyde and the leading work to develop a regional Climate Risk and Vulnerability Assessment and embed adaptation into economic development. The Covenant of Mayors was also present to discuss international best practice. The Covenant of Mayors, a movement for local politicians to commit to EU/international climate change targets and be part of an international network for adaptation, is supported by COSLA and has several Scottish Councils as members. Adaptation Scotland rounded off the event by showcasing the 'Adaptation Capability Framework'- a practical resource that Local Authorities can use to drive forward action to adapt.
With the UN Paris Climate Agreement setting out a global goal for adaptation, members were keen to consider how they as local politicians can further support the agreement and maintain the fight against climate change.
Councillor Anna Richardson, City Convener for Sustainability and Carbon Reduction, said:
"Glasgow City Council is part of a growing consensus that we must treat climate change as an emergency that affects us all.
"There now needs to be a significant accelerated effort to bring about the changes needed to minimise the impact of climate change, particularly on our most vulnerable communities.
"A focus on carbon reduction remains essential, but at the same time we must start to adjust to the new environment that is being created by climate change.
"Issues such as damage to infrastructure and housing, an increased risk of flooding and disruption to business supply chains among many others will quickly become regional and national problems that require collaborative action.
"As local authorities we must work together to find the responses that will help us adapt to a world that is changing dramatically around about us."
Welcoming the event, COSLA's Environment and Economy Spokesperson Cllr Steven Heddle also commented:
"Climate trends show that Scotland's climate is changing with more frequent severe weather events expected and this is projected to continue. Local Authorities are at the frontline of reducing vulnerability in local communities to the various impacts of climate change. Building further capacity and increasing knowledge allows Local Authorities and their elected representatives to play their full part in responding to climate change. That is why COSLA is glad to be supporting this event.
Scottish Local Government is committed to playing its full role in combating climate change and adapting to a more resilient future in collaboration with our partners, stakeholders and local communities."

Background note to information, presentations and photo are in the first link:

https://www.adaptationscotland.org.uk/news-events/stories/adaptation-session-elected-members

https://sustainablescotlandnetwork.org/news/climate-adaptation-training-for-elected-members

Adaptation Session for elected members

On Wednesday 19 June, Councillors from across Scotland met at Glasgow City Chambers to discuss climate change adaptation and local government's role in strengthening resilience to climate related risks at the local level.

Attended by over 60 Councillors from over half of Scotland's Councils, the session aimed to support members to understand, communicate and lead local responses. It was a key step in bringing together international, UK and Scottish stakeholders to raise the profile of climate change adaptation.

Organised by Glasgow City Council and COSLA, the event was part of a series of information sessions for elected members, delivered as part of the EU Urban Agenda Partnership for Climate Adaptation and led by the European body for Local and Regional Governments – the Council of European Municipalities and Regions (CEMR).

Councillors received presentations from the United Nations Office for Disaster Risk Reduction (UNDRR), UK Climate Change Committee (CCC), Scottish Government, Climate Ready Clyde and ClimateXChange, with Adaptation Scotland providing technical expertise.

Further reading:

- UN Office for Disaster Risk Reduction: Linking Disaster Risk Reduction, Climate Adaptation and Sustainable Development at a Local Level
- ClimateXChange: Supporting Policy Through Research
- Committee on Climate Change: Scotland's Adaptation Programme - An Assessment
- Scottish Government: Scotland's Second Climate Change Adaptation Programme
- Covenant of Mayors for Climate and Energy
- Climate Ready Clyde: Managing climate risk for prosperity - Glasgow City Region's Adaptation Approach
- Adaptation Scotland: Why and How to Build Resilience to Climate-Related Risks

Pictures of the session

5. General academy held by EUROCITIES in Brussels, 9 October 2019, in the context of the European Week of Cities and Regions

Agenda

Political training academy on climate adaptation – led by Eurocities

9 October 2019, 11:30-13:00

European Committee of the Regions, Brussels

2, rue Van Maerlant, room VM 3

European Week for Regions and Cities

Climate adaptation measures can require substantial investment that can only be secured if there is political buy-in. This session organised by EUROCITIES in the framework of the EU Urban Agenda partnership on climate adaptation, building on a first edition in May 2019, consists in a training designed specifically for local politicians to raise their awareness of adaptation issues.

The training will:

- Provide general information on what adaptation means for cities
- Raise awareness of the costs of inaction
- Inform about the risks of maladaptation.
- Provide knowledge of the co-benefits of adaptation actions

The session targets local politicians (Mayors, Deputy Mayors, elected Councillors) from all over Europe.

The training will cover the following topics:

1. How climate change already affects European cities. Evidence from latest events and their impact (casualties, economic losses).
2. How will climate change affect European cities, the physics of climate change, evolution of temperatures and precipitations, evidence from latest science
3. Mitigation cannot free us from the necessity of adaptation. Will climate change quickly halt if we decrease emissions? (Emissions in Europe vs. emissions in the rest of the world)
4. What does adaptation mean? From understanding the risks and the vulnerability of your people and your infrastructure to climate hazards, to prioritizing critical facilities.
5. If we do not act, or do not take sufficient measures, what will happen?
6. Other benefits of adaptation, long-term economic benefits, immediate quality of life/job creation benefits
7. What tools exist to concretely adapt? Covenant of Mayors initiative, climate-Adapt, funding for adaptation

Agenda:

Moderator: Stefania Manca, Urban Resilience Strategy Office of the City of Genova and Climate Adaptation Partnership Coordinator

11:30 – 11:35	Short introduction by the moderator and buffer time	5’
11:35 – 11:40	Welcoming words by EUROCITIES (Nathalie Guri, Projects and knowledge sharing director)	5’
11:40 – 12:25	Keynote talk by climate expert Jean-Marc Jancovici addressing challenges, facts, impacts, supporting by eye-opening slides and visual support	45’
12:25 – 12:40	Presentation by Janus Christoffersen on the adaptation strategy of the city of Copenhagen: rationale for action and co-benefits	15’
12:40 – 12:55	Q&A from the audience to the speakers, moderated by Stefania Manca	15’
12:55 – 13:00	Conclusions: by DG CLIMA, European Commission (Elena Višnar Malinovská, Head of Unit)	5’

Speakers

Nathalie Guri

EUROCITIES projects’ and knowledge sharing director

Nathalie Guri is EUROCITIES project and knowledge sharing director. She works on a wide range of policies, including energy transition, smart cities, entrepreneurship, climate change, social inclusion. She leads EUROCITIES project work, and also leads on knowledge sharing activities amongst EUROCITIES members. This includes steering the work of EUROCITIES forums and working groups in particular in the fields of smart cities, energy, mobility and environment. From March 2016 Nathalie has been leading the European Commission EIP Smart Cities Action Cluster on Business Models, Financing and Procurement.

Nathalie has 15 years of experience in implementing and coordinating EC-funded projects (e.g. ERDF and ESF, Interreg, Urbact, FP7, H2020, etc.). She also provides training on EU funding schemes and project development to our member cities. Before joining EUROCITIES in 2011, Nathalie has worked on EU-funded projects and programmes in France, in the UK and in the Czech Republic. Nathalie holds a Master in European Funding and Projects Management (Paris). Nathalie is fluent in French (mother tongue), English, Czech and Albanian.

Stefania Manca

Climate Adaption Partnership Coordinator - Urban Agenda for the EU, Genoa Municipality

Degree in Natural Science at University of Genoa, Master in Geographic Information System and Master in Smart City - Planning and Territorial Development. Employed at the Municipality of Genoa since 2011, from 2013 European Projects Office responsible and from late 2018 in charge to develop the City Resilience Strategy - "Genova Resiliente" connected to the International Agendas and Initiatives. Previously private actor strongly involved in Urban and Environmental planning, ICT tools and services deployed at Local and Regional level. Fields of Interest are sustainable economic development, Resilience at 360°, Climate Adaptation, Environment Territorial Planning, ICT.

Jean Marc Jancovici

Engineer, Consultant and professor

Jean-Marc Jancovici (born 1962) is a French engineering consultant, energy and climate expert. He is a consultant, professor, conference speaker, writer, and independent columnist. He is co-founder and associate at the Carbone 4 consultancy firm, and the founding president of the think-tank The Shift Project.

Jean-Marc Jancovici graduated from the École polytechnique in 1984 and from the Ecole nationale supérieure des télécommunications de Paris in 1986. He is the author and the main developer of the main French carbon accounting method, the Bilan Carbone assessment tool for the French Inter-ministerial Greenhouse Gas Mission.

He collaborated with Nicolas Hulot for 11 years, and co-authored the Pacte écologique, a book that directly led to the Grenelle Environnement during the first years of Nicolas Sarkozy's presidency. He is a member of the SOeS Scientific Committee (MEEDDEM observation and statistics department) and a member of the Fondation Nicolas-Hulot Strategic Committee.

He is the founding president of The Shift Project, a corporate sponsored think tank established in 2010, which advocates a progressive phase out of fossil fuels from our economy.

In 2007 he founded the Carbone 4 consultancy with the economist Alain Grandjean. Carbone 4 is a Paris-based consultancy employing around 30 people, which has specialized in adapting human activities (especially economic activities) to any kind of energy constraint (lack of oil, lack of gas, lack of electricity, rising prices, rising constraints on greenhouse gas emissions, new norms or regulations, etc.)

He founded two other organisations focused on spreading scientific knowledge about energy and climate change (still active), and is currently chairing the environment section of his alumni, X Environnement. He teaches at Mines ParisTech to first year students on energy and climate change basics.

He is a member of the association ASPO France, which studies the oil peak and its consequences.

Janus Christoffersen

Head of Unit, City of Copenhagen, Center for Climate Adaptation

Heading the efforts in the eastern part of the city, Janus plays a key role in ensuring the implementation of Copenhagen's ambitious, blue and green climate adaptation plan.

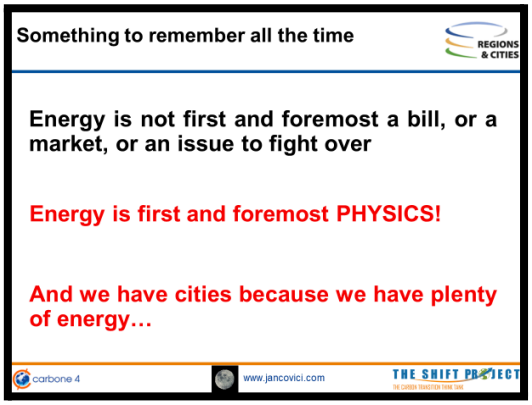
Working since 2012 for the City of Copenhagen, he is active in the field of strategic planning, project development & implementation and fundraising.

Elena Višnar Malinovská

Head of Adaptation Unit - DG Clima, European Commission

Elena Višnar Malinovská is currently a Head of the climate adaptation unit in DG Climate Action of the European Commission. She has worked for 13 years in the European Commission in different positions. As a policy officer in the Secretariat General, she dealt with environment, energy, mobility and climate policies (2005-2010, 2014-2016). In the Cabinet of Commissioner responsible for environment (2010-2014), she spearheaded the review of the air quality legislation as well as oversaw the infringements policy in the environment field. During the Slovak Presidency (2016), she acted as a spokesperson. She holds a law degree from the Comenius and Thyrnaviens universities ("JUDr.") in Slovakia and diplomas from European studies (SciencePo in Paris, College of Europe in Poland). An enthusiast cyclist (female winner of VéloMai competition in the Commission in 2019), runner, mother of three hockey players and a scout leader.

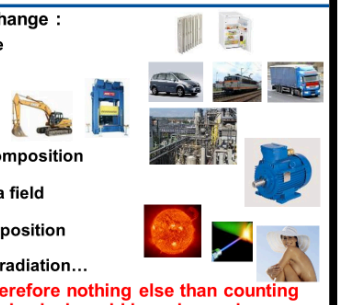
Presentation by the trainer



Energy, stronger than euros (or dollars)

By definition, energy = change :

- Change of temperature
- Change of speed
- Change of shape
- Change of chemical composition
- Change of position in a field
- Change of atomic composition
- Creating or absorbing radiation…



Counting energy is therefore nothing else than counting how much the physical world has changed

Nietzsche wanted supermen, oil did the job

80 kg + 10 kg up 2000 m

≈ 0,5 kWh

x 10

1 day out of 2: 100 kWh/year

@ 1000 €/month: 200 €/kWh

÷ 500

Even a slave: 4-40 €/kWh

÷ 10-100

6 m³ earth lifted up 1 m

0,05 kWh per day (10 kWh/year)

x 100

2000 €/kWh

÷ 5000

Production: men with the help of machines, or machines with the help of men?

60 kW ≈ 600 pairs of legs

100 kW ≈ 10.000 pairs of arms!

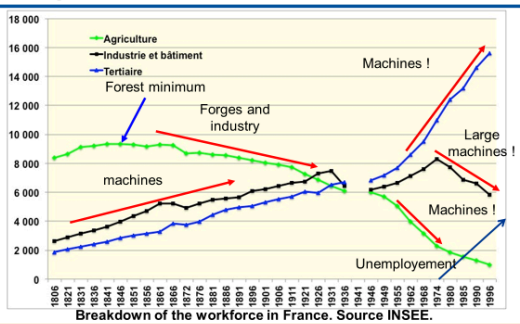
400 kW ≈ 4.000 pairs of legs

10 MW ≈ 100.000 pairs of legs

100 MW ≈ 1.000.000 pairs of legs

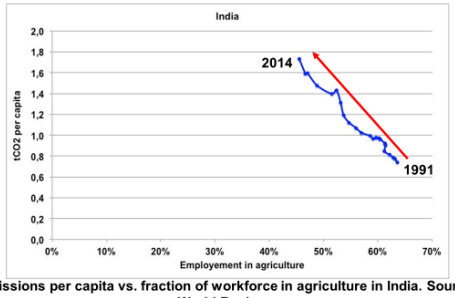
1 steel mill @ 100 MW ≈ 10.000.000 pairs of arms!

More energy = more people in a city working in an office



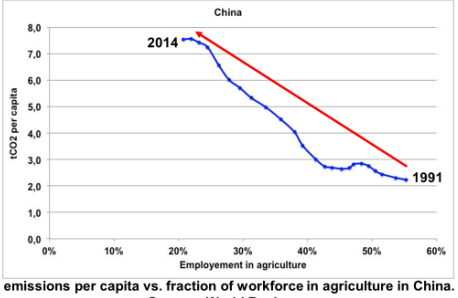
Breakdown of the workforce in France. Source INSEE.

More CO2 = less peasants!



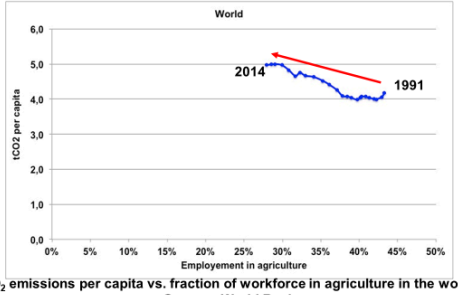
CO_2 emissions per capita vs. fraction of workforce in agriculture in India. Sources World Bank

More CO2 = less peasants!



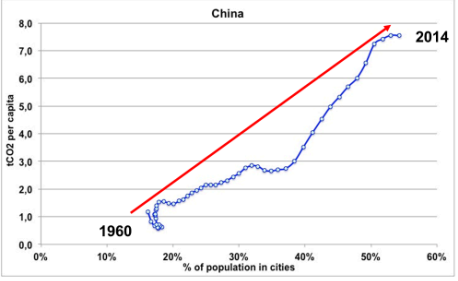
CO_2 emissions per capita vs. fraction of workforce in agriculture in China. Sources World Bank

More CO2 = less peasants!



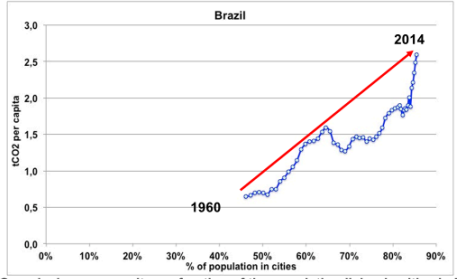
CO_2 emissions per capita vs. fraction of workforce in agriculture in the world. Sources World Bank

More CO2 = more cities!



CO_2 emissions per capita vs. fraction of the population living in cities in China. Sources World Bank

More CO2 = more cities!



CO_2 emissions per capita vs. fraction of the population living in cities in Brazil. Sources World Bank

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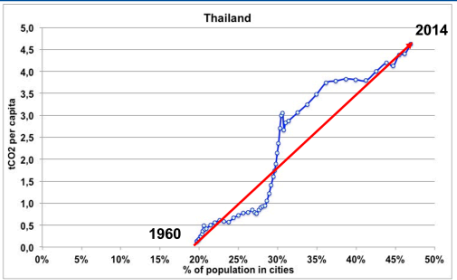
More CO2 = more cities!



CO_2 emissions per capita vs. fraction of the population living in cities in Thailand. Sources World Bank

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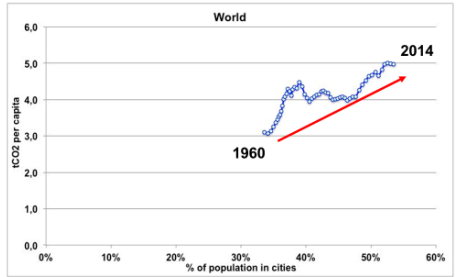
More CO2 = more cities!



CO_2 emissions per capita vs. fraction of the population living in cities in the world. Sources World Bank

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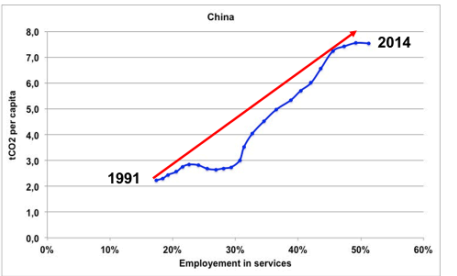
More CO2 = more services!



CO_2 emissions per capita vs. fraction of workforce in services in China. Sources World Bank

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More CO2 = more services!

CO_2 emissions per capita vs. fraction of workforce in services in Brazil. Sources World Bank

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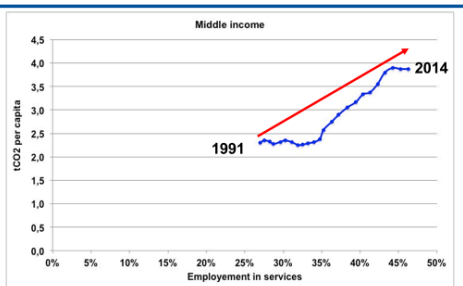
More CO2 = more services!



CO_2 emissions per capita vs. fraction of workforce in services in Middle Income countries. Sources World Bank

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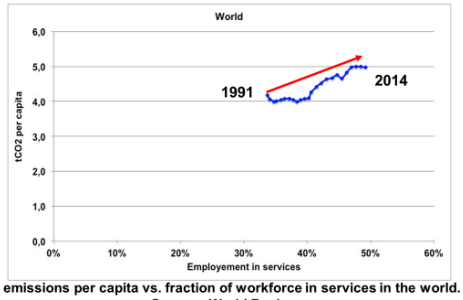
More CO2 = more services!



CO_2 emissions per capita vs. fraction of workforce in services in the world. Sources World Bank

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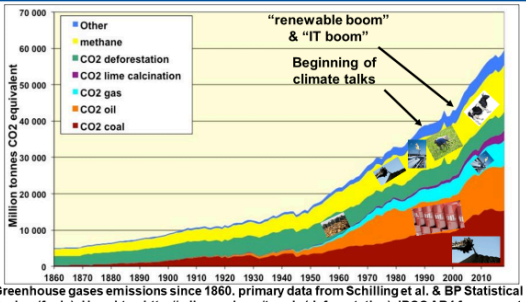
More is more



Greenhouse gases emissions since 1860. primary data from Schilling et al. & BP Statistical Review (fuels); Houghton http://cdiac.ornl.gov/trends (deforestation); IPCC AR4 for cement

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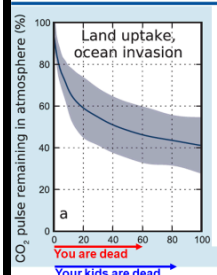
Help! Where is the reset button?



Source IPCC, 5th assessment report

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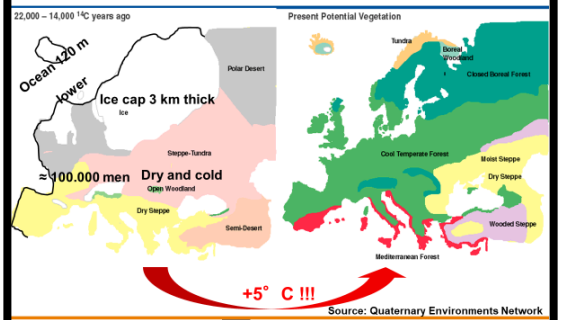
Fancy triggering a new climate era?



Source: Quaternary Environments Network

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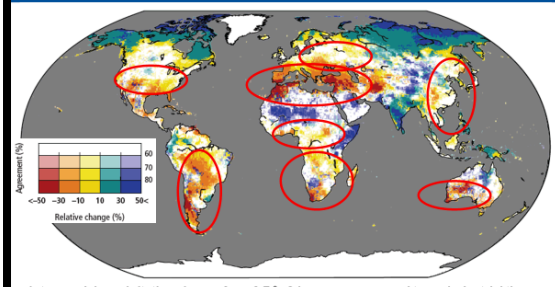
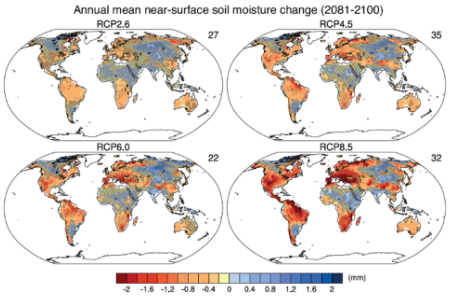
A climate change is not just a temperature change



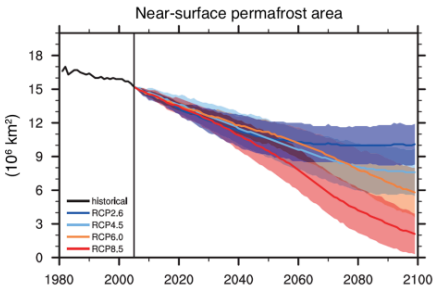
Inter-model precipitation change for a 2.7 ° C increase compared to preindustrial times.
Source: IPCC, 5th assessment report, 2014

High and (very) dry…



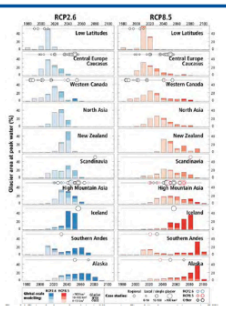
Source: IPCC, 5th assessment report, 2014

Permafrost is also in the Alps



Source: IPCC, 5th assessment report, 2014

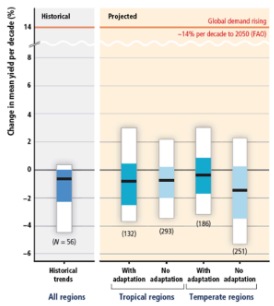
Less water in the rivers



Fraction of the glaciers that go through their "peak water" for each decade, depending on the scenario.

IPCC, 2019, special report on ocean and cryosphere

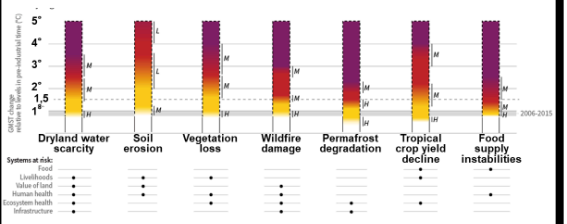
Food, or no food?



Yield change in crops.

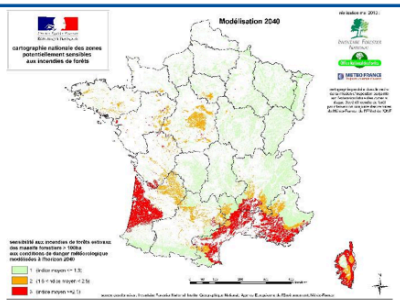
Source IPCC, 5th assessment report, 2014

Adapting... to what exactly?



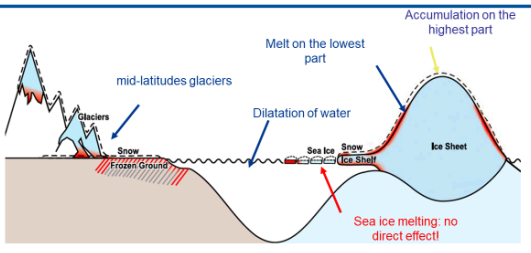
IPCC, 2019, Summary for policymakers of the report "climate change and land"

Fire!



Regions in France prone to forest fires

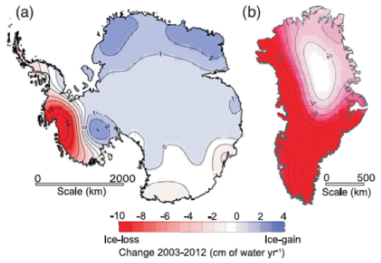
An example of a coupled system: ice caps



Various causes of sea level rise

From IPCC, 4th assessment report, 2007

Gurgling gurgling



Ice cap change 2003-2012

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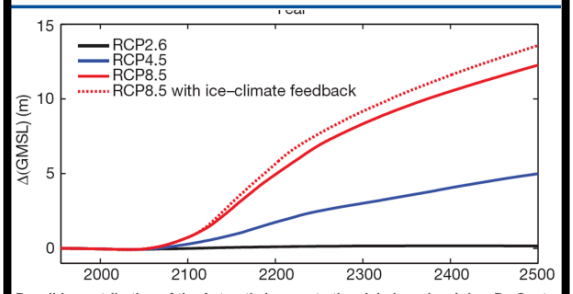
Gurgling gurgling (again)



Possible contribution of the Antarctic ice cap to the global sea level rise. De Conto et al., Nature, March 2016

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Adapting a harbor in 2462 might be tricky…

Shoreline of Netherlands and Germany if the ocean rises by 9m

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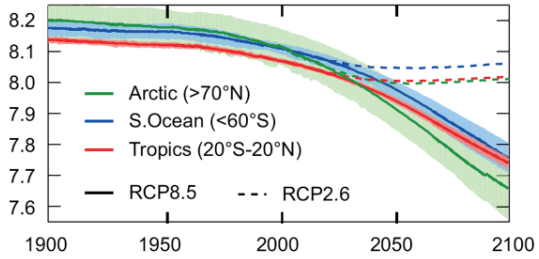
Remember CO2 used to be called "carbonic acid"?



pH change in the ocean depending on the concentration scenario

Source IPCC, 5th assessment report, 2014

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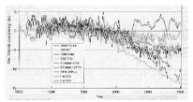
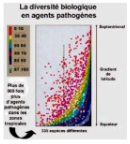
Don't leave, here's some more

With a magnitude that will depend on our emissions

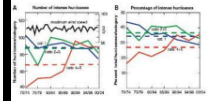


Change of ocean overturning

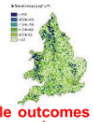


Pathogens

Multiple sanitary issues



Increased intensity of storms



Soils becoming carbon emitters

And we'll never guess all the possible outcomes in advance, so as time passes by we'll get more and more surprises

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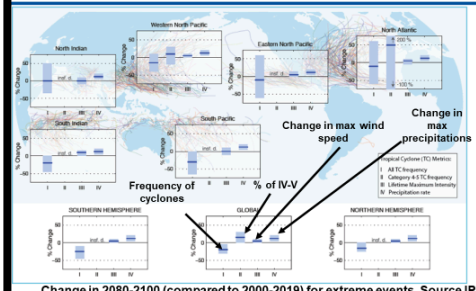
What about extreme events?



Change in 2080-2100 (compared to 2000-2019) for extreme events. Source IPCC, 5th assessment report, 2014

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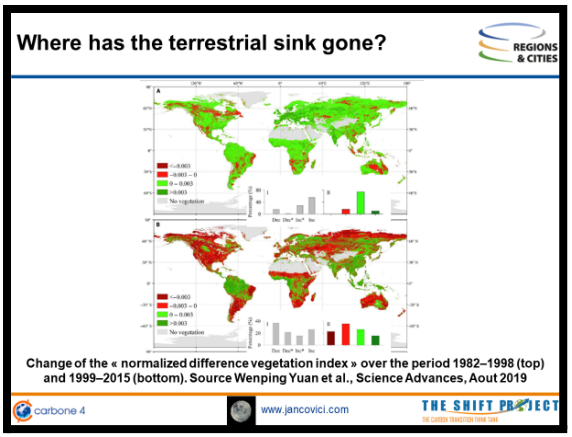

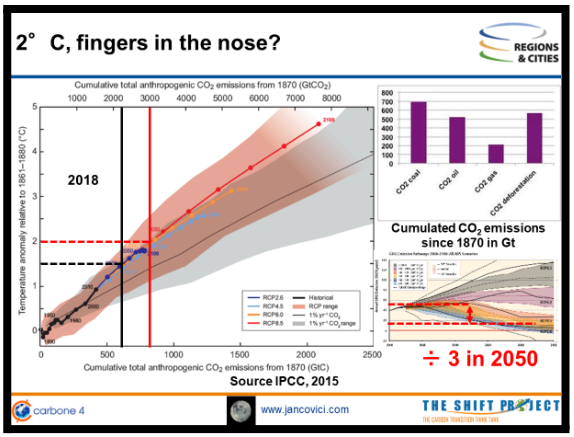

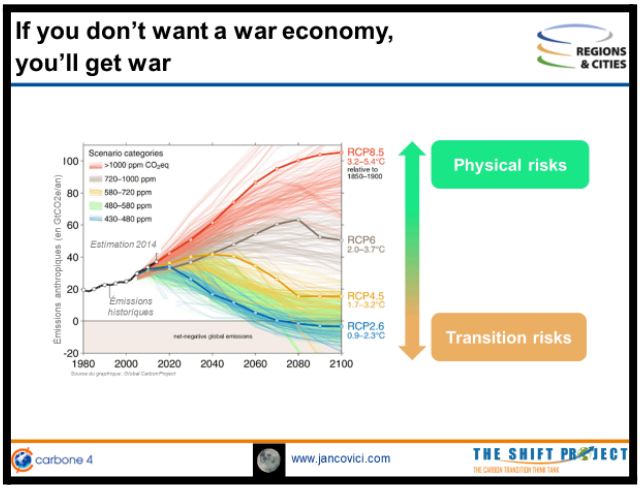

Pictures of the session

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Training for local politicians on climate adaptation #2

Wed 9, October 2019

11:30 - **13:00**

Climate adaptation measures can require substantial investment that can only be secured if there is political buy-in. This session organised with the EU Urban Agenda partnership on climate adaptation and building on from a first edition in May 2019, consists of training designed specifically for local politicians to raise their awareness of adaptation issues. The training will provide general information on what adaptation means for cities, raise awareness of the costs of inaction, and provide knowledge of the co-benefits of adaptation actions.

Moderator:
Stefania Manca, UA Climate Adaptation Partnership Coordinator-Urban Resilience Strategy Office, Genoa Municipality, Italy.

Speakers:
Janus Christoffersen, Head of Division in Center for Climate Adaptation, City of Copenhagen, Denmark.
Nathalie Guri, Projects and knowledge sharing director, EUROCITIES, Belgium.
Jean-Marc Jancovici, Climate change & Energy consultant, Carbone 4, France.
Elena VISNAR MALINOVSKA, Head of Unit, Adaptation Unit A3, DG CLIMA, European Commission, Belgium.

Code: 09WS359

Format: Workshop
Theme: A greener Europe
Partners: EUROCITIES, Urban Agenda partnership for Climate adaptation
Languages: english (en), français (fr)
Venue: Building CoR - VMA building, Room VMA 3.
Address: Rue Van Maerlant, 1040 Brussels

Session summary

As part of the EU Urban Agenda partnership on climate adaptation, EUROCITIES invited climate expert Jean-Marc Jancovici to train local politicians and provide them with a with a bold and engaging perspective on the causes and consequences of the climate crisis. He emphasised the irreversible nature of climate change and the urgent need to take appropriate action to prevent or minimise the damage that urban areas will have to face.

Looking back through history from the sharpened perspective of an engineering consultant, Jancovici spelled out the process from which cities have emerged: the industrial revolution brought humankind abundant energy, leading to an increase in agricultural production and therefore a small labour force required in the agricultural sector. This process led to the

development of large cities. However, the flipside was the exponential growth of emissions coming from energy use, impacting climate and the environment on a global scale.

Becoming climate neutral is the most tremendous transformation that cities have to face. To keep global warming at a 2°C scenario is still possible, but would entail a drastic and very quick global GHG emissions cut. However, even if we bring our emissions to zero, we are still going to be experiencing the extreme events caused by global warming for at least 20 years. The environmental, economic and social aspects of this transition are closely interconnected, meaning that our approach to climate adaptation must be based on systemic solutions. Adapting cities involves a paradigm shift from an energy abundant world to another model that integrates all the externalities caused by energy consumption. Environmental effects need to be integrated inside the market mechanisms and be compensated.

Jancovici stressed the urgent need for decision makers to make choices which take into account all aspects of the transition, and that allow all stakeholders and actors to have a say in the process.

Cities are best placed to trigger this process, and this is what the City of Copenhagen did in 2010, by co-designing with local actors a comprehensive climate adaptation plan. Janus Christoffersen, head of division at the Centre for Climate Adaptation, shared insights on how the process started with the Cloudburst Management Plan, and how adaptation gained political and public support.

In conclusion, Elena Višnar Malinovská, Head of Unit for Adaptation in DG Climate Action in the EU Commission, shared the need to accelerate climate adaptation actions, going beyond awareness raising and investing more on scaling up solutions that work at the local level. Some of the priorities of the European Commission in the next period will go in this direction, promoting re-vegetalisation, nature-based solutions and climate proofing of buildings.

Take away message

The climate changes we are experiencing are going to be more severe, and extreme weather events more frequent. This workshop presented scientific evidence on the urgency of adopting local adaptation measures. The example of Copenhagen demonstrated three key success factors for an adaptation plan: gain political and public support; have a strong business case demonstrating economic value; and have a holistic vision of the development of cities including mechanisms for continuous reshaping of the plan to face evolving adaptation needs.

Presentations

- Jancovici Jean-Marc: Adapting to a changing climate: a piece of cake? Jean Marc Jancovici
- Christoffersen Janus: Presentation Copenhagen adaptation strategy _ Janus Christoffersen
- Guri Nathalie: EUROCITIES training for local politicians on climate adaptation
- Guri Nathalie: DRAFT Agenda

Additional information

- Pictures of the session
- The Covenant of Mayors is the world's largest movement for local climate and energy action
- More information on EU, national and local policy context and actions is in the Climate Adapt portal

- EEA report: Urban adaptation to climate change in Europe 2016
- Are you a city and want to develop an adaptation plan? Check out the Urban Adaptation Support Tool

"The heatwaves, droughts and floods we experienced last summer are just the beginning of what will happen in the next 20 years. Our finger is on the trigger today, and the choices cities are making will determine their future and their capacity to adapt to climate changes." Jean-Marc Jancovici.

E- reporting

E-report - Training on climate adaptation with climate expert Jean-Marc Jancovici

Summary: 450 words

As part of the EU Urban Agenda partnership on climate adaptation, EUROCITIES invited Jean-Marc Jancovici, climate expert, to train local politicians and provide them with a with a bold and engaging perspective on the causes and consequences of the climate crisis. He emphasised the irreversible nature of climate change and the urgent need of taking appropriate action to prevent or minimise the damage that urban areas will have to face.

Looking back through history from the sharpened perspective of an engineering consultant, Jancovici spelled out the process from which cities have emerged: the industrial revolution brought mankind abundant energy leading to an increase in agricultural production and therefore less manpower required in the agricultural sector. This process led to the development of large cities. However, the flip side of the coin is the exponential growth of emissions coming from energy use, impacting climate and the environment on a global scale. Becoming neutral is the most tremendous transformation that cities have to face. To keep global warming in a 2°C scenario is still possible, but would entail a drastic and very quick global GHG emissions cut. However, even if we bring our emissions to zero, we are still going to be living the extreme events caused by global warming, for at least 20 years. The environmental, economic and social aspects of this transition are closely interconnected, meaning that our approach to climate adaptation must be based on systemic solutions. Adapting cities involves a paradigm shift from an energy abundant world to another model that integrates all the externalities caused by energy consumption. Environmental effects need to be integrated inside the market mechanisms and be compensated. Jancovici stressed the urgent need for decision makers to make choices which take into account all aspects of the transition, and that allow all stakeholders and actors to have a say in the process.

Cities are best placed to trigger this process, and this is what the City of Copenhagen did in 2010, by co-designing with local actors a comprehensive climate adaptation plan. Janus Christoffersen, head of division in the Centre for Climate Adaptation, shared insights on how the process started with the Cloudburst Management Plan, and how adaptation gained political and public support.

In conclusion, Elena Višnar Malinovská, Head of Unit in DG Climate Action in the EU Commission shared the need to accelerate climate adaptation actions, going beyond awareness raising and investing more on scaling up solutions that work at the local level. Some of the priorities of the European Commission in the next period will go in this direction, promoting re-vegetalisation, nature-based solutions, climate proofing of buildings.

Takeaways messages 80 words

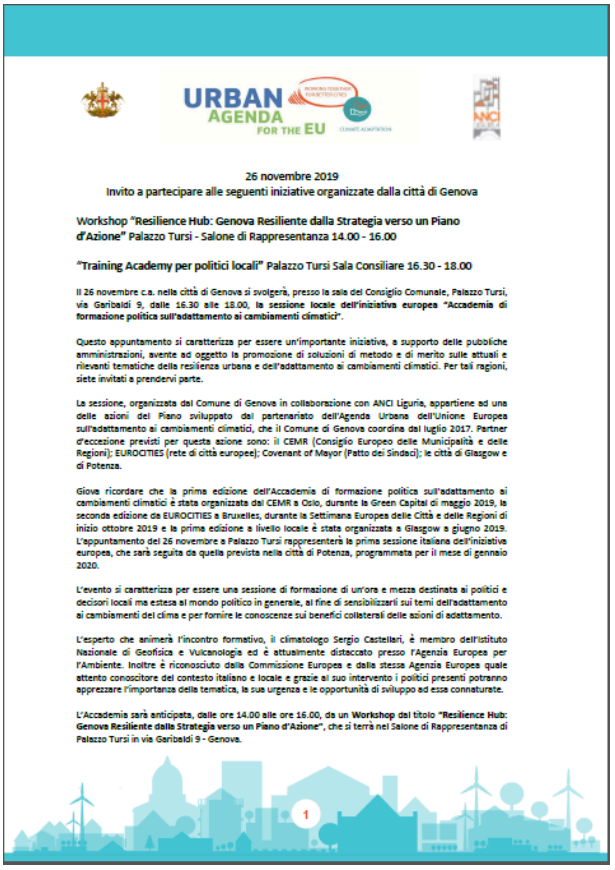
The climate changes we are experiencing are going to be more severe, and extreme weather events more frequent. This workshop presented scientific evidence on the urgency to adopt local adaptation measures. The example of Copenhagen demonstrated 3 key success factors for an adaptation plan: gain political and public support; have a strong business case demonstrating economic value; and have a holistic vision of the city development, which includes mechanisms for continuous reshaping of the plan to face evolving adaptation needs.

One quote from different speakers - Jean Marc Jancovici

The heatwaves, droughts, floods, we have been experiencing last summer are just the beginning of what will happen in the next 20 years. Our finger is on the trigger today, and the choices cities are making are going to determine their future and their capacity to adapt to climate changes.

6. Local academy held in Genova on 26th November 2019

Agenda



26 novembre 2019
Invito a partecipare alle seguenti iniziative organizzate dalla città di Genova

Workshop "Resilience Hub: Genova Resiliente dalla Strategia verso un Piano d'Azione" Palazzo Tursi - Salone di Rappresentanza 14.00 - 16.00

"Training Academy per politici locali" Palazzo Tursi Sala Consiliare 16.30 - 18.00

Il 26 novembre c.a. nella città di Genova si svolgerà, presso la sala del Consiglio Comunale, Palazzo Tursi, via Garibaldi 9, dalle 16.30 alle 18.00, **la sessione locale dell'iniziativa europea "Accademia di formazione politica sull'adattamento ai cambiamenti climatici"**.

Questo appuntamento si caratterizza per essere un'importante iniziativa, a supporto delle pubbliche amministrazioni, avente ad oggetto la promozione di soluzioni di metodo e di merito sulle attuali e rilevanti tematiche della resilienza urbana e dell'adattamento ai cambiamenti climatici. Per tali ragioni, siete invitati a prendervi parte.

La sessione, organizzata dal Comune di Genova in collaborazione con ANCI Liguria, appartiene ad una delle azioni del Piano sviluppato dal partenariato dell'Agenda Urbana dell'Unione Europea sull'adattamento ai cambiamenti climatici, che il Comune di Genova coordina dal luglio 2017. Partner d'eccezione previsti per questa azione sono: il CEMR (Consiglio Europeo delle Municipalità e delle Regioni); EUROCITIES (rete di città europee); Covenant of Mayor (Patto dei Sindaci); le città di Glasgow e di Potenza.

Giova ricordare che la prima edizione dell'Accademia di formazione politica sull'adattamento ai cambiamenti climatici è stata organizzata dal CEMR a Oslo, durante la Green Capital di maggio 2019, la seconda edizione da EUROCITIES a Bruxelles, durante la Settimana Europea delle Città e delle Regioni di inizio ottobre 2019 e la prima edizione a livello locale è stata organizzata a Glasgow a giugno 2019. L'appuntamento del 26 novembre a Palazzo Tursi rappresenterà la prima sessione italiana dell'iniziativa europea, che sarà seguita da quella prevista nella città di Potenza, programmata per il mese di gennaio 2020.

L'evento si caratterizza per essere una sessione di formazione di un'ora e mezza destinata ai politici e decisori locali ma estesa al mondo politico in generale, al fine di sensibilizzarli sui temi dell'adattamento ai cambiamenti del clima e per fornire le conoscenze sui benefici collaterali delle azioni di adattamento.

L'esperto che animerà l'incontro formativo, il climatologo Sergio Castellari, è membro dell'Istituto Nazionale di Geofisica e Vulcanologia ed è attualmente distaccato presso l'Agenzia Europea per l'Ambiente. Inoltre è riconosciuto dalla Commissione Europea e dalla stessa Agenzia Europea quale attento conoscitore del contesto italiano e locale e grazie al suo intervento i politici presenti potranno apprezzare l'importanza della tematica, la sua urgenza e le opportunità di sviluppo ad essa connaturate.

L'Accademia sarà anticipata, dalle ore 14.00 alle ore 16.00, da un **Workshop** dal titolo **"Resilience Hub: Genova Resiliente dalla Strategia verso un Piano d'Azione"**, che si terrà nel Salone di Rappresentanza di Palazzo Tursi in via Garibaldi 9 - Genova.

1

Allegato 2

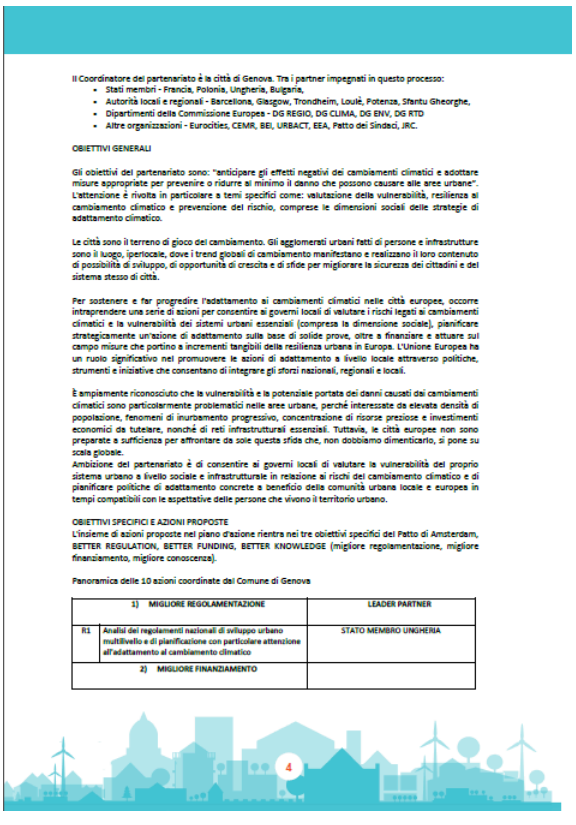
2. Concept e agenda Training Academy - Accademia di formazione politica sull'adattamento ai cambiamenti climatici

Martedì 26 novembre
Ore 16:30 – 18:00
Sala Consiglio comunale – Palazzo Tursi

Concept
Nel maggio 2016 ad Amsterdam si è tenuta la riunione informale dei ministri della Commissione europea responsabili per le questioni urbane, dove è stato concordato e istituito il Patto di Amsterdam, documento fondativo dell'Agenda Urbana Europea (NP-CEU 2016).

In linea con la strategia 2020 e la futura programmazione 2021-2027 per una crescita intelligente, sostenibile e inclusiva, il Patto di Amsterdam definisce l'Adattamento ai Cambiamento Climatico come uno dei quattordici temi prioritari da affrontare e per il quale proporre un Piano di Azione con soluzioni concrete di medio-lungo periodo.

3



Il Coordinatore del partenariato è la città di Genova. Tra i partner impegnati in questo processo:

- Stati membri - Francia, Polonia, Ungheria, Bulgaria,
- Autorità locali e regionali - Barcellona, Glasgow, Trondheim, Louiè, Potenza, Sfantu Gheorghe,
- Dipartimenti della Commissione Europea - DG REGIO, DG CLIMA, DG ENV, DG RTD
- Altre organizzazioni - Eurocities, CEMR, BEI, URBACT, EEA, Patto dei Sindaci, JRC.

OBIETTIVI GENERALI

Gli obiettivi del partenariato sono: "anticipare gli effetti negativi dei cambiamenti climatici e adottare misure appropriate per prevenire o ridurre al minimo il danno che possono causare alle aree urbane". L'attenzione è rivolta in particolare a temi specifici come: valutazione della vulnerabilità, resilienza al cambiamento climatico e prevenzione del rischio, comprese le dimensioni sociali delle strategie di adattamento climatico.

Le città sono il terreno di gioco del cambiamento. Gli agglomerati urbani fatti di persone e infrastrutture sono il luogo, iperlocale, dove i trend globali di cambiamento manifestano e realizzano il loro contenuto di possibilità di sviluppo, di opportunità di crescita e di sfide per migliorare la sicurezza dei cittadini e del sistema stesso di città.

Per sostenere e far progredire l'adattamento ai cambiamenti climatici nelle città europee, occorre intraprendere una serie di azioni per consentire ai governi locali di valutare i rischi legati ai cambiamenti climatici e la vulnerabilità dei sistemi urbani essenziali (compresa la dimensione sociale), pianificare strategicamente un'azione di adattamento sulla base di solide prove, oltre a finanziare e attuare sul campo misure che portino a incrementi tangibili della resilienza urbana in Europa. L'Unione Europea ha un ruolo significativo nel promuovere le azioni di adattamento a livello locale attraverso politiche, strumenti e iniziative che consentano di integrare gli sforzi nazionali, regionali e locali.

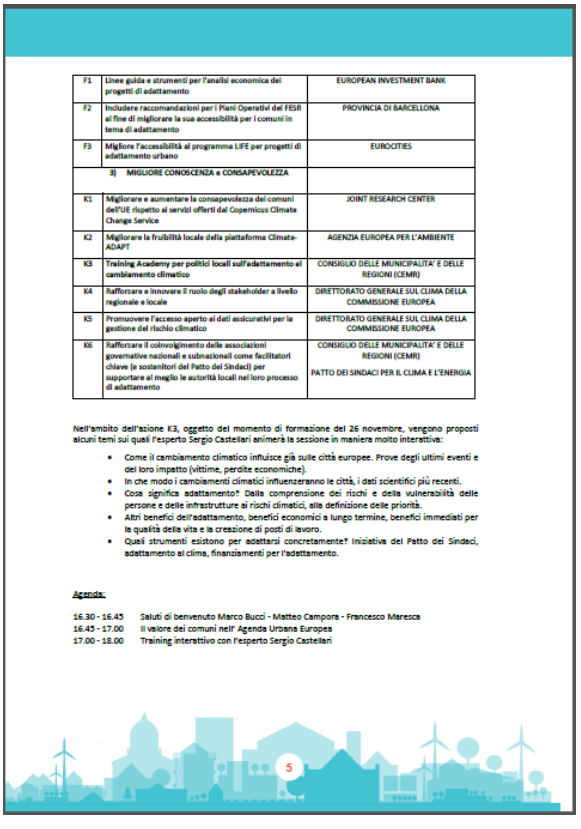
È ampiamente riconosciuto che la vulnerabilità e la potenziale portata dei danni causati dai cambiamenti climatici sono particolarmente problematici nelle aree urbane, perché interessate da elevata densità di popolazione, fenomeni di inurbamento progressivo, concentrazione di risorse preziose e investimenti economici da tutelare, nonché di reti infrastrutturali essenziali. Tuttavia, le città europee non sono preparate a sufficienza per affrontare da sole questa sfida che, non dobbiamo dimenticarlo, si pone su scala globale.
Ambizione del partenariato è di consentire ai governi locali di valutare la vulnerabilità del proprio sistema urbano a livello sociale e infrastrutturale in relazione ai rischi del cambiamento climatico e di pianificare politiche di adattamento concrete a beneficio della comunità urbana locale e europea in tempi compatibili con le aspettative delle persone che vivono il territorio urbano.

OBIETTIVI SPECIFICI E AZIONI PROPOSTE
L'insieme di azioni proposte nel piano d'azione rientra nei tre obiettivi specifici del Patto di Amsterdam, BETTER REGULATION, BETTER FUNDING, BETTER KNOWLEDGE (migliore regolamentazione, migliore finanziamento, migliore conoscenza).

Panoramica delle 10 azioni coordinate dal Comune di Genova

	1) MIGLIORE REGOLAMENTAZIONE	**LEADER PARTNER**
R1	Analisi dei regolamenti nazionali di sviluppo urbano multilivello e di pianificazione con particolare attenzione all'adattamento al cambiamento climatico	STATO MEMBRO UNGHERIA
	2) MIGLIORE FINANZIAMENTO	

4



F1	Linee guida e strumenti per l'analisi economica dei progetti di adattamento	EUROPEAN INVESTMENT BANK
F2	Includere raccomandazioni per i Piani Operativi del FESR al fine di migliorare la sua accessibilità per i comuni in tema di adattamento	PROVINCIA DI BARCELLONA
F3	Migliore l'accessibilità al programma LIFE per progetti di adattamento urbano	EUROCITIES
	3) MIGLIORE CONOSCENZA e CONSAPEVOLEZZA	
K1	Migliorare e aumentare la consapevolezza dei comuni dell'UE rispetto ai servizi offerti dal Copernicus Climate Change Service	JOINT RESEARCH CENTER
K2	Migliorare la fruibilità locale della piattaforma Climate-ADAPT	AGENZIA EUROPEA PER L'AMBIENTE
K3	Training Academy per politici locali sull'adattamento al cambiamento climatico	CONSIGLIO DELLE MUNICIPALITA' E DELLE REGIONI (CEMR)
K4	Rafforzare e innovare il ruolo degli stakeholder a livello regionale e locale	DIRETTORATO GENERALE SUL CLIMA DELLA COMMISSIONE EUROPEA
K5	Promuovere l'accesso aperto ai dati assicurativi per la gestione del rischio climatico	DIRETTORATO GENERALE SUL CLIMA DELLA COMMISSIONE EUROPEA
K6	Rafforzare il coinvolgimento delle associazioni governative nazionali e subnazionali come facilitatori chiave (e sostenitori del Patto dei Sindaci) per supportare al meglio le autorità locali nel loro processo di adattamento	CONSIGLIO DELLE MUNICIPALITA' E DELLE REGIONI (CEMR) PATTO DEI SINDACI PER IL CLIMA E L'ENERGIA

Nell'ambito dell'azione K3, oggetto del momento di formazione del 26 novembre, vengono proposti alcuni temi sui quali l'esperto Sergio Castellari animerà la sessione in maniera molto interattiva:

- Come il cambiamento climatico influisce già sulle città europee. Prove degli ultimi eventi e del loro impatto (vittime, perdite economiche).
- In che modo i cambiamenti climatici influenzeranno le città, i dati scientifici più recenti.
- Cosa significa adattamento? Dalla comprensione dei rischi e della vulnerabilità delle persone e delle infrastrutture ai rischi climatici, alla definizione delle priorità.
- Altri benefici dell'adattamento, benefici economici a lungo termine, benefici immediati per la qualità della vita e la creazione di posti di lavoro.
- Quali strumenti esistono per adattarsi concretamente? Iniziativa del Patto dei Sindaci, adattamento al clima, finanziamenti per l'adattamento.

Agenda:

16.30 - 16.45 Saluti di benvenuto Marco Bucci - Matteo Campora - Francesco Maresca
16.45 - 17.00 Il valore dei comuni nell' Agenda Urbana Europea
17.00 - 18.00 Training interattivo con l'esperto Sergio Castellari

5

Background note

Background Note for Local Training Academy on Urban Climate Change Adaptation
Genoa (Italy), 26/11/2019

Purpose:
This note provides background information for the participants of the Local Training Academy on Urban Climate Change Adaptation taking place in Genoa (Italy) on 26 November 2019. Furthermore, it provides an outline of the training session, bio and contacts of the trainer and some information sources for suggested reading prior the training.

Background
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 2 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.

Furthermore, 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.
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.

The Training session:

The duration of the training is 1.5 hour and consists of a presentation by the trainer and interactions with the audience. The Cities representatives in the room will be asked to briefly present, if available, their own experience in climate change adaptation.
The training offers information on:

- • Key definitions (e.g. climate, climate change, resilience, vulnerability, risk, adaptation)
- • Climate change impacts in cities in Europe and Italy
- • European policy on urban adaptation
- • Adaptation needs and benefits
- • Examples of adaptation
- • Success factors
- • Financing
- • Tools and information sources

Trainer:
The Trainer is Sergio Castellari (Istituto Nazionale di Geofisica e Vulcanologia – INGV, Bologna (Italy); now seconded at the European Environment Agency - EEA).
Sergio Castellari works as Seconded National Expert at the EEA (European Environment Agency) in Copenhagen (Denmark) on impacts, vulnerability, adaptation to climate change and disaster risk reduction. He is a senior scientist at the INGV (National Institute of Geophysics and Volcanology) in Bologna (Italy). He has been working at CMCC (Euro-Mediterranean Center on Climate Change) from 2006 until March 2015, where he was the Head of the 'Institutional Relations and Adaptation Policies Group'. From August 2006 to March 2015 he was the 'National Focal Point for Italy' of the IPCC (Intergovernmental Panel on Climate Change). He has been working as a climate science and policy expert for the Italian Ministry for the Environment, Land and Sea. He participated as Italian Delegate to IPCC, UNFCCC (UN Framework Convention on Climate Change), UNCCD (UN Convention to Combat Desertification), GEO (Group on Earth Observations) and UNEP (UN Environment Programme) sessions. From 2002 to 2012 he participated as Italian Expert at the EU Science Expert Group of the EU WPIEI-CC of EU Council. He has been co-chair/facilitator of Contact Groups and Informal Consultations at UNFCCC-SBSTA sessions for several years. He participated in international and national projects on marine science, climate science and adaptation policies. In particular, he was the Coordinator of the Italian national project SNAC (Elementi per l'elaborazione di una Strategia Nazionale di Adattamento ai Cambiamenti Climatici) and the chairman of the Scientific Board of the LIFE project BLUEAP (Bologna Local Urban Environment Adaptation Plan for a Resilient City). From 2008 to 2015 he was a contract professor of "Climate change and International Policies" for the "Science and Management of the Climate Change" Doctorate Programme of the Cà Foscari University of Venice. He was co-editor of the Italian book "I cambiamenti climatici in Italia: evidenze, vulnerabilità, impatti" published in April 2010.

Suggested reading:

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"

Background to the EU Urban Agenda Climate Adaptation Partnership
The Urban Agenda for the EU was launched in May 2016 with the Pact of Amsterdam. It represents a new multi-level working method promoting cooperation between Member States, cities, the European Commission and other stakeholders to stimulate growth, liveability and innovation in the cities of Europe and to identify and successfully tackle social challenges.
The Urban Agenda has 14 partnerships, one of them focussed on Climate Adaptation. The one for Climate Adaptation was set up in 2017 as a multilevel and cross-sectoral cooperation instrument and delivery mechanism for delivering under this priority theme. The Partnership has developed an Action Plan to provide concrete actions for the design of future and of

existing legislation, instruments and initiatives relating to the adaptation to climate change in urban areas in the EU.
One of the actions is “Political Training Academy on Climate Adaptation”. This action is led by the Council of European Municipalities and Regions (CEMR) in collaboration with partners: EUROCITIES and cities of Glasgow, Genova, Loulé and Potenza. COSLA is involved through CEMR, COSLA’s European umbrella body, where we are based together in the House of Municipalities in Brussels with our sister associations from other countries.
Training sessions for politicians are being organised by the Climate Adaptation Partnership to provide general information on what adaptation means for cities and local authorities and provide knowledge of the co-benefits of adaptation actions.

Presentation by the trainer

Agenzia europea dell'ambiente (*European Environment Agency – EEA*):

EEA coordina la ***rete europea di informazione ed osservazione ambientale*** *(European Environment Information and Observation Network - **EIONET**).*

EIONET:
- 33 paesi membri e sei paesi cooperanti;
- circa 300 Istituzioni nazionali
- NFP (National Focal Point)
- NRC (National Reference Center)
- 6 European topic centres

European Topic Center:
- Consorzi sotto contratto con EEA, che svolgono attività su temi ambientali specifici definiti nella Strategia e Annual Management Plan EEA:

Piattaforma Europea di Adattamento Climatico - Climate-ADAPT

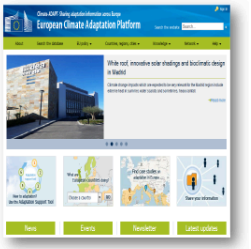
Obiettivo:
- Lanciata nel 2012, supporta lo sviluppo e attuazione delle strategie, politiche e azioni di adattamento.
- Complementare alla altre piattaforme nazionali.

Utenti:
- Esperti e decisori a livello EU, transnazionale, nazionale, regionale e locale
- Istituti di ricerca.

Governance:
- Finanziata da EEA con DG CLIMA e supportata da ETC/CCA.

Disseminazione:
- Bollettino quadrimestrale
- Webinars, conferenze, workshop

Contenuti:
- Pagine Nazionali, Pagine Transnazionali, Pagine di politiche settoriali EU
- Casi studio, Mappe di vulnerabilità urbana
- Progetti scientifici, Indicatori di impatti e vulenrabilità
- Differenti strumenti di supporto



http://climateadapt.eea.europa.eu

Climate-ADAPT & C3S: a new climate data store interface

- **Aim:**
  - To develop an interactive tool in Climate-ADAPT to offer the users to access specific climate information data to support the adaptation efforts at different levels in Europe.

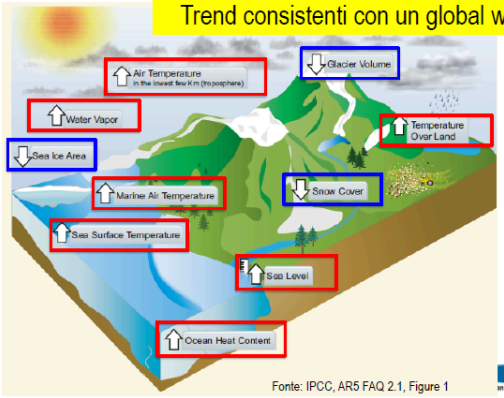
Products:
- Observed (reanalysis) and projected climate change indicators
- Multiple options for Climate-ADAPT users regarding climate variables, timeframe, scenarios, spatial aggregation

Types of information:
- Download numerical data: time series, averages, stat. distributions
- Visualise maps and graphs

il 'cambiamento climatico',
il 'riscaldamento globale' ?

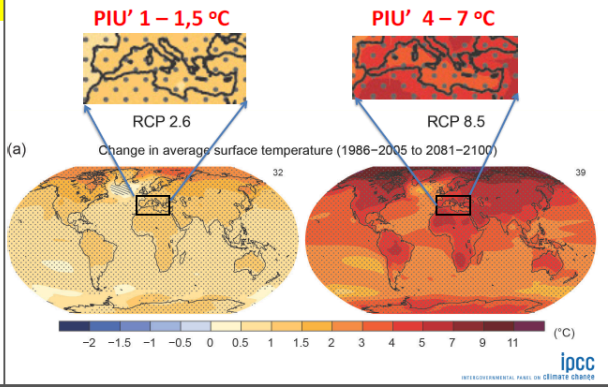
Il riscaldamento globale!

Trend consistenti con un global warming.



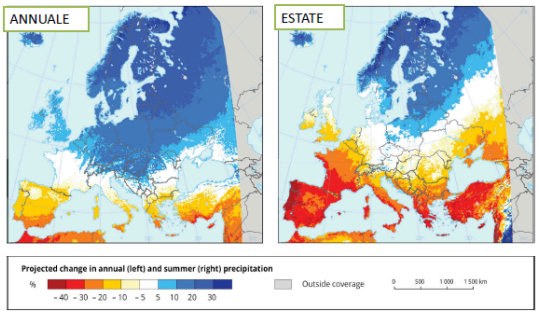
Fonte: IPCC, AR5 FAQ 2.1, Figure 1

Quanto caldo farà a fine secolo? (2 scenari)



Precipitazione media: le differenze tra le regioni europee aumenteranno

Precipitazione annuale e stagionale
(proiezioni **RCP8.5** per 2080)



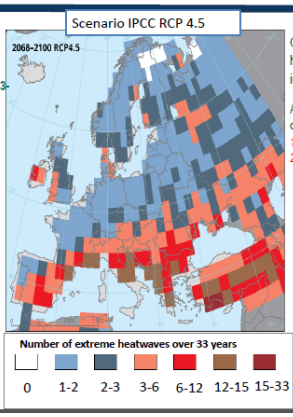
Fonte:: EURO-CORDEX (Jacob et al., 2014)

Il numero di ondate estreme di calore crescerà

2020-2052:
Il numero delle ondate estreme di calore sarà più grande nel Sud Europa con 3-6 **ondate su 33 anni:**
Una ondata estrema ogni 5-10 anni !

2068-2100:
12-15 ondate estreme ogni 33 anni in alcune aree del Sud Europa:
Una ogni 2 – 3 anni !

Scenario IPCC RCP 4.5



Ondate estreme di calore: heat wave magnitude index (HWMI) oltre 8.

Ad oggi solo 2 ondate estreme di calore
1. *Ondata del 2003;*
2. *Ondata del 2010.*

Fonte: JRC, Russo et al, 2014

Il **rischio di incendi boschivi** salirà verso nord

L'Europa Centrale e la **Scandinavia meridionale** saranno esposte a **RISCHIO ALTO e MEDIO.**

Il Sud Europa rimarrà con **RISCHIO MOLTO ALTO.**

Wildfires rage in Arctic Circle as Sweden calls for help

Sweden worst hit as hot, dry summer sparks unusual number of fires, with at least 11 in the far north

The Guardian

At least 11 wildfires are raging inside the Arctic Circle as the hot, dry summer turns an abnormally wide area of Europe into a tinderbox.

The worst affected country, Sweden, has called for emergency assistance from its partners in the European Union to help fight the blazes, which have broken out across a wide range of its territory and prompted the evacuations of four communities.

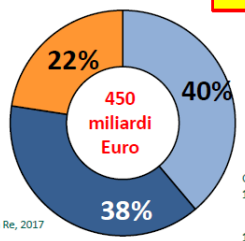
Fonte: JRC, Lung et al, 2013

I costi economici dei disastri provocati da eventi estremi idro-meteo-climatici in Europa

Le perdite economiche complessive in **1980 - 2016** in Europa

Le perdite economiche più grandi:
Germania, **Italia** e **UK**.

Solo 1/3 assicurato

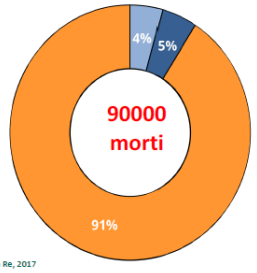


Fonte: Munich Re, 2017

- **Eventi estremi meteo** (tempeste, intense precipitazioni, grandine)
- **Eventi estremi idrologici** (inondazioni, frane, valanghe)
- **Eventi estremi climatici** (ondate di calore, siccità, incendi boschivi)

Gli eventi estremi più costosi sono:
1. **L'alluvione nell'Europa centrale (2002)** (circa 20 miliardi Euro)
1. **La siccità e ondata di calore (2003)** (circa 15 miliardi Euro)
1. **Winter storm "Lothar" (1999)** (circa 15 miliardi Euro).

Mortalità in 1980 - 2016 in Europa



- **Eventi estremi meteo** (tempeste, intense precipitazioni, grandine)
- **Eventi estremi idrologici** (inondazioni, frane, valanghe)
- **Eventi estremi climatici** (ondate di calore, siccità, incendi boschivi)

Fonte: Munich Re, 2017

Come affrontare il rischio climatico

La grande sfida climatica ed energetica:

MITIGAZIONE:
Un intervento umano al fine di ridurre le sorgenti o aumentare gli assorbitori di gas serra.

evitare che i cambiamenti climatici siano irreversibili.

ADATTAMENTO:
L'adattamento cerca di ridurre il rischio e i danni in maniera efficace e cost-effective o sfrutta le opportunità vantaggiose.

gestire gli effetti inevitabili dei cambiamenti climatici

Adattamento: cosa?

Cosa è l'adattamento climatico

*"ridurre il **rischio** e i **danni** derivanti dagli **impatti negativi** (presenti e futuri) dei c.c. in maniera efficace e **cost-effective** e sfruttare i **potenziali benefici** della situazione.*
*Sono necessarie **strategie** e **piani nazionali, regionali** e locali.*
Anticipare gli impatti può ridurre i costi futuri dei danni."
(EC Adaptation White Paper, 2009, EU Adaptation Strategy)

Esempi di misure di adattamento:

- *utilizzo più efficiente di risorse idriche scarse,*
- *adeguamento delle norme edilizie in vigore per far fronte alle future condizioni climatiche e ai fenomeni meteorologici estremi,*
- *costruzione di difese contro le inondazioni e innalzamento degli argini artificiali per combattere l'innalzamento del livello dei mari,*
- *sviluppo di colture resistenti alla siccità, selezione di specie e di prassi silvicole meno sensibili alle precipitazioni violente e agli incendi,*
- *elaborazione di piani territoriali e corridoi per favorire la migrazione delle specie.*

Il contesto politico globale e Europeo per l'adattamento

Il contesto globale e Europeo:

Globale:

- UNFCCC Paris Agreement
- Sendai Framework for Disaster Risk Reduction
- Sustainable Development Goals
- CBD
- Urban Agenda

UE:

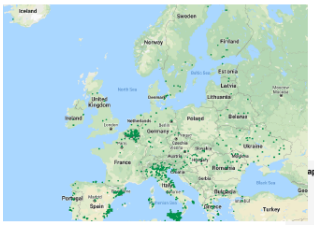
- Strategia Europea di adattamento
- EU Civil Protection Mechanism
- EU Action Plan on Sendai Framework for Disaster Risk Reduction
- Direttiva EU Alluvioni
- EU Green Infrastructure Strategy
- EU Urban Agenda

Strategia Europea di adattamentto (2013)

https://climate-adapt.eea.europa.eu/eu-adaptation-policy/strategy

UE - Covenant of Mayors (Adattamento)

Azioni di adattamento sottomesse:



1992 firmatari
113 milioni di persone
1479 azioni di adattamento

Fonte: https://www.covenantofmayors.eu/en/

La maggior parte dei paesi europei hanno sviluppato e adottato Strategie Nazionali e Piani Nazionali di Adattamento

25 Paesi Membri UE + Svizzera, Norvegia e Turchia hanno adottato Strategie Nazionali di adattamento

Fonte: Climate-ADAPT (gennaio 2018)

15 Paesi Membri UE + Svizzera e Turchia hanno adottato Piani Nazionali di adattamento

Il contesto dell'adattamento in Italia

Strategia Nazionale di Adattamento ai Cambiamenti Climatici (SNAC)

MINISTERO DELL'AMBIENTE E DELLA TUTELA DEL TERRITORIO E DEL MARE

- Dal **luglio 2012** al **luglio 2014**
- Coordinatore istituzionale: *Ministero per l'Ambiente e per la Tutela del Territorio e del Mare (MATTM)*
- Coordinatore scientifico: *Centro Euro-Mediterraneo per i Cambiamenti Climatici* (Sergio Castellari)
- Adozione: Decreto Direttoriale MATTM Giugno 2015

1 ottobre – 15 novembre 2012
Questionario pubblico on-line preliminare

9-10 dicembre 2013
Consultazioni ad hoc per ONG, Regioni, Città

31 ottobre 2013 – 20 gennaio 2014
Consultazione pubblica on-line su bozza documento strategico

60 revisioni on line e molte note di commento

TAVOLO TECNICO (Coordinamento CMCC)
Comunità scientifica (CMCC, ISPRA, ENEA, CNR, Università, ..)

TAVOLO ISTITUZIONALE (Coordinamento MATTM)
Ministeri, Regioni, Provincie, Comuni

1) Rapporto Tecnico-Scientifico *(878 pag. 230 esperti)*
"Stato delle conoscenze su impatti, vulnerabilità ed adattamento ai cambiamenti climatici in Italia"

2) Rapporto Tecnico-Giuridico *(155 pag. 5 esperti)*
"Analisi della normativa comunitaria e nazionale rilevante per gli impatti, la vulnerabilità e l'adattamento ai cambiamenti climatici"

3) Documento Strategico *(245 pag. 35 esperti)*
"Elementi per una Strategia Nazionale di Adattamento ai Cambiamenti climatici"

https://www.minambiente.it/notizie/strategia-nazionale-di-adattamento-ai-cambiamenti-climatici-0

Strategia Nazionale di Adattamento ai Cambiamenti Climatici (SNAC) *(197 pag.)*

SNAC: settori di azione

12 MACRO-SETTORI	9 MICRO-SETTORI
Risorse idriche (quantità e qualità)	
Desertificazione, degrado del territorio e siccità	
Dissesto idrogeologico	
Biodiversità ed ecosistemi	Ecosistemi terrestri Ecosistemi marini Ecosistemi di acque interne e di transizione
Salute	
Foreste	
Agricoltura, pesca e acquacoltura	Agricoltura e produzione alimentare Pesca marittima Acquacoltura
Energia	
Zone costiere	
Turismo	
Insediamenti urbani	
Infrastruttura critica	Patrimonio culturale Trasporti e infrastrutture Industrie e infrastrutture pericolose
2 CASI SPECIALI	**Area alpina e appenninica** **Distretto idrografico padano**

SNAC: il percorso

- Luglio 2014:
- Settembre 2014:
- Ottobre 2014:
- Giugno 2015:
- **Ogni 5 anni:** Revisione ogni 5 anni della Strategia
- Entro 31/12/2016:
- Entro 31/12/2016:

Italia: Adattamento a livello nazionale

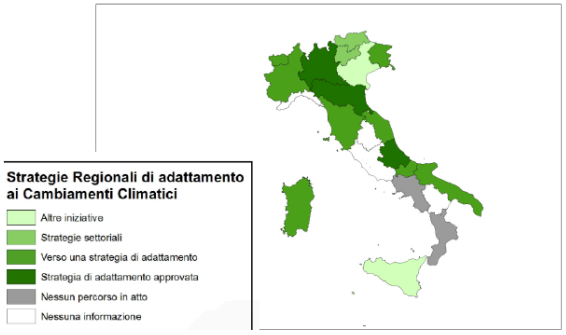
- 2016: inizio elaborazione del **Piano Nazionale di Adattamento ai Cambiamenti Climatici (PNAC)**
- Novembre 2019: il PNAC non è stato ancora adottato.

Impatti futuri in Italia:

- Maggior frequenza di incendi boschivi
- Maggior rischio idrogeologico e idraulico
- Impatto negativo sulla produzione agricola (meno acqua disponibile)
- Più frequenti periodi di siccità (se ripetuta, problemi di desertificazione dei suoli…)
- Meno acqua disponibile, minore qualità, problemi di approvvigionamento, compreso il comparto idropotabile
- Nuove patologie ed effetti negativi sulla salute per più frequenti onde di calore
- Maggiore richiesta e consumo di energia (es: per raffreddamento estivo)

Fonte: Strategia Nazionale di Adattamento ai Cambiamenti Climatici (SNAC)
http://www.pdc.minambiente.it/sites/default/files/allegati/Strategia_nazionale_adattamento_cambiamenti_climatici.pdf

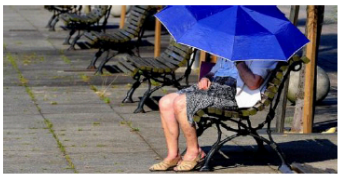
Le Strategie e Piani nelle Regioni:



Fonte: ISPRA - STRATEGIE E PIANI DI ADATTAMENTO AI CAMBIAMENTI CLIMATICI (2018)
https://annuario.isprambiente.it/ada/basic/6905

Le città:
Il 'campo di battaglia' dove gli impatti dei CC colpiscono e colpiranno

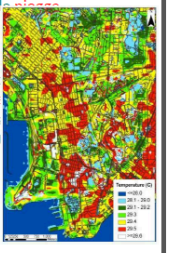
Tutto il territorio è vulnerabile ai cambiamenti climatici; ma cosa si intende per vulnerabilità?



Consiste nel grado al quale un sistema è suscettibile agli effetti negativi dei cambiamenti climatici e incapace di farne fronte, includendo la variabilità climatica e gli eventi estremi (da IPCC, 2007).

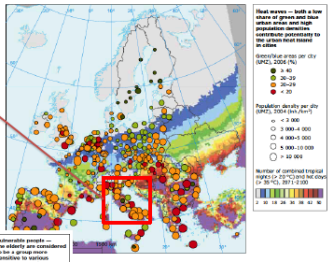
Perché le città sono particolarmente vulnerabili?

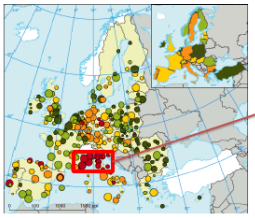
- Le città sono vulnerabili perché sono sistemi artificiali, che già oggi soffrono di problemi legati alle ondate di caldo, all[a] intense, alle esondazioni fluviali.
- Nelle città italiane, grandi e piccole, vive circa il 70% popolazione italiana, e una parte di questa po[p] – gli anziani, i malati, gli immigrati in condizioni r[e] precarie, le persone sole o a basso reddito – s[i] particolarmente esposti agli effetti dei cambiament[i] climatici.
- *Solo 12 i Comuni superano i 250.000 abitanti, (15% della popolazione totale, con una densità di oltre 2.800 persone per km2 – Napoli 8000, Milano 7400 e Torino 6800).*
- Gli edifici e le superfici asfaltate assorbono il calore solare e lo trattengono più a lungo delle aree naturali, e aumentano ulteriormente le temperature, soprattutto di notte.



Italia:

Grande vulnerabilità dell'Italia alle onde di calore *(scarsità di green/blue aree nelle cittàe alta densità demografica)*



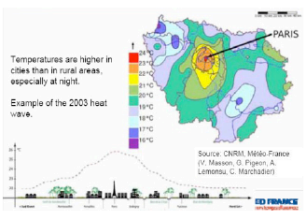


Grande vulnerabilità sociale in Italia (più alta in Nord Italia): *Popolazione > 65 anni.*

Fonte: EEA 2012. "Climate change, impacts and vulnerability in Europe 2012. An indicator-based report"

Perché le città sono particolarmente vulnerabili?

- Un ulteriore contributo all'incremento delle temperature urbane viene dato dai motori delle auto, dal riscaldamento degli edifici nonché dagli impianti di condizionamento che funzionano d'estate; va aggiunto che le parti centrali delle città sono generalmente le più calde (fenomeno dell'isola di calore).
- Non tutte le città sono tuttavia vulnerabili in egual misura, e ogni città può presentare vulnerabilità diverse, dovute ad esempio alla carenza di verde, alla vicinanza a corsi d'acqua, alla presenza di aree franose, alla collocazione in aree poco elevate rispetto al mare, allo stato carente delle reti idriche, stradali, energetiche.



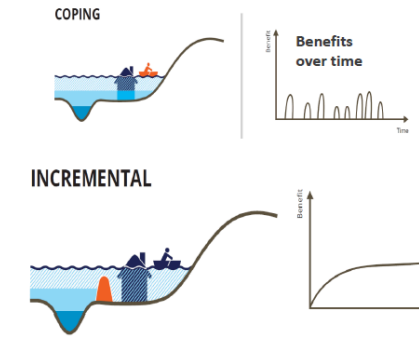
Adattamento urbano: come?

39

L'adattamento climatico, a tutte le scale, può e deve operare con **differenti tipologie di azioni**

- **Azioni GREY**: che consistono in adattamenti strutturali, impianti, opere di difesa, etc;
- **Azioni GREEN**: che consistono nell'ampliamento delle reti verdi (anche diminuendo le superfici artificializzate) e nella tutela della biodiversità urbana;
- **Azioni SOFT**: che prevedono normative, comunicazione, informazione e sensibilizzazione dei cittadini, sistemi di allerta.

Differenti approcci all'adattamento climatico



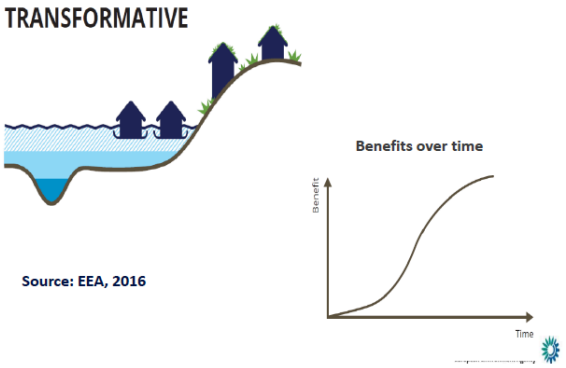
I nostri approcci funzioneranno anche nel futuro?

Vác, città vicina a Budapest (Ungheria) ha gestito in maniera efficace le **inondazioni** del Danubio nel 2002 e 2013 con delle **dighe più alte**.

Ma queste dighe più alte funzioneranno anche in futuro?

Image: city of Vác

Differenti approcci all'adattamento climatico



Delocalizzazione (Eferdingen, Austria)

Image: Landespolizeidirektion OÖ

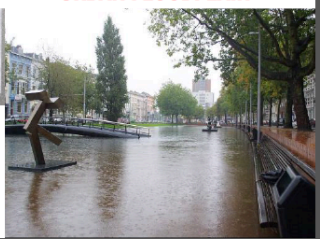
L'adattamento climatico urbano può e deve operare a differenti scale: regione, città, quartiere, edificio

Rotterdam:
Flood Management

Azioni di adattamento a scala urbana interventi diversi diffusi nel territorio a *Rotterdam*

UNDERGROUND WATER STORAGE

URBAN FLOODPLAIN



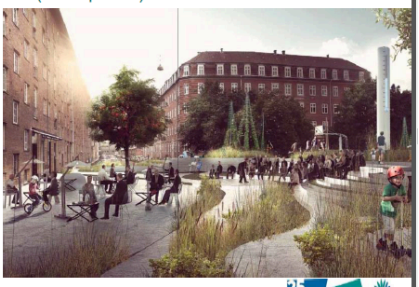
Azioni di adattamento a scala urbana: **la fascia costiera**

Vancouver Greener City: il parco come risorsa per la città, il verde integrato nel tessuto urbano.

Interventi di adattamento a scala di **quartiere**

COPENHAGEN CLIMATE RESILIENT NEIGHBOURHOOD

Il ridisegno degli spazi pubblici a **Copenhagen** (Klimaqwarter)



Azioni di adattamento a scala di **edificio**

Green buildings a Copenhagen

Green buildings a Vancouver.

Adattarsi all'acqua: ***case palafitta***

Azioni di adattamento **GREY**

Vasche di raccolta delle acque piovane a ***Rotterdam***

Le soluzioni "verdi" *(Nature based solutions)*

Azioni di adattamento GREEN

London Green Grid:
La rete ecologica di Londra si estende in ambito urbano e periurbano ed è progettata per garantire prestazioni climatiche efficaci in termini termici e di rischio idraulico.

Interventi di greening a Vancouver

Pensiline verdi a Sheffield (UK)

Azioni di adattamento **SOFT**

Rotterdam: Progettazione partecipata

Rotterdam: Sistema di preallarme via sms per segnalare una tempesta di neve

Portale Allerte **Emilia Romagna**

Quanto costa l'adattamento climatico degli insediamenti urbani?

Non è facile rispondere a questa domanda, perché ogni città ha proprie esigenze particolari, e quindi i costi possono variare molto. Ma vanno tenute presenti due cose:

- Le **azioni "no regret"** – oltre ad apportare benefici climatici contribuiscono a migliorare la qualità di vita dei cittadini (esempio: verde urbano);
- Altre azioni sono **a costo zero**, ad esempio evitare di realizzare insediamenti in aree vulnerabili, oppure sono azioni realizzabili utilizzando risorse del bilancio ordinario (ad esempio la manutenzione delle reti drenanti).

Tutti gli studi economici in materia di adattamento climatico sono concordi nell'affermare che – **a lungo termine – il "do nothing" comporterà costi molto più elevati di quelli necessari per le azioni di adattamento.**

Visione a lungo termine e pianificazione efficace per l'adattamento: **Buona Pratiche**

55

2 luglio 2011: Nubifragio a Copenhagen (Danimarca)

Circa 1 miliardo di euro di danni

Copenhagen investe 1,3 Mld Euro in adattamento

- *Cloudburst Management Plan (2012)* – pianificazione **per i prossimi 100 anni**
- **Nuova normativa** per interventi finanziari sulle superfici stradali
- **Integrazione** con il *Copenhagen Climate Plan (2009):* riduzione del 20% delle emissioni di CO2 nel 2005-2015 e una Copenhagen *"carbon neutral"* al 2025.

René Sommer Lindsay (*Comune Copenhagen*):
'Invece di fare progetti puntiformi, cerchiamo di sviluppare un piano importante per l'acqua piovana, che è un problema solo se va dove non deve andare"

Dicembre 2015: il quartiere di **San Kjeld** resiliente a inondazioni, alle tempeste e all'innalzamento del livello del mare.

Programma Delta in Olanda:

UN
TER
•
UN
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•
RID
SPE

Adattamento urbano in Italia?

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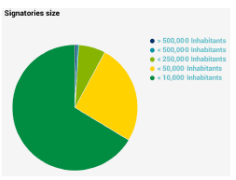
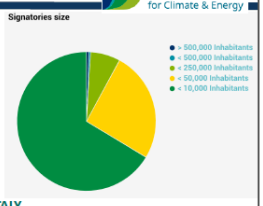
Adattamento urbano:

Covenant of Mayors for Climate & Energy



ITALY
- **Emission Inventories = 3291**
- **Risk and Vulnerabilities Assessments = 69**

Adattamento urbano:



ITALY
- **Emission Inventories = 3291**
- **Risk and Vulnerabilities Assessments = 69**

Italia:
Azioni = 413
Azioni di adattamento = 38
(Azioni di mitigazione = 375)

Italia: alcuni altri recenti progetti LIFE di adattamento urbano:

Progetto BLUEAP (2013 – 2015):
- realizzazione del **Piano di Adattamento per la città di Bologna** (profilo climatico, strategia)

Progetto RAINBO (2016 - 2019):
- sviluppare e migliorare metodologie e strumenti per **la previsione degli eventi estremi di pioggia e del loro impatto**, concentrandosi sulla **risposta idrologica di piccoli corsi d'acqua presenti in area urbana.**
- **piattaforma software (on line e off line)** per il monitoraggio degli eventi di pioggia intensa e la previsione dei potenziali impatti.
- Bologna e Parma

Progetto PRIMES (2016 - 2018):
- **prevenire il rischio alluvioni** rendendo le comunità resilienti
- **Sistemi di allertamento partecipati**
- 3 regioni:
  1. Emilia Romagna (6 comuni)
  2. Marche (2 comuni)
  3. Abruzzo (2 comuni)

Italia: alcuni altri recenti progetti LIFE di adattamento urbano:

Progetto LIFE SEC ADAPT (2015 – 2019):
- aumentare la capacità di resilienza delle comunità locali al cambiamento climatico;
- 20 Comuni (12 della Regione Marche, 6 della Regione Istriana (Croazia), 1 della Spagna e 1 della Grecia);
- redazione di un documento di raccomandazione politica comune per una implementazione territoriale coerente delle strategie climatiche ed energetiche.

Progetto ADRIADAPT (A resilience information platform for Adriatic cities and town) (2019-2020)
- Selezionare e migliorare **conoscenze climatiche per l'adattamento urbano**, incluso informazioni su scenari climatici specifici per l'area Adriatica
- Creare a un sistema di informazioni e una **piattaforma di** per l'area Adriatica
- **Testare** the piattaforma di conoscenza con **piani climatici locali** con i partner locali

Come pianificare e attuare l'adattamento?

Valutazione dei '*Rischi Climatici*'

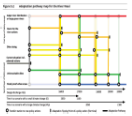
- Vulnerabilità prioritarie: *"hot spots"* spaziali, temporali e di governance.
- Considerare gli aspetti intersettoriali.
- Analisi dei **livelli accettabili di rischi** e delle perdite.
- Oltre i settori, valutare la resilienza dei servizi sociali, dei servizi di emergenza nel contesto dei cambiamenti climatici e fare proposte di adattamento.
- Analisi dei rischi di **eventi multipli** o 'impatti a cascata'.
- Analisi dei rischi dai *'tipping points' (punti di non ritorno).*

Adaptation tipping points *(punti di non ritorno)*:

Rispondono a due esigenze fondamentali dei decisori politici:
1. ***Per quanto tempo una strategia sarà efficace?***
2. ***Quanto è difficile cambiare una strategia se le condizioni climatiche cambiano?***
3. ***Per quali condizioni climatiche i nostri obiettivi non sono raggiunti?***

Adaptation Pathways:

una sequenza di misure alternative



- Visione strategica del futuro.
- Attuazione nel tempo di diverse misure per possibili futuri.
- Affrontare l'incertezza.
- Gestione flessibile
- Evitare la maladaptation.
- **Uso efficace dei fondi**

Limiti dell'adattamento:

- Identificazione e comprensione di:
  - *"tipping points".*
  - implicazioni prodotte dai limiti delle istituzioni coinvolte nell'adattamento.
  - limiti di resilienza delle comunità.
  - limiti dell'adattamento incrementale – **adattamento trasformazionale.**

Monitoraggio e valutazione delle azioni di adattamento:

- Misurare con indicatori consistenti il successo delle azioni e quanto sono e non sono sufficienti.
- Metrica quantitativa e qualitativa .
- Come valutare? Come comunicare?

In pratica che possiamo fare?

Cosa occorre fare per portare avanti un **efficace percorso di adattamento climatico urbano**?

- **Iniziare in maniera semplice**
- **Raccogliere informazioni:**
  - capire quali saranno i **cambiamenti climatici** e **i problemi** che potranno comportare
  - Individuare quali sono i **soggetti sociali** e le **parti della città maggiormente vulnerabili**
- **Pensare a quali azioni attuare:**
  - Individuare assieme alla comunità urbana – cittadini, amministratori, associazioni, operatori, forze sociali – **le azioni** migliori in grado di eliminare o attenuare i problemi
  - Prima le **azioni "soft"**, le **azioni "zero o low cost" e "no regret"**
- **Trovare i finanziamenti**

Systemic approach: URBAN ADAPTATION TOOL

Urban Adaptation Support Tool
Covenant of Mayors for Climate & Energy EUROPE

1. Preparing the ground for adaptation
2. Assessing climate change risks and vulnerabilities
3. Identifying adaptation options
4. Assessing and selecting adaptation options
5. Implementing adaptation
6. Monitoring and evaluating adaptation

https://climate-adapt.eea.europa.eu/knowledge/tools/urban-ast/step-0-0

- The Urban Adaptation Support Tool jointly developed by the Covenant of Mayors –Europe Office and the European Environment Agency, is the main adaptation resource for the Covenant community.
- It takes you through all the steps needed to develop and implement an adaptation strategy and refers you to valuable guidance materials and tools.
- The tool has been tested and approved by Covenant signatory cities.

Funding options:

Covenant of Mayors for Climate & Energy

https://www.covenantofmayors.eu/support/funding.html

European Structural and Investment Funds	European Funding Programmes	Project Development Assistance	Financial Institutions Instruments	Alternative Financing Schemes
Cohesion Fund	CEF	EEEF	EFSI	Citizen Cooperatives
EAFRD	Horizon 2020	ELENA	Municipal loans	Crowd-funding
EMFF	JPI Urban Europe	Horizon 2020 PDA	NGFF	EPC
ERDF	LIFE	JASPERS		Green municipal bonds
ESF	Territorial Cooperation			On-bill-financing
	UIA			Revolving loan funds
	URBACT			Soft loans, guarantees

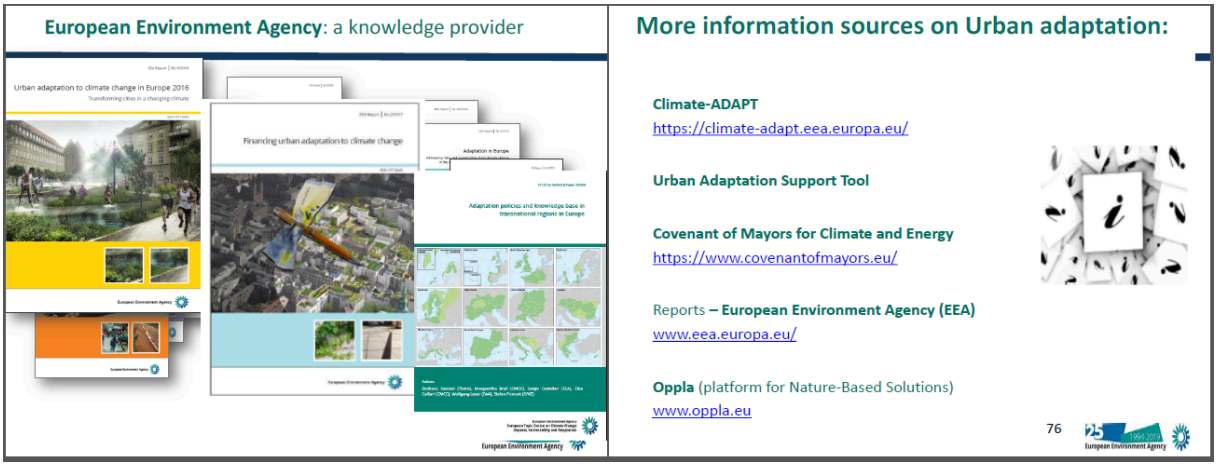
Alcune mie conclusioni:

DA FARE IN ITALIA PER L'ADATTAMENTO:

- ✓ **Strumenti assicurativi** adeguati che possano contribuire a rafforzare la **resilienza**, creando **incentivi per la prevenzione dei rischi** e contribuendo a **sensibilizzare i cittadini** in merito ai rischi climatici.
- ✓ Adottare il **Piano Nazionale di Adattamento (PNAC)** e migliorarne gli obiettivi - un **Piano di Azione.**
- ✓ Finalizzare la **piattaforma web nazionale di adattamento** (lavoro in corso) e collegarla con piattaforme di coordinamento tra soggetti interessati.
- ✓ **Allineare** le **Strategie Locali di Adattamento** con la **Strategia Nazionale di Adattamento (SNAC)** e il **Piano Nazionale di Adattamento (PNAC)** e con I **Piani di Disastro Idro-geologico.**
- ✓ **Realizzare un'efficace unità di governance nazionale sotto la Presidenza del Consiglio dei Ministri** (come il DPC).

Per chi vuole saperne di più …

74



Article produced for distribution

Second Local Training Academy on Urban Climate Change Adaptation held in Genova

Elisa - Communi...
18 December 2019 - updated 3 weeks ago

o

The Action Plan developed by the Partnership on Climate Adaptation lays out 10 Actions aiming to anticipate the adverse effects of climate change and take appropriate action to prevent or minimise the damage it can cause to urban areas. One of these actions includes the development of several local and general training academies for politicians on adaptation, aiming to provide information to (local) politicians and to assist them in their

decision-making on issues related to climate adaptation. The **second local Academy** took place in **Genova** (Italy) at the Genova Municipality Main Building on **November 26**, 2019. The training was provided by **Sergio Castellari**, supported by the Project Coordinator **Stefania Manca** (Municipality of Genova) and **Eva Baños de Guisasola** (CEMR). Around 40 local politicians and other interested stakeholders joined the training.

The session involved presentations, interactive Q&A sessions with the audience, and an open discussion. The focus was not only on outlining the main challenges faced by cities, but also at looking at potential solutions, which can be implemented in different ways to tailor them to individual cases. A different combination of approaches allows each city to work on their own specific challenges, and the trainer went through a range of adaptation options, cost options, and different strategic approaches to tackling climate change in different contexts, as well as different ways to finance these.

For more information on the training, please see a more detailed summary here, where you can also find useful contact details and resources on climate adaptation.

Local training academy on climate adaptation held in Genoa (26th of November)

The Climate Adaptation Partnership is organizing the second local training academy for politicians (November 26, 2019). This time, the training will be held for local politicians in Genoa (Italy). The project coordinator of the Partnership is hosting the meeting.

During this meeting, the context and need for climate adaptation will be discussed as well as the impact of climate change experienced by European cities. Both EU as national and local initiatives related to climate adaptation will be touched upon. The training offers information on:

- Key definitions (e.g. climate, climate change, resilience, vulnerability, risk, adaptation)
- Climate change impacts in cities in Europe and Italy
- European policy on urban adaptation
- Adaptation needs and benefits
- Examples of adaptation
- Success factors
- Financing
- Tools and information sources

The training will be held by Sergio Castellari (Istituto Nazionale di Geofisica e Vulcanologia – INGV, Bologna (Italy); now seconded as National Expert at the European Environment Agency - EEA).

The training is being organized as part of one of the actions from the Climate Adaptation Action plan. Previously, trainings were provided during the Urban Future Global Conference in Oslo (may 2019), during a climate adaptation day in Glasgow (June 2019) and during the EWRC (September 2019).

Summary of the local academy

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 26, 2019**. The trainer was Sergio Castellari (European Environment Agency) supported by Stefania Manca (Municipality of Genova) and Eva Baños de Guisasola (CEMR).

Around 40 people joined the training. I do not have the list of participants so I am not able to specify about the type of stakeholder present at the event.

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 problems[2] 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)

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

- 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:

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 vulnerabiity 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

Trainer

Sergio Castellari

Short CV

Sergio Castellari holds a degree in Physics (University of Bologna, Italy) and a Ph.D. in Meteorology and Physical Oceanography (University of Miami, Florida, USA). Since April 2015 he works as 'Seconded National Expert' at the EEA (European Environment changeand disaster risk reduction. Since May 2000 he is affiliated at the INGV (National Institute of Geophysics and Volcanology)in Bologna (Italy), where he is a senior scientist since 2008. He has been working at CMCC Euro-Mediterranean Center on Climate Change) from 2006 until March 2015, where he was the Head of the 'Institutional Relations and Adaptation Policies Group'. From August 2006 to March 2015 he was the 'National Focal Point for Italy' of the IPCC (Intergovernmental Panel on Climate Change).

In the last decade he has been working as a 'climate science and policy expert' for the Italian Ministry for the Environment, Land and Sea. He participated as 'Italian Delegate' to IPCC, UNFCCC (UN Framework Convention on Climate Change), UNCCD (UN Convention to Combat Desertification), GEO (Group on Earth Observations) and UNEP (UN Environment Programme) sessions. From 2002 to 2012 he participated as 'Italian Expert' at the EU Science Expert Group of the EU WPIEI-CC of EU Council. He has been 'co-chair/facilitator' of Contact Groups and Informal Consultations at UNFCCC-SBSTA sessions for several years. He participated in international and national projects on marine science, climate science and adaptation policies. From January 2011 to March 2015 he was the 'Manager' of the ETC/CCA (European Topic Centre on Climate Change impacts, vulnerability and Adaptation) contracted by the EEA. Prior joining the EEA, he has been in the recent years the 'Coordinator' of the Italian national project SNAC (Elements for the elaboration of a National Strategy of Adaptation to Climate

Change), 'Work Package Co-Leader' in EU FP7 project CIRCLE-2 (Climate Impact Research & Response Coordination for a Larger Europe) and participated at EU FP7 project BASE (Bottom-up climate adaptation strategies towards a sustainable Europe).
From 2008 to 2015 he was a 'contract professor' of "Climate change and International Policies" for the "Science and Management of the Climate Change" Doctorate Programme of the Cà Foscari University of Venice. He is the author of scientific articles in international peer-reviewed journals. He was co-editor of the Italian book "I ambiamenti climatici in Italia: evidenze, vulnerabilità, impatti" published in April 2010. He was a project evaluator for the European Commission and reviewer of articles for
International scientific journals. He conducted an intense dissemination activity in the field of climate change participating in television and radio broadcasts, writing articles for newspapers and magazines, giving interviews and lectures for general public. He co-contributed to the theatrical reading: "La margherita di Adele" focused on climate change. He was member of the Scientific Committee of WWF-Italy and one of the co-founders of the NGO Italian Climate Network (www.italiaclima.org). He is a member of the Scientific Committee of Climateranti Blog (www.climalteranti.it). His main interests are now focused on adaptation science and policies.

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7. Local academy held in Potenza on 17th February 2020

Agenda

Local political training academy on urban climate adaptation
Accademia di formazione per politici locali sull'adattamento climatico delle città
17 Febbraio 2020, 9:00-18:00
Palazzo della Cultura – Largo D'Errico
Potenza

9.00	Benvenuto del Sindaco di Potenza
9.30	Anna Rossi (Comune di Potenza): "Presentazione della Partnership europea sull'adattamento ai cambiamenti climatici"
10.00	Monica Salvia (CNR-IMAA): "Come le città europee si preparano ad affontare i cambiamenti climatici"
10.30	Francesco Scorza (Università degli Studi della Basilicata): "La governance urbana climate-responsive: dai principi della NUA al GEODESIGN come framework per uno sviluppo urbano sostenibile"
11.00	Giuseppe Las Casas (Università degli Studi della Basilicata): "Focus e key-concerns per il Geodesign Workshop. Una conclusione in itinere"
Coffee break	
11.30	"POTENZA 2050" Geodesign Workshop (*) Learning by doing GEODESIGN, fixing ideas for long-term sustainable development strategies (GDW session 1) - Introduzione al Workshop, Francesco Scorza - Sistemi e land suitability: Studenti del corso di "Ingegneria del Territorio" SI-UNIBAS - "Individual design step" (*) Il workshop rientra nel programma di ricerca internazionale "Geodesign International Collaboration" e utilizza le risorse tecnologiche messe a disposizione gratuitamente da

	Geodesign Hub Pvt. Ltd., Dublin, Ireland. Durante il workshop saranno messe a disposizione dei partecipanti elaborazioni tecniche, mappe e dati elaborati nell'ambito del corso di Ingegneria del Territorio a.a. 2019/2020 SI-UNIBAS. I risultati e la descrizione dei processi di progettazione partecipata, nonché i contenuti emersi dall'interazione tra i presenti, saranno documentati e potranno essere oggetto di approfondimento scientifico orientato all'ottimizzazione di tecniche e metodologie e casi studio
Light lunch 14.30	(GDW session 2) - Definizione dei Change group e sintesi strategiche - Presentazione delle strategie per Change Group - Introduzione alla negoziazione e sociogramma dei gruppi - Negoziazione
16.30	Discussione e conclusioni

Presentation

How cities respond to climate change?

1st assessment of LCPs in 200 UA core cities (EU-11), 2013

Existence, content, drivers & barriers of Local Climate Plans (LCPs)

2nd assessment of LCPs in 885 UA core cities (EU-28), 2016/17

Existence, framework of types of LCPs

Dedicated versus mainstreamed strategies

Work in progress

Content analysis of mitigation and adaptation plans, 2018/19

M. Salvia 3

Aim of the research

"Cities lead the way in climate change actions" (Kousky & Schneider, 2003; Rosenzweig et al., 2010)

Does the claim hold true for European cities?

This research is aimed to understand:

- How are mitigation and adaptation LCPs distributed across European cities and countries?
- Which types of LCPs exist?
- What are the main topics and objectives of LCPs?
- What are potential drivers or barriers to develop LCPs?

2009-2013

COST Action TU0902 "Integrated assessment technologies to support the sustainable development of urban area" (Action Chair: Dr. Richard DAWSON) http://uforcities.com/

A detailed analysis of 200 large and medium-sized cities across 11 European countries was performed by 12 researchers from 9 European countries in order to analyse the cities' climate change adaptation and mitigation plans.

An in-depth analysis of mitigation and adaptation plans and strategies (Local Climate Plans - LCPs) in a sample of cities in terms of emission target set, methods adopted, topics included and actions taken.

M. Salvia 4

1st assessment of LCPs in 200 UA core cities (EU-11), 2013 (1/4)

200 Urban Audit cities in 11 countries = 17% of the pop EU-27

Database with 120 variables per city:

- LCPs & content
- Membership in international climate networks
- Socio-economic data & Natural aspects

12 researchers from 9 European countries

LCP selection:

- Planning and strategic policy documents targeting the entire city area
- Tackling climate change mitigation and/or adaptation
- Published as one document; no single actions

Reckien, D. et al. (2014) Climate change response in Europe: what's the reality? Analysis of adaptation and mitigation plans from 200 urban areas in 11 countries. Climatic Change, 122 (1-2): 331-340. doi: 10.1007/s10584-013-0989-8

M. Salvia 5

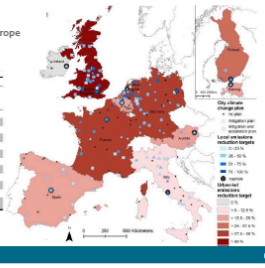
1st assessment of LCPs in 200 UA core cities (EU-11), 2013 (2/4)

- **65%** of cities have mitigation (MITI) LCP, **29%** adaptation (ADA) LCP, **22%** ADA+MITI joint LCP, **35% without LCP**
- LCPs correlate with size & economic strength of a city;
- Cities at the coast & of high future impacts have less LCPs
- Many cities do not have any plans, particularly in Southern Europe
- Show case examples of urban leadership, e.g. London, Paris

Urban Audit Cities

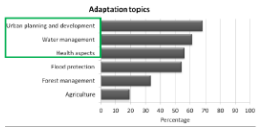
...in country	Cities [N]	with: Mitigation plan N	[%]	Adaptation plan N	[%]	Joint mitigation & adaptation plans N	[%]
Austria	5	3	60.0	0	0.0	0	0.0
Belgium	7	3	42.9	1	14.3	0	0.0
Estonia	2	1	50.0	0	0.0	0	0.0
Finland	4	3	75.0	2	50.0	2	50.0
France	35	15	42.9	8	22.9	6	17.1
Germany	66	32	48.5	13	19.7	6	15.9
Ireland	4	2	50.0	0	0.0	0	0.0
Italy	32	18	56.3	1	3.1	0	0.0
Netherlands	15	12	80.0	3	20.0	2	13.3
Spain	24	13	54.2	5	20.8	3	12.5
United Kingdom	56	28	50.0	24	42.9	24	42.9
TOTAL	200	130	65.0	57	28.5	43	21.5

More Mitigation than Adaptation Plans

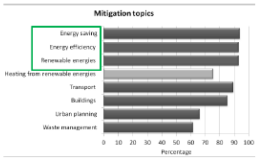


M. Salvia 6

1st assessment of LCPs in 200 UA core cities (EU-11), 2013 (3/4)



Adaptation plans: Urban planning largest category
→ rather "comprehensive" and vague, not concrete



Mitigation plans: energy & renewables
→ rather sectoral

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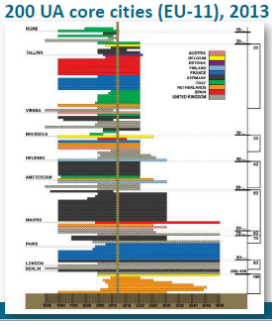
1st assessment of LCPs in 200 UA core cities (EU-11), 2013 (4/4)

„Carbon tree"

- Line: 1 emission target/plan/city
- Color: Country of plan
- X-axis: Time line from base year to target year of reduction target; „stem" = 2012
- Y-axis: height of reduction target (%)

It was observed a large variation in climate change response, which was most noticeable on a north e south axis



M. Salvia 8

Reference paper

Climatic Change
DOI 10.1007/s10584-013-0989-8
LETTER

Climate change response in Europe: what's the reality? Analysis of adaptation and mitigation plans from 200 urban areas in 11 countries

D. Reckien · J. Flacke · R. J. Dawson · O. Heidrich · M. Olazabal · A. Foley · J. J.-P. Hamann · H. Orru · M. Salvia · S. De Gregorio Hurtado · D. Geneletti · E. Pietrapertosa

Received: 19 June 2013 / Accepted: 15 October 2013

Abstract Urban areas are pivotal to global adaptation and mitigation efforts. But how do cities actually perform in terms of climate change response? This study sheds light on the state of urban climate change adaptation and mitigation planning across Europe. Europe is an excellent test case given its advanced environmental policies and high urbanization. We performed a detailed analysis of 200 large and medium-sized cities across 11 European countries and analyzed the cities' climate change adaptation and mitigation plans. We

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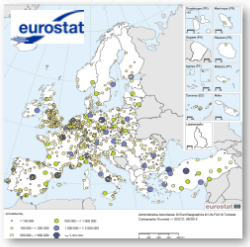
2nd assessment of LCPs in 885 UA core cities (EU-28), 2016/17 (1/8)

Map of the location of Eurostat Urban Audit cities, shown with resident population as of 1st January 2012 (Eurostat, 2016).



The city sample

30 researchers from 17 European countries

The **Urban Audit (UA) city sample (885 core cities** and **22 greater cities** across the EU-28, plus even more cities in associate countries).
The Urban Audit delineates the **"core city"** according to political and administrative boundaries while the **"larger urban zone"** includes the core city and its commuter belt.
The UA cities are geographically dispersed and varying in size to ensure a balanced and regionally representative sample, while maintaining representativeness also for smaller cities (below 50,000 inhabitants).

Reckien D et al. (2018). How are cities planning to respond to climate change? Assessment of local climate plans from 885 cities in the EU-28. Journal of Cleaner Production.

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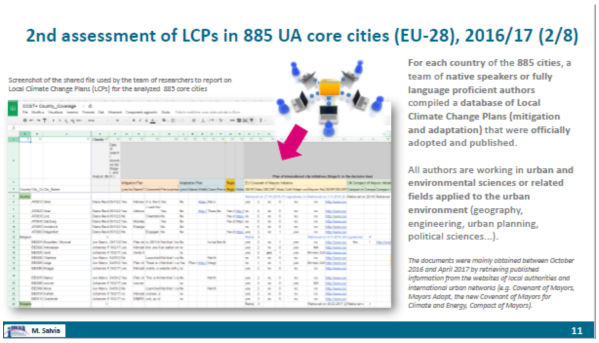
2nd assessment of LCPs in 885 UA core cities (EU-28), 2016/17 (2/8)
Screenshot of the shared file used by the team of researchers to report on Local Climate Change Plans (LCPs) for the analysed 885 core cities
For each country of the 885 cities, a team of native speakers or fully language proficient authors compiled a database of Local Climate Change Plans (mitigation and adaptation) that were officially adopted and published.
All authors are working in urban and environmental sciences or related fields applied to the urban environment (geography, engineering, urban planning, political sciences...).
The documents were mainly obtained between October 2016 and April 2017 by retrieving published information from the websites of local authorities and international urban networks (e.g. Covenant of Mayors, Mayors Adapt, the new Covenant of Mayors for Climate and Energy, Compact of Mayors).
M. Salvia
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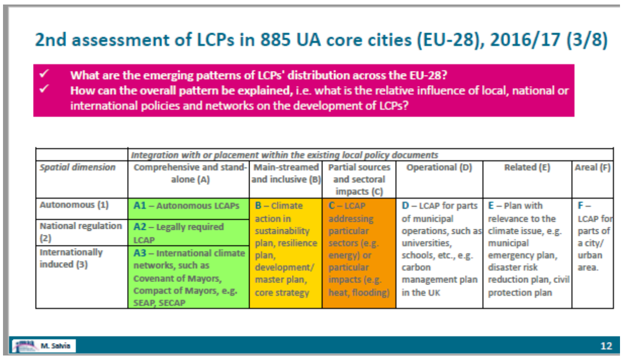
2nd assessment of LCPs in 885 UA core cities (EU-28), 2016/17 (3/8)
✓ What are the emerging patterns of LCPs' distribution across the EU-28?
✓ How can the overall pattern be explained, i.e. what is the relative influence of local, national or international policies and networks on the development of LCPs?
Integration with or placement within the existing local policy documents
Spatial dimension
Comprehensive and stand-alone (A)
Main-streamed and inclusive (B)
Partial sources and sectoral impacts (C)
Operational (D)
Related (E)
Areal (F)
Autonomous (1)
National regulation (2)
Internationally induced (3)
A1 – Autonomous LCAPs
A2 – Legally required LCAP
A3 – International climate networks, such as Covenant of Mayors, Compact of Mayors, e.g. SEAP, SECAP
B – Climate action in sustainability plan, resilience plan, development/ master plan, core strategy
C – LCAP addressing particular sectors (e.g. energy) or particular impacts (e.g. heat, flooding)
D – LCAP for parts of municipal operations, such as universities, schools, etc., e.g. carbon management plan in the UK
E – Plan with relevance to the climate issue, e.g. municipal emergency plan, disaster risk reduction plan, civil protection plan
F – LCAP for parts of a city/ urban area.
M. Salvia
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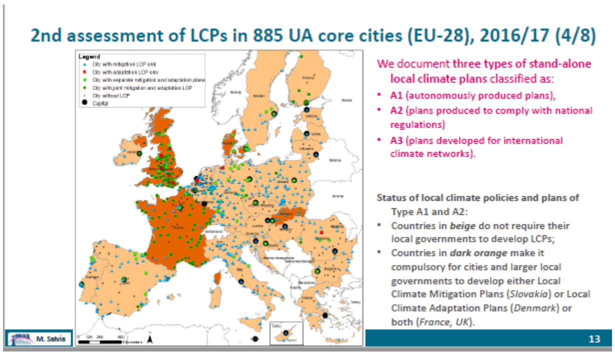
2nd assessment of LCPs in 885 UA core cities (EU-28), 2016/17 (4/8)
Legend
We document three types of stand-alone local climate plans classified as:
• A1 (autonomously produced plans),
• A2 (plans produced to comply with national regulations)
• A3 (plans developed for international climate networks).
Status of local climate policies and plans of Type A1 and A2:
• Countries in beige do not require their local governments to develop LCPs;
• Countries in dark orange make it compulsory for cities and larger local governments to develop either Local Climate Mitigation Plans (Slovakia) or Local Climate Adaptation Plans (Denmark) or both (France, UK).
M. Salvia
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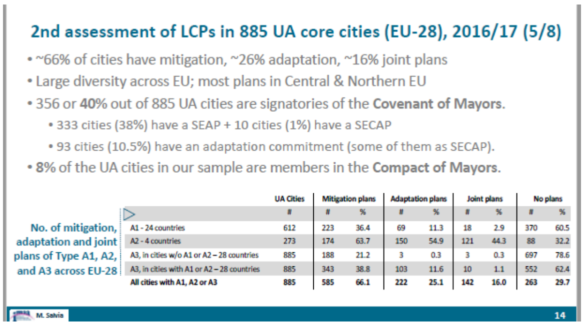
2nd assessment of LCPs in 885 UA core cities (EU-28), 2016/17 (5/8)
• ~66% of cities have mitigation, ~26% adaptation, ~16% joint plans
• Large diversity across EU; most plans in Central & Northern EU
• 356 or 40% out of 885 UA cities are signatories of the Covenant of Mayors.
• 333 cities (38%) have a SEAP + 10 cities (1%) have a SECAP
• 93 cities (10.5%) have an adaptation commitment (some of them as SECAP).
• 8% of the UA cities in our sample are members in the Compact of Mayors.
No. of mitigation, adaptation and joint plans of Type A1, A2, and A3 across EU-28
UA Cities | Mitigation plans | Adaptation plans | Joint plans | No plans
| # | % | # | % | # | % | # | %
A1 - 24 countries | 612 | 223 | 36.4 | 69 | 11.3 | 18 | 2.9 | 370 | 60.5
A2 - 4 countries | 273 | 174 | 63.7 | 150 | 54.9 | 121 | 44.3 | 88 | 32.2
A3, in cities w/o A1 or A2 – 28 countries | 885 | 188 | 21.2 | 3 | 0.3 | 3 | 0.3 | 697 | 78.6
A3, in cities with A1 or A2 – 28 countries | 885 | 343 | 38.8 | 103 | 11.6 | 10 | 1.1 | 552 | 62.4
All cities with A1, A2 or A3 | 885 | 585 | 66.1 | 222 | 25.1 | 142 | 16.0 | 263 | 29.7
M. Salvia
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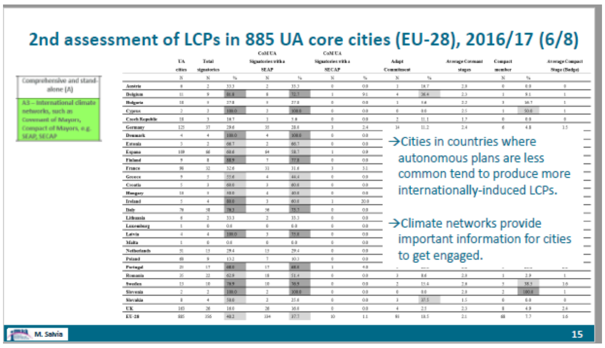
2nd assessment of LCPs in 885 UA core cities (EU-28), 2016/17 (6/8)
Comprehensive and stand-alone (A)
A3 – International climate networks, such as Covenant of Mayors, Compact of Mayors, e.g. SEAP, SECAP
→Cities in countries where autonomous plans are less common tend to produce more internationally-induced LCPs.
→Climate networks provide important information for cities to get engaged.
M. Salvia
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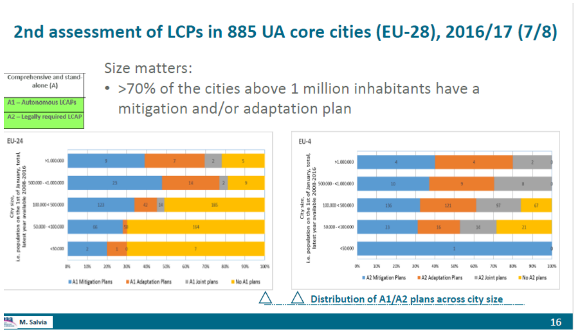
2nd assessment of LCPs in 885 UA core cities (EU-28), 2016/17 (7/8)
Size matters:
• >70% of the cities above 1 million inhabitants have a mitigation and/or adaptation plan
A1 – Autonomous LCAPs
A2 – Legally required LCAP
EU-24
EU-4
Distribution of A1/A2 plans across city size
M. Salvia
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2nd assessment of LCPs in 885 UA core cities (EU-28), 2016/17 (8/8)

- There is wide variation among countries in the prevalence of LCPs, with generally **more plans developed by central and northern European cities**.
- Approximately **66% of EU cities have a type A1, A2, or A3 mitigation plan, 26% an adaptation plan, and 17% a joint adaptation and mitigation plan**, while **about 33% lack any form of stand-alone local climate plan** (i.e. what we classify as A1, A2, A3 plans).
- **Mitigation plans are more numerous than adaptation plans**, but planning for mitigation does not always precede planning for adaptation.
- **Main drivers** for the development of local climate plans.
  - ***Size*: about 80% of the cities with above 500,000 inhabitants** have a comprehensive and stand-alone mitigation and/or an adaptation plan (**A1**).
  - Cities in **four countries with *national climate legislation*** (**A2**), i.e. Denmark, France, Slovakia and the United Kingdom, are nearly **twice as likely to produce local mitigation plans**, and **five times more likely to produce local adaptation plans**, compared to cities in countries without such legislation.
  - LCPs produced for ***international climate networks*** (**A3**) are mostly found in the many countries where autonomous (type A1) plans are less common.
- **A1 and A2 mitigation plans** are particularly numerous in **Denmark, Poland, Germany, and Finland**; while **A1 and A2 adaptation** plans are prevalent in **Denmark, Finland, UK and France**.
- The **integration** of adaptation and mitigation is country-specific and can mainly be observed in two countries where local climate plans are compulsory, i.e. **France and the UK**.

Reference paper


Journal of Cleaner Production

How are cities planning to respond to climate change? Assessment of local climate plans from 885 cities in the EU-28

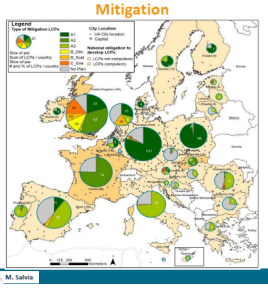
2nd assessment of LCPs in 885 UA core cities (EU-28), 2017/18 (1/5)

- ✓ Are climate change issues in European cities addressed by way of dedicated or mainstreamed LCPs?
- ✓ Can the resulting patterns be related to climate policies at the European, national and regional levels?

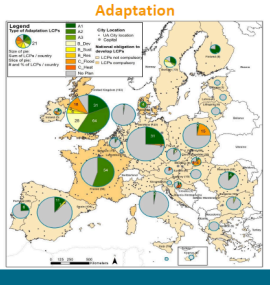
Spatial level of LCP trigger	Dedicated LCP	Mainstreamed LCP – Horizontal	Mainstreamed LCP – Vertical	Operational (D)	Related (E)	Areal (F)
Integration with or placement within the existing local policy documents						
Spatial dimension	Comprehensive and stand-alone (A)	Main-streamed and inclusive (B)	Partial sources and sectoral impacts (C)			
Autonomous (1)	A1 – Autonomous LCAPs	B – Climate action in sustainability plan, resilience plan, development/ master plan, core strategy	C – LCAP addressing particular sectors (e.g. energy) or particular impacts (e.g. heat, flooding)	D – LCAP for parts of municipal operations, such as universities, schools, etc., e.g. carbon management plan in the UK	E – Plan with relevance to the climate issue, e.g. municipal emergency plan, disaster risk reduction plan, civil protection plan	F – LCAP for parts of a city/ urban area.
National regulation (2)	A2 – Legally required LCAP					
Internationally induced (3)	A3 – International climate networks, such as Covenant of Mayors, Compact of Mayors, e.g. SEAP, SECAP					
Sectoral alignment or types of integration in existing local policy frameworks						

2nd assessment of LCPs in 885 UA core cities (EU-28), 2017/18 (2/5)

Mitigation

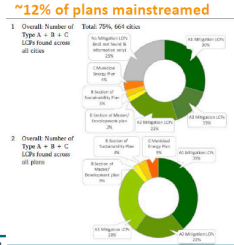


Adaptation

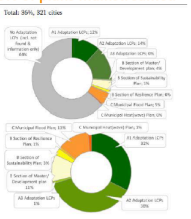


2nd assessment of LCPs in 885 UA core cities (EU-28), 2017/18 (3/5)

Mitigation:
~12% of plans mainstreamed



Adaptation:
~29% of plans mainstreamed



2nd assessment of LCPs in 885 UA core cities (EU-28), 2017/18 (4/5)

(1) Are climate change issues in European cities addressed by way of *dedicated* or *mainstreamed** LCPs?

- a lot more cities in Europe use the **dedicated approach** as compared with the mainstreaming approach as the main way to address the climate challenge
- **Less policy activity is currently taking place in adaptation** as compared with mitigation
- cities with **adaptation** LCPs decide about three times as often for a form of **mainstreaming**, as compared with mitigation

* **Mainstreaming** in the climate change literature is defined as "the integration of policies and measures to address climate change in ongoing sectoral and development planning and decision-making"

2nd assessment of LCPs in 885 UA core cities (EU-28), 2017/18 (5/5)

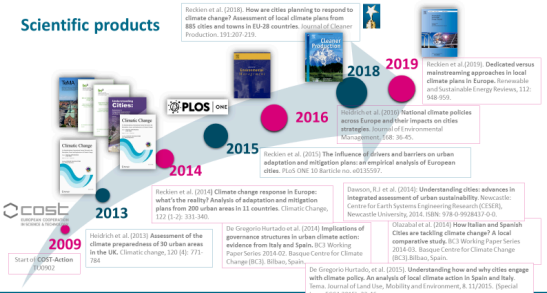
(2) Can the resulting patterns be related to climate policies at the European, national and regional levels?

- Those countries that do have proportionately many mainstreamed mitigation plans in this sample are countries with a long history in environmental planning, i.e. UK (adaptation and mitigation) and the Netherlands (mitigation).

This study together with scholarly analyses call for a "**dual track approach**"—in which **municipalities develop and adopt the dedicated and mainstreaming plan jointly, or start with a dedicated approach and later mainstream local climate issues.**

- a **dedicated** local climate plan ensures **focus**,
- a subsequent **sectoral and horizontal mainstreaming** approach is needed to **move from policy setting to action, implementation, and diffusion.**

Scientific products



Awards

The scientific study "**How are cities planning to respond to climate change? Assessment of local climate plans from 885 cities in the EU-28**" has been awarded the **José María Sarriegi Major Catastrophe Research Award** in its first edition by Fundación Aon España and the Catastrophe Observatory.

The "José María Sarriegi" prize was created by the Fundación Aon España and the Catastrophe Observatory to recognize **the best academic research work on disaster management that was published in the two years prior to the award in a specialized journal**.

This year's topic was **climate change**.

Directions of future research

Assessment of local climate plans:

- Content-analysis of mitigation and adaptation plans
- Effectiveness of mitigation plans (comparison with GHG inventories) & adaptation plans (development of indicators)
- Adaptation plans & justice (political economy)

Awards

The scientific study "**How are cities planning to respond to climate change? Assessment of local climate plans from 885 cities in the EU-28**" has been awarded the **José María Sarriegi Major Catastrophe Research Award** in its first edition by Fundación Aon España and the Catastrophe Observatory.

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This year's topic was **climate change**.

Content analysis of mitigation plans, 2018/19 (1/8)

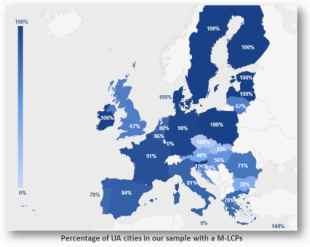
	Country	City samples: UA cities [n.]	City sub-sample - Reduced UA cities [n.]
1.	Austria	6	5
2.	Belgium	11	7
3.	Bulgaria	19	8
4.	Cyprus	2	1
5.	Czech Republic	18	14
6.	Germany	129	80
7.	Denmark	4	4
8.	Estland/Estonia	3	2
9.	Espana	109	25
10.	Finland	9	4
11.	France	99	35
12.	Greece	8	3
13.	Croatia	5	5
14.	Hungary	10	9
15.	Ireland	5	5
16.	Italy	76	32
17.	Lithuania	6	3
18.	Luxemburg	1	1
19.	Latvia	4	2
20.	Malta	1	2
21.	Netherlands	51	15
22.	Poland	68	28
23.	Portugal	25	9
24.	Romania	35	14
25.	Sweden	13	8
26.	Slovenia	2	2
27.	Slovakia	8	8
28.	Great Britain	163	80
		885	327

A **sub-sample of cities** was selected to enter in the core phase of the research which deals with **an in-depth content analysis of the available Local Climate Plans (LCPs)**.

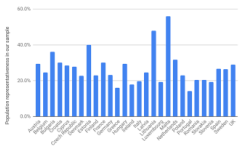
We refer to the **reduced set of cities reported by Eurostat** which decreases our sample size from 885 core cities to **327 cities**.

http://ec.europa.eu/eurostat/web/cities/city-maps

Content analysis of mitigation plans, 2018/19 (3/8)

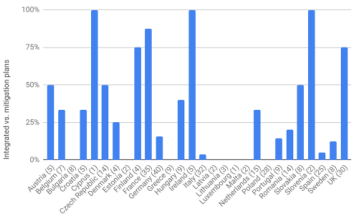


Percentage of UA cities in our sample with a M-LCPs



Population coverage of cities in our sample relative to their national population

Content analysis of mitigation plans, 2018/19 (4/8)



Content analysis of mitigation plans, 2018/19 (5/8)

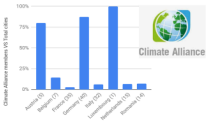
- **<30%**: Lithuania and Slovakia
- **<40%**: Belgium, Bulgaria, Cyprus, Estonia, Greece, Italy, and Slovenia
- **<80%**: Austria, Croatia, Denmark*, Finland, France, Germany, Hungary, Ireland, Latvia, Netherlands, Portugal, Romania, Spain, Sweden and UK

Clusters of countries (CO_2/CO_2eq reduction targets)

Content analysis of mitigation plans, 2018/19 (6/8)

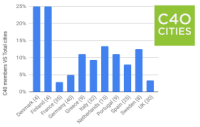
Climate Alliance

- to reduce their CO_2 emissions by 10% every 5 years and to halve them until 2030 (baseline year 1990) at the latest.
- to strive for a per capita emissions level of 2.5 tonnes CO_2 equivalent through energy conservation, energy efficiency and the use of renewable energy.



C40

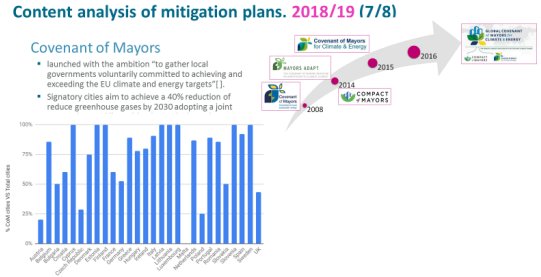
- Emissions need to peak by 2020 and fall rapidly after that.
- Average per capita emissions across C40 member cities need to drop from the current level of 5.3 tons CO_2 per person to around 2.9 tons by 2030 and to zero by 2050



Content analysis of mitigation plans. 2018/19 (7/8)

Covenant of Mayors

- launched with the ambition "to gather local governments voluntarily committed to achieving and exceeding the EU climate and energy targets"[].
- Signatory cities aim to achieve a 40% reduction of reduce greenhouse gases by 2030 adopting a joint



Content analysis of mitigation plans, 2018/19 (8/8)

Carbon Neutral Cities Alliance

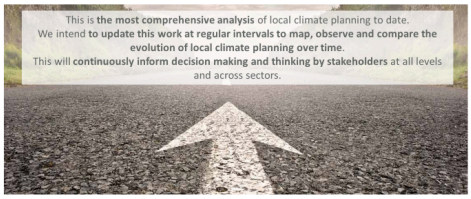
- a collaboration of leading global cities working to cut greenhouse gas emissions by 80-100% by 2050 or sooner"
- enabling them "to advance their own transformational efforts, collaborate with each other and key partners to overcome barriers, foster innovative approaches, and share lessons with other cities ready to pursue similar goals".
- In Europe there are currently 7 Alliance member cities: Copenhagen, Helsinki City, Stockholm, Amsterdam, Hamburg, London, and Oslo.

CNCA

CUT EMISSIONS 80 - 100% BY MID-CENTURY

Work in progress

- Submit a paper on mitigation plans (M-LCPs)
- Content analysis of adaptation plans (A-LCPs) for 327 UA cities in EU28



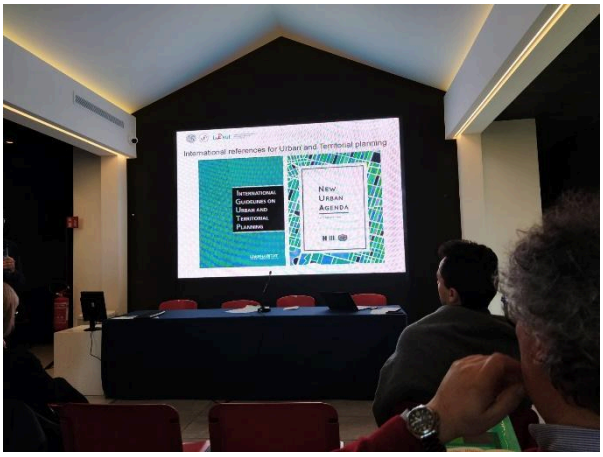
URBAN AGENDA FOR THE EU

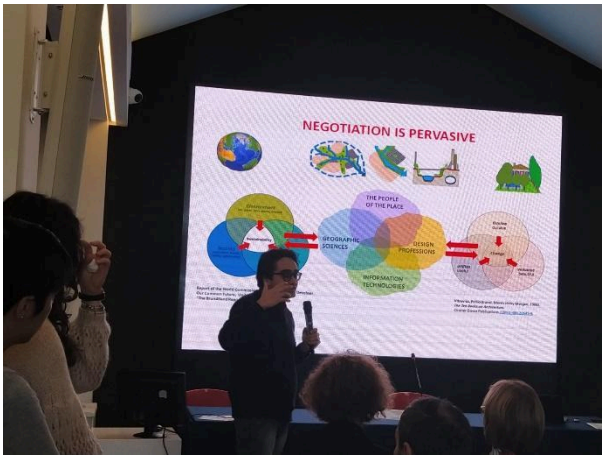
Assessing climate action in 885 European cities:

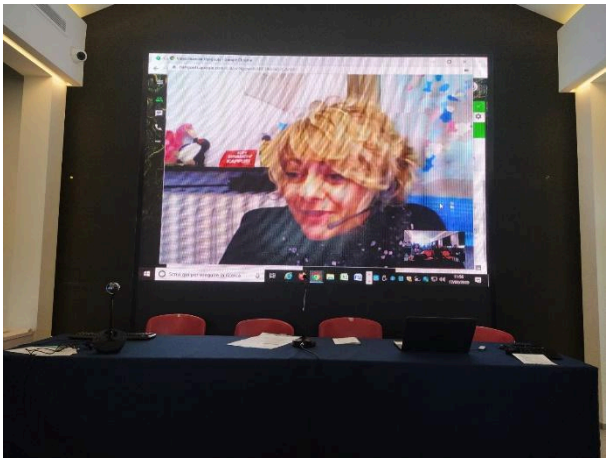
latest results on mitigation and adaptation efforts in urban planning

Monica Salvia (monica.salvia@imaa.cnr.it)

Pictures of the session


International references for Urban and Territorial planning
International Guidelines on Urban and Territorial Planning
New Urban Agenda


NEGOTIATION IS PERVASIVE
THE PEOPLE OF THE PLACE
GEOGRAPHIC SCIENCES
DESIGN PROFESSIONS
INFORMATION TECHNOLOGIES



Further reading

3rd International Conference SSPCR Smart and Sustainable Planning for Cities and Regions 2019

SSPCR 2019 - Page | 1

Assessing climate action in 885 European cities: latest results on mitigation and adaptation efforts in urban planning

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Abstract
The IPCC in its Special Report: Global Warming of 1.5 ºC has once again confirmed the urgency in undertaking effective actions to limit temperature rise to 1.5 °C or 2 ºC above pre-industrial levels. Recently, the UN Climate Action Summit held in New York has further contributed to the elevated attention of world leaders to climate change, calling for adequate national engagements in line with the 1.5°C target. It largely means defining policies and plans to move towards net zero emissions by 2050.
In these high-level political forums, cities play an increasingly important role, recognizing that this is where most of the world's population lives. Cities are where direct impacts are strongly felt and adaptations efforts are needed, but also where possibly great mitigation potentials do lie. At the end of the UN Climate Action Summit over 100 cities have committed to net zero carbon emissions by 2050. This represents a huge achievement, but what do European cities do and how do they compare?
This study aims to understand how European cities actually respond to the **3rd International Conference SSPCR Smart and Sustainable Planning for Cities and Regions 2019**
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opportunities and threats of climate change. The research focuses on 885 Urban Audit cities across the EU-28 which represents a balanced and regionally representative sample, geographically dispersed and varying in size. The study draws from a detailed assessment of Local Climate Plans (LCPs) in Europe undertaken at the end of 2017. The methodological approach is based on an extended search and content analysis of LCPs, officially adopted and published in each city. A standardized data gathering protocol was used to guide the overall process to ensure consistency and meaningful comparisons. This was supported by the development of an analytical framework to distinguish LCP typologies across the EU-28. The results show two dimensions: the spatial level of policy drivers (autonomously developed

at urban level, required by national legislation, induced by international climate networks) and level of integration with other local policy instruments (comprehensive and standalone, mainstreamed and inclusive, stand-alone but addressing partial sources and impacts). The research was undertaken by more than 40 researchers from 20 European countries that have worked and are familiar with the language and respective urban and climate policies in each country. Thus this analysis does not rely on self-report measures such as questionnaires and interviews with city officials, which might introduce subjective bias. Instead it is based on actual plans and actions allowing a more accurate and representative analysis of LCPs across the 885 cities.
The presentation will provide an overview of the state of adaptation and mitigation planning across European regions, countries and city size. It will also show whether European cities address climate change issues by way of dedicated or rather mainstreamed LCPs (integrated in sectoral and development planning) and will discuss the relative influence of local, national or international policies and networks on these issues. The latest results obtained by an in-depth content analysis of mitigation LCPs will further highlight the cities ambition level in achieving the climate targets.

Keywords:
Local Climate Plans; Urban mitigation planning; Urban adaptation planning; Urban Audit; EU-28.

TRAINER

Associate Professor of Urban and Regional Planning" at the School of Engineering of the University of Basilicata. Environmental Engineer and Ph.D. in ‘Science and methods for European Cities and Territories’ at the University of Pisa, The main research interests concern regional development programming and sustainable urban and regional planning. In particular, he develops research on the impact assessment of plans and projects; territorial analysis; participation in planning; advanced knowledge management tools and applied technologies as DSS. He has been engaged in technical/scientific consultancy for public and private entities, in particular in the field of euro-design and management of transnational cooperation projects. He has participated in numerous research projects funded within EU co-operation programs and, also, he coordinates research projects in the field of assessment of man-made processes and territorial impacts of regional development plans, programs and policies. He is a referee for international journals and actively participates in the organization of international conferences. He has published in national and international journals and is a member of the following scientific communities: RSA, AISRE, ERSA, EES, INPUT, ECQTG, ICCSA, INU.

Prof. Ing. Francesco Scorza, Ph.D.

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- una prima parte, di mattina, dedicata a dei momenti di comunicazione delle problematiche legate al cambiamento climatico ed ai piani di adattamento, condotti da alcuni ricercatori dell'Università e del Centro Nazionale delle Ricerche, e da rappresentanti delle amministrazioni che hanno ricostruito il contesto istituzionale dell'iniziativa e raccontato l'attività della partnership;

- una seconda parte di natura laboratoriale, in cui, con il supporto dell'Università degli Studi della Basilicata (studenti e professori) e di alcuni professionisti, i consiglieri comunali si sono cimentati in una esperienza in cui, partendo da una analisi delle componenti territoriali dell'area del Comune di Potenza, hanno potuto effettuare scelte di localizzazione degli interventi, verificando le interrelazioni e gli impatti anche in termini ambientali.

All'Academy hanno partecipato molti dei rappresentanti eletti nel Consiglio Comunale, nonché il Sindaco ed alcuni assessori. Sono inoltre intervenuti professionisti e ricercatori che si occupano di pianificazione territoriale e di analisi ambientali.

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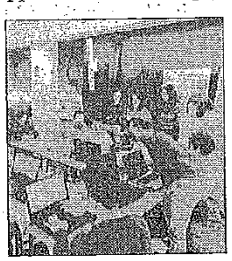
AGENDA URBANA EUROPEA

Un'accademia di formazione sull'adattamento climatico

POTENZA - Un'Accademia di formazione per politici locali sull'adattamento climatico delle città, rivolta ai politici e agli attori coinvolti nel processo decisionale sullo sviluppo sostenibile della città, è quella che si è svolta nel Palazzo della Cultura e del Turismo in via Cesare Battisti a Potenza. L'Accademia, organizzata dall'ufficio Programmazione del Comune di Potenza nell'ambito dell'attuazione delle azioni proposte dalla Partnership dell'Agenda Urbana Europea per l'Adattamento Climatico, ha visto l'intervento di Monica Salvia, ricercatrice del Cnr, e del professore Francesco Scorza dell'Università di Basilicata: Nel workshop, seguito ai contributi degli intervenuti, i partecipanti hanno sperimentato la metodologia del Geodesign rispetto al caso studio "Potenza 2050", realizzando una strategia di sviluppo urbano della città attraverso un processo partecipativo, orientato alla sostenibilità delle scelte, all'efficienza della spesa, al conseguimento di obiettivi condivisi e all'accountability del processo.



L'incontro

LA NUOVA
16 Mercoledì 19 febbraio 2020 Potenza e Provincia

Adattamento climatico, a Potenza un'accademia per politici locali

POTENZA Un'Accademia di formazione per politici locali sull'adattamento climatico delle città, rivolta ai politici e agli attori coinvolti nel processo decisionale sullo sviluppo sostenibile della città, è quella che si è svolta nel Palazzo della Cultura e del Turismo in via Cesare Battisti a Potenza. L'Accademia, organizzata dall'ufficio programmazione del Comune di Potenza nell'ambito dell'attuazione delle azioni proposte dalla Partnership dell'Agenda Urbana Europea per l'Adattamento Climatico, ha visto l'intervento di Monica Salvia, ricercatrice del Cnr, e del professore Francesco Scorza dell'Unibas. Nel workshop, seguito ai contributi degli intervenuti, i partecipanti hanno sperimentato la metodologia del Geodesign rispetto al caso studio "Potenza 2050", realizzando una strategia di sviluppo urbano della città attraverso un processo partecipativo, orientato alla sostenibilità delle scelte, all'efficienza della spesa, al conseguimento di obiettivi condivisi e all'accountability del processo.

8. General academy hosted online by CEMR on 4th December 2020

Agenda

Third general Political Training Academy on Climate Adaptation, an action of the Climate Adaptation Partnership of the EU Urban Agenda

Online training for politicians

Hosted by CEMR 4th December 2020, 11-12:30 CET time (connection available as from 10:30, meeting starting at 11:00)

Please register in these two links:

- Your name – position – organization – city – email. Register here:
- To join the meeting from your computers on the 4th December: register in advance for this meeting: https://us02web.zoom.us/meeting/register/tZckcOqhrz0vEt1dtilDLPqa-PTKNomMeitA .
  After registering, you will receive a confirmation email containing information about joining the meeting.

Target group: Local politicians and political advisers on climate from the EU and outside the EU

Objectives:

Create awareness for the needs of climate change adaptation and knowledge of adaptation measures/ options so politicians can adopt strategies and plan with more sound knowledge on adaptation.
Overview on climate change impacts and challenge, also in the time of the pandemia; options to act; benefits of early action; where to find support; way forward

Agenda: Moderator: Eva Baños de Guisasola

10:30 - 11:00	Connection, audio test	30 ‘
11:00 - 11:10	Welcoming words by: Frédéric Vallier, SG of CEMR, lead of the political training academy on adaptation Stefania Manca, Genoa Municipality, Climate Adaption Partnership Coordinator - Urban Agenda for the EU	10’
11:10 - 11:40	Keynote talk by climate expert Sergio Castellari, Expert on climate change adaptation and disaster risk reduction, European Environment Agency. Address on challenges, climate resilience, relevance of to consider in adaptation and resilience, key data, impacts on cities and consequences, facts, projected climate change exposure, benefits of adaptation action and costs of inaction,…With supporting by slides	30’
11:40 - 12:00	Share experience from politicians on their work on adaptation, resilience plans, lessons learnt from COVID linked to climate, climate justice, different approaches to tackle adaptation, new SEACAPS,…(short interventions by politicians): ● Cllr. Anna Richardson, Political Sustainability Spokesperson, City of Glasgow, host of one local academy in 2019 ● Matteo Campora, Deputy Mayor, resilience, environment, sustainable development and mobility portfolio from Genoa Municipality, host of one local academy in 2019 ● Mayor Mario Guarente, City of Potenza, member of the Adaptation Partnership, host of one local academy in 2020 ● Mayor Belinda Gottardi, City of Castelmaggiore, CEMR spokesperson on climate	20’
12:00 - 12:25	Q&A from the audience to the speakers, moderated by CEMR	25’
12:25 -12:30	Conclusions by Liviu Stirbat, Deputy Head of Unit on Adaptation, DG Clima, European Commission	5’
12:30	End of training	

Information to be covered during the training:

- Present the report which has collected material from previous local and general academies within the Urban Adaptation Partnership
- Present current climate adaptation challenges, resilience concept
- Refer briefly to the new EU Adaptation Strategy (by the Commission)
- Refer to the EEA report on cities released recently
- How COVID is impacting climate change: competition of crisis, complementarity, opportunities
- Have an exchange of views with politicians based on this information

Trainer of this session: Sergio Castellari. Expert on climate change adaptation and disaste risk reduction. European Environment Agency. Kongens Nytorv 6, 1050 Copenhagen, Denmark Sergio.castellari@eea.europa.eu

Lead of he training academies within the Urban Partnership on adaptation of the Urban Agenda: Eva Baños de Guisasola, Policy Adviser – Environment, Energy and Climate, Council of European Municipalities and Regions.Brussels, Belgium. Eva.banosdeguisasola@ccre-cemr.org. Tel. +32 2 213 86 99; Skype: eva.banos.de.guisasola. www.ccre.org

Background of the Climate Adaptation Partnership

The Urban Agenda for the EU was launched in May 2016 with the Pact of Amsterdam. It represents a new multi-level working method promoting cooperation between Member States, cities, the European Commission and other stakeholders in order to stimulate growth, liveability and innovation in the cities of Europe and to identify and successfully tackle social challenges.

The Urban agenda has 14 partnerships, and one of them focuses on Climate Adaptation. This one was set up in 2017 as a multilevel and cross-sectoral cooperation instrument and delivery mechanism for the priority theme Climate Adaptation. The objective of the Partnership has been defined as: “To anticipate the adverse effects of climate change and take appropriate action to prevent or minimise the damage it can cause to Urban Areas. The focus will be on: vulnerability assessments, climate resilience and risk management (including the social dimension of climate adaptation strategies).

The Partnership has developed an Action Plan to provide concrete proposals for the design of future and the revision of existing EU legislation, instruments and initiatives relating to the adaptation to climate change in urban areas in the EU. Its purpose is to operationalise suggested policy and governance solutions for the identified key bottlenecks hindering successful adaptation to climate change in the EU urban areas consists of 10 actions for Better Regulation, Better Funding and Better Knowledge.

The climate adaptation Partnership continues now implementing all the activities of the action plan. And one of the actions is (Action K3): “Political Training Academy on Climate Adaptation”. This action has been led by the Council of European Municipalities and Regions (CEMR) in collaboration with other partners: EUROCITIES and cities of Glasgow, Genova, Loulé and Potenza.

Not every local politician has in-depth knowledge of what climate adaptation means to a city and its’ citizens. Politicians can thus benefit from a targeted training dedicated to them on climate adaptation in the urban context. Multiple training sessions for politicians are therefore organized by the Climate Adaptation Partnership to provide general information on what

adaptation means for cities, raise awareness of the costs of inaction and provide knowledge of the co-benefits of adaptation actions.

There have been 3 general and 3 local academies: **General academies**: Oslo, 22nd May 2019 in the context of the Urban Future Forum; Brussels, 9 October 2019, in the context of the European Week of Cities and Regions; Online (hosted from CEMR in Brussels) on 4th December 2020. **Local academies:** Glasgow 19th June 2019; Genova, 26 November 2019; Potenza, 17 February 2020. This last (online) training general academy will be the last one of these series of academies and will present some general conclusions from the process.

Speakers and bio

Frédéric Vallier, SG of CEMR, lead of the political training academy on adaptation

Frédéric Vallier has been Secretary General of the Council of European Municipalities and Regions (CEMR) since February 2010. Expert in European and international affairs at the local and regional levels and city diplomacy, he has over thirty years of experience working with local and regional authorities. As Secretary General of CEMR, he campaigns for the full recognition of local and regional governments as strategic partners of the European integration and calls for a Europe closer to its citizens and their first levels of democracy. He also represents European Local Governments in the Global Task Force of Local and Regional Governments and United Cities and Local Governments to the United Nations. He holds an Executive Master's Degree in public management from Sciences Po Paris. The Council of European Municipalities and Regions (CEMR), created in 1951, is the largest and most senior organisation representing cities and regions and their associations from 41 European countries, including all EU member states, South-East Europe, Eastern neighbourhood countries and Turkey.

Stefania Manca, Genoa Municipality, Resilience Manager, Economic Development Innovation Strategic Projects Department**. Climate Adaption Partnership Coordinator - Urban Agenda for the EU.**

Degree in Natural Sciences at Genoa University, Specialization in Smart City - Territorial Economic Planning and Development, Master in Information Systems for the Territory and the Environment (GIS). Expert Evaluator of proposal LC-CLA-H2020, trainer in EU project submission and management. Employed by the Municipality of Genoa since 2011, from January 2020 officially appointed as Resilience Manager of the city of Genoa. In charge of developing the urban resilience strategy initiative so-called "Genova Lighthouse City" coherent to international agendas, projects and frameworks, and to operationalise it in the forthcoming Action Plan Genova 2050. Coordinator of the Climate Adaptation Partnership belonging to Urban Agenda for the EU (Pact of Amsterdam 2016). Previously territorial planner involved in urban, environmental and forestry works, ICT developer of services at local and regional scale. Areas of interest: innovation technology, sustainable development, multi-level governance policies and actions, Resilience at 360°, Adaptation to Climate Change, local national and international networking, Doughnut economy application, shared and participatory planning.

TRAINER: Sergio Castellari, Expert on climate change adaptation and disaster risk reduction, European Environment Agency

Sergio Castellari holds a degree in Physics (University of Bologna, Italy) and a Ph.D. in Meteorology and Physical Oceanography (University of Miami, Florida, USA). Since April 2015 he works as 'Seconded National Expert' at the EEA (European Environment changeand disaster risk reduction. Since May 2000 he is affiliated at the INGV (National Institute of Geophysics and Volcanology)in Bologna (Italy), where he is a senior scientist since 2008. He has been working at CMCC Euro-Mediterranean Center on Climate Change) from 2006 until March 2015, where he was the Head of the 'Institutional Relations and Adaptation Policies Group'. From August 2006 to March 2015 he was the 'National Focal Point for Italy' of the IPCC (Intergovernmental Panel on Climate Change).
In the last decade he has been working as a 'climate science and policy expert' for the Italian Ministry for the Environment, Land and Sea. He participated as 'Italian Delegate' to IPCC, UNFCCC (UN Framework Convention on Climate Change), UNCCD (UN Convention to Combat Desertification), GEO (Group on Earth Observations) and UNEP (UN Environment Programme) sessions. From 2002 to 2012 he participated as 'Italian Expert' at the EU Science Expert Group of the EU WPIEI-CC of EU Council. He has been 'co-chair/facilitator' of Contact Groups and Informal Consultations at UNFCCC-SBSTA sessions for several years. He participated in international and national projects on marine science, climate science and adaptation policies. From January 2011 to March 2015 he was the 'Manager' of the ETC/CCA (European Topic Centre on Climate Change impacts, vulnerability and Adaptation) contracted by the EEA. Prior joining the EEA, he has been in the recent years the 'Coordinator' of the Italian national project SNAC (Elements for the elaboration of a National Strategy of Adaptation to Climate Change), 'Work Package Co-Leader' in EU FP7 project CIRCLE-2 (Climate Impact Research & Response Coordination for a Larger Europe) and participated at EU FP7 project BASE (Bottom-up climate adaptation strategies towards a sustainable Europe). From 2008 to 2015 he was a 'contract professor' of "Climate change and International Policies" for the "Science and Management of the Climate Change" Doctorate Programme of the Cà Foscari University of Venice. He is the author of scientific articles in international peer-reviewed journals. He was co-editor of the Italian book "I ambiamenti climatici in Italia: evidenze, vulnerabilità, impatti" published in April 2010. He was a project evaluator for the European Commission and reviewer of articles for International scientific journals. He conducted an intense dissemination activity in the field of climate change participating in television and radio broadcasts, writing articles for newspapers and magazines, giving interviews and lectures for general public. He co-contributed to the theatrical reading: "La margherita di Adele" focused on climate change. He was member of the Scientific Committee of WWF-Italy and one of the co-founders of the NGO Italian Climate Network (www.italiaclima.org). He is a member of the Scientific Committee of Climateranti Blog (www.climalteranti.it). His main interests are now focused on adaptation science and policies.
Sergio Castellari - European Environment Agency (EEA). Kongens Nytorv 6, 1050. Copenaghen, Denmark. www.eea.europa.eu. IT mobile: +39 334 1155037. Skype: sergio.castellari. E-mail: sergio.castellari@eea.europa.eu

Cllr. Anna Richardson, City Convener for Sustainability and Carbon Reduction, Glasgow City Council

Anna graduated with an MA (Hons) in Geography in 2001 from the University of Glasgow and an MSc in Human Resource Management in 2005 from the University of Strathclyde.

She worked in various public sector administrative roles before spending 9 years at home raising her three children. During that time she gained an HND in Antenatal Education and worked part time for the national parenting charity NCT.

Anna was elected as Councillor for Langside ward in Glasgow in 2015, and again in 2017. She is currently Convener for Sustainability and Carbon Reduction, with a particular interest in transport, equalities and the mainstreaming of sustainability across all Council functions.

Matteo Campora, Deputy Mayor of Genoa on Transport, Integrated Mobility, Environment, Waste cycle, Animals, Energy, Resilience and Sustainability, Management and Control of the main in-housing companies (Iren S.p.a., Amiu S.p.a., Amt S.p.a., Genova Parcheggi S.p.a., Farmacie Genovesi S.r.l., Bagni Marina Genovese S.r.l.).

Born in Genoa on January 4, 1971. Law Degree at the University of Genoa in 1995. He has been a civil lawyer since 1999, from 2002 with a law multidisciplinary firm on Civil, Debt Collection, Real Estate / Commercial and Corporate, Labor Agency Contract. Legal consultancy for national trade union agents and representatives, leading national companies in the energy sector, real estate and facility productive sectors. Supervisor Body in many companies. Knight Order of Merit of the Italian Republic.

Mayor Mario Guarente, City of Potenza, member of the Adaptation Partnership

36 years old, born and raised in Potenza. Married to Annamaria, freelance in the insurance consultancy sector. He ran for local elections in 2009 in support of the center-right coalition. Member of the Movement for Autonomies, in2010 as regional secretary of young members and then as citizen secretary in 2011,

he is a founding member and president of the cultural association "Ennesima Potenza". In 2014 he was elected at the Municipal Council of Potenza in a center-right civic list and he was pro-tempore President of the IV Council Commission, vice-president of the III and IV, member of the Electoral Commission. Since June 2019 he is Mayor of the City of Potenza, capital city of Basilicata Region. Since december 2019 he is an alternate member of the Committee of the Regions. He is vice president of National Association of Italian Municipality of Basilicata (ANCI Basilicata) and the national delegate of ANCI for labor and training policies.

Mayor Belinda Gottardi, City of Castelmaggiore, CEMR spokesperson on climate

Belinda Gottardi, Mayor of Castel Maggiore (Italy), city with a population of nearly 19.000 habitants. She has become one of the two spokespersons on climate. She graduated at Keynes Institute of law and registered as a lawyer since 2002. She entered the municipal council of Castel Maggiore at a very young age as president of the first commission, and worked on the drafting of the Constitution and the consequent Regulations. During her first term as councilor she promoted the creation of the Pro Loco, which still today represents an important reference point for the promotion of their territory. She has shown strong committment with great determination in the field of youth policies and immigration, promoting surveys on the youth population and following the post-emergency migration issues, considered avant-garde at National level. Her working period in the tribunal allowed her to learn about her city, with particular attention to the recovery of tax evasion and starting the path. As Councilor for Public Works, Mobility and the Environment, her task was mainly to deal with the reorganization of the roads and the renewal of urban furniture, but also the reorganization of waste collection, environmental education projects and strengthening separate waste collection that doubled during the mandate. In the administrative mandate 2009-2014, she was Councilor for Culture and Policies for Childhood, Adolescence and Education, Work, Vocational Training and Participation. Elected Mayor of Castel Maggiore in 2017, in 2016 elected President of the Reno Galliera Union, since 2017 member of the Italian delegation at the Congress of local and regional authorities of the Council of Europe and in May 2019, re-elected Mayor of Castel Maggiore

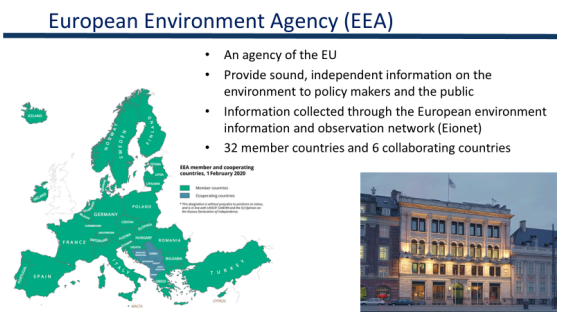
Liviu Stirbat, Deputy Head of Unit on Adaptation, DG Clima, European Commission

From Bucharest, Romania, is Deputy Head of Unit for Adaptation in the European Commission's Directorate-General for Climate Action, where he coordinates work on the new EU Adaptation Strategy. Previously, he was Deputy Head of Unit for Better Regulation in the Directorate-General for Research and Innovation.

Presentation by the trainer

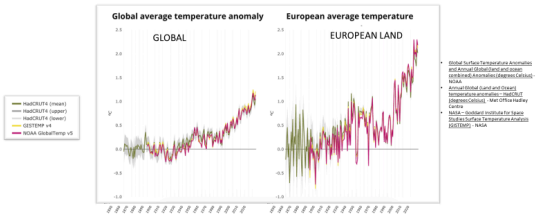
Link to the presentation (40 slides):

https://drive.google.com/file/d/1T2ikjzd5QdYNtYLnFMc5NtrKUVzq9fv4/view?usp=sharing



The world is heating up

Global (left) and European land (right) average near-surface temperatures relative to the pre-industrial period



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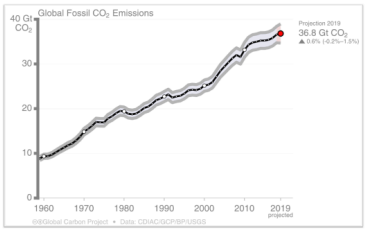
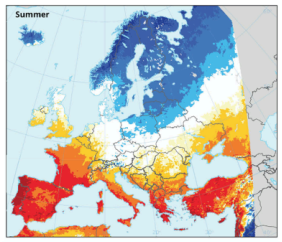
Global Fossil CO_2 Emissions



2019 projection is based on preliminary data and modelling.
Source: CDIAC; Friedlingstein et al 2019; Global Carbon Budget 2019

European Environment Agency

Wet vs dry regions could increase



Precipitation
(projected change for 2080s, RCP8.5)

Source: EURO-CORDEX (Jacob et al., 2014)

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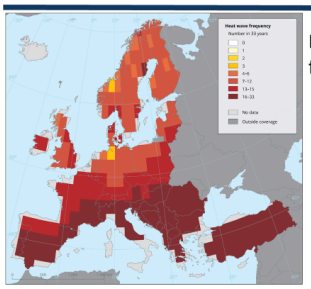
More and intense heat waves



Extreme heatwave frequency, projection 2100

Source: Joint Research Centre

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Cities face particular climate-related risks

European Environment Agency

The cities in Europe

- Centres of innovation and growth and the engines of European economic development
- Around 75% of the population and use about 80% of the energy produced in Europe
- Major contributors to climate change - generating significant GHG emissions
- Heavily vulnerable to the climate change impacts

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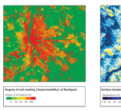
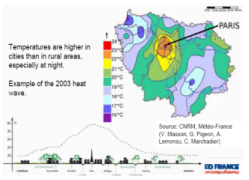
Urban heat island



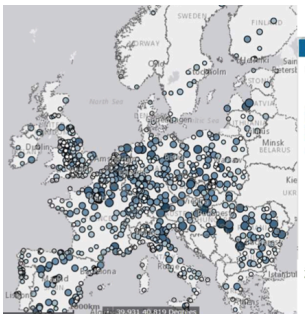
Source: EEA (2012)



Meteorological factors	Morphological factors	Human factors aggravating heat impacts
Radiation Temperature Wind speed	Geographical location and topography Vegetation and water areas High building mass Presence of impervious cover Structure that hinders ventilation	Urbanisation with a high share of built-up land and impervious areas Population density Little shadowing Insufficient building insulation Additional heat production due to production processes, transport, heating etc.

nt Agency

Cities: river flooding



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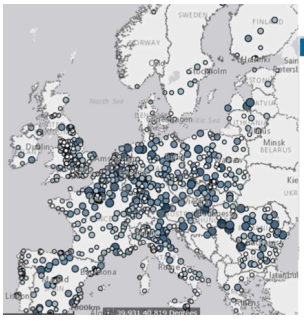
Cities: river flooding



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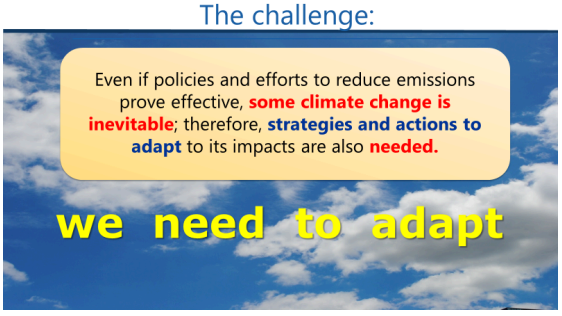
The challenge:



Adaptation?

- a response to risks (and potential benefits) caused by climate change (including natural climate variability) and in the context of continuing socio-economic development
- flexible, pragmatic and with an iterative approach
- anticipatory or reactive.
- applies to natural as well as to human systems
- *"climate proofing":* ensuring the sustainability of investments over their entire lifetime taking explicit account of a changing climate

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Climate change adaptation is key in the EU agenda

- EU Climate Adaptation Strategy
- EU Civil Protection Mechanism
- EU Action Plan on Sendai Framework for Disaster Risk Reduction
- EU Floods Directive
- EU Biodiversity Strategy for 2030
- EU Green Infrastructure Strategy

Adaptation options

- **GREY infrastructure approaches:**
- physical interventions or construction measures and using engineering services
- **GREEN infrastructure approaches:**
- To increase of ecosystems resilience and to halt biodiversity loss, degradation of ecosystem and restore water cycles
- **SOFT approaches:**
- design and application of policies and procedures and employing, land-use controls, information dissemination and economic incentives to reduce vulnerability, encourage adaptive behaviour or avoid maladaptation

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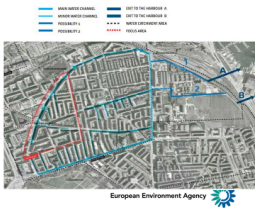
Grey urban adaptation

White roofs in USA

Copenhagen:
Strengthening the drainage networks in a district



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Green urban adaptation

London Green Grid: ecological network to ensure effective climatic performance in terms of thermal and hydraulic risk

Sheffield: Green bus stops

Copenhagen: green redesign of a square

Bologna (Italy): GAIA - Green Area Inner-city Agreement to finance tree planting

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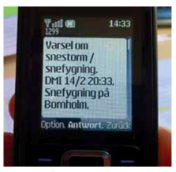
Soft urban adaptation

Rotterdam: participatory planning



Rotterdam: SMS early warning system to report a snow storm in Rotterdam

New York: citizens participate in the construction of a green roof

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Green Adaptation: *Nature-based Solutions* (preserve Nature and fight climate change)

- Multifunctionality
- Multiple benefits
  - Environmental
  - Social
  - Economic
- win-win, or 'no regrets' solutions

© Treibhaus Landschaftsarchitektur and Matthias Friedel

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Nature-based Solution: *Room for the River programme*

Nijmegen (the Netherlands)
moving the Lent dike further back from the river Waal and constructing an ancillary channel in the flood plains

Photo: © Martin van Lokven

The present situation with the existing dike. The dike is to be moved 350 metres inland. An ancillary channel is to be dug in order to give the river more room. This will create an elongated island.

Sources: Kazmierczak and Carter, 2010; http://www.ruimtevoorderivier.nl/meta-navigatie/english.

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Hybrid (NBS and grey): Sustainable urban drainage

Malmö (Sweden):

- Large open storm water system, managing storm water within the area
- Narrow concrete canals and ponds
- Every courtyard lies above the storm water system
- Each courtyard has its own storm water pond
- The courtyard and roof run-off flows into the narrow canals integrated into streets, alleys and squares

Photo: © Birgit Georgi

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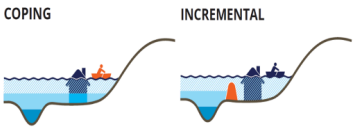
Different approaches for adaptation



Source: EEA (2016)

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How long incremental adaptation can work?

Image: city of Vác

Vác, a city close to Budapest in Hungary still managed successfully the river Danube floods in 2002 and 2013 with higher dykes.

Will that work in the future?

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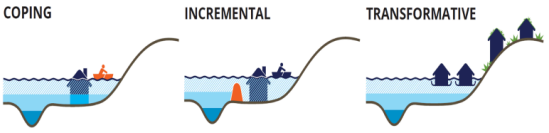
Different approaches for adaptation



Source: EEA (2016)

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Transformational approach

Image: Landespolizeidirektion OÖ

Relocation (Eferdingen, Austria)

Living with water - not keeping it out
Amphibious houses function with different water levels (Maasbommel, the Netherlands

Image: Factor Architecten b.v.

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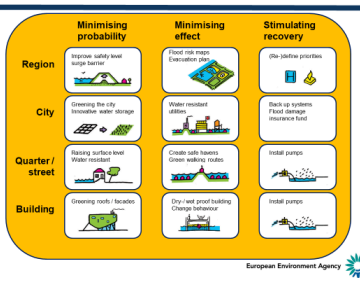
Urban adaptation can work at regional, city, district and building levels

Rotterdam: Flood Management



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Adaptation: from a challenge to an opportunity

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Adaptation is complex

- **Cross-sectoral feature**
- **Multi-level feature**
  - *The 'sphere of competence of authorities in charge of environmental protection does not always match with the boundaries of the affected environment'*
- **Multi-actor feature**
  - *e.g. citizens, public authorities, scientists, businesses, NGOs*
  - *joint-up actions, exchange of knowledge and expertise and mutual learning between different actors from government, business and civil society*

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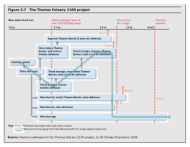
To be considered …

- **Adaptation Tipping Points**: conditions at which a policy begins to perform unacceptably
- **Adaptation Pathways**: a sequence of policy actions to achieve targets under changing climate conditions



- ✓ *The use of critical thresholds*
- ✓ *Making explicit portfolio of options (measures/strategies/policies) for adaptation*
- ✓ *Work with time horizons: 2030-2050-2070-2100. Connect short term measures to long term options*
- ✓ *Consider more than one climate and economic growth scenario to express uncertainty in time*

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To be considered …

Uncertainty:

- Need to frame a real dialogue with stakeholders around uncertainty of risks / opportunities and adaptation options – implications for decision and policy making

Limits to adaptation:

- Implications of the limits of institutions (structure, capacities, timeframes, reach, etc.) in adaptation
- Role of limits of markets, subsidies and incentives
- Limits to resilience of urban communities and ecosystems

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The governance of adaptation

- integration of different levels of governance (**European, national, regional, local**) and different sectors of economy and society
- cooperation between different regions
- **'horizontal'** and **'vertical'** integration of policies
- **mainstream** climate change adaptation by including adaptation measures in sectoral policies
- potential for **synergies** and **spill-over benefits** when adaptation policies are successfully coordinated

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Success factors

- Awareness-raising actions
- Across sectors and scales
- Deliver additional benefits
- Working with nature, instead of working against
- Many climate change adaptation measures can be implemented at low-cost or contribute positively in other areas

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Planning steps to urban adaptation

Systematic and cyclical process

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EEA: urban adaptation knowledge provider

http://climateadapt.eea.europa.eu

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Next?

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Global policy framework

COP15 - Convention on Biological Diversity (CBD)

17 – 30 May 2021 (Kunming, China)

Convention on Biological Diversity

Post-2020 Global Biodiversity Framework

Integrate Nature-based Solutions to safeguard and maintain ecosystems

COP26 - UN Convention on Climate Change (UNFCCC)

1-12 Nov. 2021 (Glasgow, UK)

United Nations Climate Change

Warsaw International Mechanism for Loss and Damage (COP19)

Paris Agreement (COP21)

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EU Green Deal and the cities

- opportunities for **mainstreaming adaptation** into the redevelopment and planning of cities
- include **resilience** to climate impacts, alongside energy saving, in the refurbishment of public buildings
- The **EU biodiversity strategy for 2030** aims to plant 3 billion trees across Europe, with a focus on greening cities, which supports adaptation to climate change

Economic growth decoupled from resources use

All the sectors of the economy

Part of EC strategy to implement UN 2030 Agenda and SDGs

Europe climate-neutral and resilient by 2050

European Environment Agency

Mission on climate-neutral and smart cities

- **100 climate neutral cities by 2030 - by and for the citizens**
- **New city governance**
  - *holistic approach to foster innovation and deployment*
  - *matrix of integrated and multi-level governance*
  - *Deep and continuous collaboration between all stakeholders*
- **New role for citizens**
- **Climate City Contract**
- **New role for innovation, experimentation and learning**

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EEA: urban adaptation knowledge provider

European Environment Agency

Thanks for the attention!

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sergio.castellari@ingv.it

European Environment Agency

Exchange with City Representatives

We had over 70 registrations from these countries: Belgium, Latvia, Turkey, Slovenia, Iceland, Senegal, Italy, UK, Romania, Spain, Morocco, Bulgaria, Slovak Republic, Mozambique, Montenegro, Hungary, Finland, Nepal, Slovenia, Solomon Islands, Sweden, Canada, Denmark and Malta.

CEMR Secretary General Frédéric Vallier opened the session. His main points were these: The **Urban Agenda** for the EU was launched in May 2016 with the Pact of Amsterdam. It represents a new multi-level working method promoting cooperation between Member States, cities, the European Commission and other stakeholders in order to stimulate growth, liveability and innovation in the cities of Europe and to identify and successfully tackle social challenges. This process has **been very inclusive** involving the European Commission, cities, Member States, the EEA, various networks. This has been key as climate change is a huge challenge for humanity and even more nowadays as we face the health and social crisis. The climate Adaptation Partnership continues now **implementing** all the activities of the action plan. And one of the actions is the "**Political Training Academy on Climate Adaptation**". This action has been led by the Council of European Municipalities and Regions (CEMR) in collaboration with other partners: EUROCITIES and cities of Glasgow, Genova, Loulé and Potenza. Not every local politician has **in-depth knowledge** of what climate adaptation means to a city and its' citizens. Politicians can thus benefit from a targeted training dedicated to them on climate adaptation in the urban context. Multiple training sessions for politicians have been organized by this Partnership to provide general information on what adaptation means for cities, raise awareness of the costs of inaction and provide knowledge of the co-benefits of adaptation actions. We are delighted to have this political **training targeting mayors** and climate advisors. The better understanding we can all have...the better the decisions can be taken to develop adaptation policies, plans and strategies. The communication between the politicians and scientists needs to be reinforced as this adds a huge value to the decision-making process. Adaptation data and political commitment can go hand in hand and are complementary. And these trainings contribute to this. We have already held 3 local academies in Glasgow, Genoa and Potenza targetting local politicians in those cities and 3 general academies targetting politicians from all Europe, held in Oslo, Brussels and now online as we could not meet physically.

The **Councillor Anna Richardson from the city of Glasgow** highlighted that even though we are facing the Covid crisis the interest in topic of climate change continues to increase for governments at all levels aiming at reducing the impacts of climate change we are facing now and will be facing in the future. In Scotland it will continue to get warmer and wetter, sea levels to arise and severe wetter will be more frequent.

Climate change will exacerbate the existing inequalities and those who face more difficulties will suffer more. Addressing Covid pandemic was also the opportunity to work towards adaptation, find local responses and take local actions including increasing teleworking or develop more sustainable and greener mobility methods. Taking action at local level is extremely important to tackle global challenges and therefore the Councillor invites all municipalities to join the COP 26 which will take place in 2021 in Glasgow.

Starting by underlining the opportunity offered by these training academies to move towards climate resilience and foster a sustainable legacy for the future generations, **Matteo Campora, Mayor of Genova** also addressed the key needs and differences at local level on climate adaptation which are transversal across Europe:

Needs

- Reach better knowledge and awareness of the future impact of climate change
- Better understanding the economic needs on adaptation investment concrete measurable standards and indicators
- Build climate resilience through climate services and data mining to tackle the issue of data availability at local level and unlock data potential
- boost capacity building at local scale involving public and private sector to create new technologies

Differences

- the needs of different territories exposed to hazards and risk to prioritise interventions and leave no one behind
- possibility to implement green and blue infrastructure according to territorial context
- different ability to reshape the existing legislation to move forward on climate resilience
- different timeframes to cope with emergency period and change the paradigm from coping or react to prevention

Being part of the Urban Agenda partnership on climate adaptation has given the sense of the strategic role that the concepts of sustainability and resilience assume in the definition of our urban development policies, in directing investments in our infrastructures and in choosing the most appropriate management models for our systems. That is the experience share by **Mario Guarente, Mayor of Potenza**.

Knowledge is essential and that is why the city of Potenza has taken coordination of the working group on knowledge within the Urban Partnership and has supported, together with the action leaders, CEMR and Eurocities, the **implementation of these Training Academies** for sharing knowledge with local decisors and increase the consciousness and learning how much joint and coordinated effort, up to the level of European institutions, can allow the achievement of results greater than individual local actions can do.

At the city level, one of the tools that will guide the city to be more adaptive to the effects of the changing climate is the Sustainable Energy and Climate Adaptation Plan within the New **Covenant of Mayors**. The City Action Plan will focus in particular on actions to rethink urban networks and facilities, physical infrastructures, transport networks, energy networks, social and health services networks, to make them less vulnerable to the intense events.

The links between the Covid crisis and the Climate crises have been highlighted by **Belinda Gottardi CEMR spokersperson on Climate and Mayor of Castel Maggiore.** Both the Climate crisis and Covid crisis are global crises that require us to rethink our lives, ask for more networking and knowledge sharing on how to tackle these challenges at local level.

Challenges continue to exist related with the lack of awareness of the impacts of the climate change. If during the Covid crisis the impact was very visible and very striking to all to everyone by having military trucks carrying bodies, the consequences of climate crisis are not so evident, not so visible and thus the response tends not to be the same.

On the same hand it was also highlighted that to overcome the existing difficulties to tackle climate change and implement adaptation measures, we need national and Europeans funds to help solve this problem. There is also the need to support networks of cities, share good practices and stimulate people and municipalities who have not yet understood the problem we are facing. Small and medium municipalities might not have the adequate economic and human resources to work on the topic of climate change but we cannot leave this only to big

cities. We must work to involve communities of all sizes and provide them with the adequate resources to be allow and enable each to do their part.

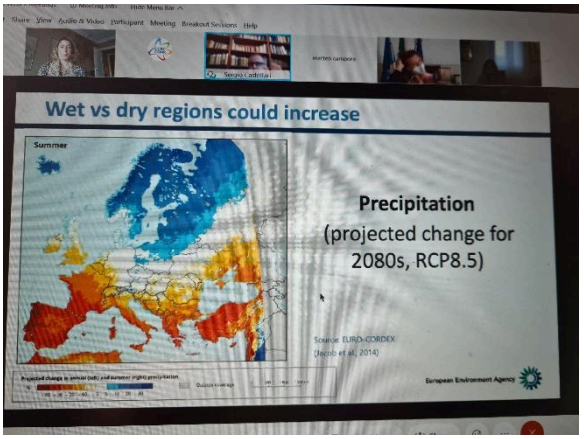
Liviu Stirbat, Deputy Head of Unit on Adaptation, DG Clima, European Commission concluded this training academy by addressing mainly three questions:

- What can we expect from the future adaptation strategy at European level?
- What is the link between the strategy and the involvement of local society and the climate sector?
- And how nature-based solutions will feature in the strategy?

At this stage the Commission is finalising the design of the EU strategy on adaptation which should be adopted around February March 2021. This strategy will feature as One of the pieces in the Green Deal and fits entirely with the Biodiversity strategy, the Renovation wave and other initiatives. Cities will feature quite prominently is the strategy which acknowledges the key contribution in delivering on implementation action but also the vulnerability and exposure to climate change impact.

To meet the demands and needs of cities, the strategy will give a particular focus on nature-based solution as well as ecosystems-based adaptation. It will go beyond by bringing in local communities and work in direct collaboration with the Climate Pact (platform to empower all stakeholders to take climate action which includes an adaptation component), developing tools for the private sector to expand available data, move forward with the mission on adaptation in the framework of Horizon 2020 targeting mainly on implementing solutions which reflects the recommendations of different fora including the last EEA report on urban adaptation

Pictures of the session



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Climate change adaptation: an opportunity for European cities

Sergio Castellari

European Environment Agency (EEA)

National expert of National Institute of Geophysics and Volcanology (INGV)

4th December 2020

Training academy for politicians on adaptation

within the framework of the Adaptation Partnership of the Urban Agenda

Climate change is already causing severe impacts in many parts of the world and in Europe and with no action is projected to cause even more severe ones. We need to remove the causes of climate change by addressing the objective of the recent Paris Agreement (keeping the global mean surface temperature below 2 °C compared to pre-industrial level and making efforts to keep at 1.5 °C). This objective is fulfilled by peaking now the carbon emissions and reducing to reach a carbon neutral status. With climate change already happening, societies face and will face climate change impacts and the urgent need to adapt i.e. to increase the resilience and to reduce the vulnerabilities. Hence adaptation is inevitable throughout this century and beyond, even if global mitigation efforts over the next decades prove successful.

Climate change adaptation is the process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm, or to exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects (IPCC definition). In other words, climate change adaptation aims to manage climate risk to an acceptable level, taking advantage of any positive opportunities that may arise.

Some examples of adaptation measures are: (1) construction of flood defences and artificial embankments to combat rising sea levels; (2) development of drought tolerant crops; (3) more efficient use of scarce water resources, e.g. through the reduction of water consumption of urban, private and public sectors or through the improvement of irrigation efficiency; (4) development of new standards and codes for sustainable design and construction of new homes taking into consideration the future climate change; (5) development of green and blue infrastructure (forests, parks, wetlands, green walls/roofs, floodplains); (6) Instalment of early warning systems and emergency management capacities at urban level; (7) development of climate-resilient urban infrastructure such as improved water retention, urban drainage, sewage systems; (8) conducting awareness campaigns for behavioural change.

Adaptation measures include *grey*, *green* and *soft* measures. Grey measures refer to technological and engineering solutions to improve adaptation of city/region, infrastructures and people. Green measures, also termed **Nature-based Solutions (NbS)** to CCA and ecosystem-based adaptation, are based on the ecosystem-based approach and make use of the multiple services provided by natural ecosystems to improve resilience and to reduce vulnerability. Soft options include policy, legal, social, management, financial measures and communication tools that can change human behaviour, governance, and increase the awareness of people on climate change issues. In particular, Nature-based Solutions to CCA preserve nature and use nature to increase the resilience of the society and ecosystems, then they address jointly the climate change and the biodiversity loss challenges. They are multifunctional and provide multiple environmental, social and economic benefits.

Adaptation can follow also different approaches: (1) *coping* with the consequences of disasters; (2) *incrementally improving* existing conventional adaptation measures; (3) *transforming* the way to address climate impacts by finding different solutions. Transformative adaptation is broader and systemic, since It addresses the root causes of vulnerability to climate change of a territory or a city. Such a broad systemic approach can turn adaptation from a pure need into an opportunity to transform cities into attractive, climate-resilient and sustainable places.

In particular, climate change is causing relevant impacts to the European cities and is projected to cause more intense and frequent extreme events in the future such as heatwaves, droughts, intense precipitation and floods. A large share of the European population lives in urban settings of high logistic and economic importance and it is projected to increase. Increasing the resilience at local level through specific adaptation measures also included in the context of the urban sustainable development is being recognized as crucial in the global and European agendas. It is relevant to highlight: (1) the **New Urban Agenda**, adopted at the UN Conference on Housing and Sustainable Urban Development (Habitat III) on 20 October 2016 and endorsed by the UN General Assembly on 23 December 2016; (2) the **Urban Agenda for the EU** launched in May 2016.

The European Environment Agency (EEA) has prepared in the last decade some relevant reports addressing climate change adaptation and in particular the local adaptation:

- EEA Report (2020) ‘Urban adaptation in Europe: how cities and towns respond to climate change’
- EEA Report (2020) ‘Monitoring and evaluation of national adaptation policies throughout the policy cycle’
- EEA Report (2019) ‘Climate change adaptation in the agriculture sector in Europe’
- EEA Report (2019) ‘Adaptation challenges and opportunities for the European energy system - Building a climate-resilient low-carbon energy system’
- EEA Report (2017) ‘Climate change adaptation and disaster risk reduction in Europe - Enhancing coherence of the knowledge base, policies and practices’
- EEA Report (2017) ‘Financing urban adaptation to climate change’
- EEA Report (2016) ‘Urban adaptation to climate change in Europe 2016 - Transforming cities in a changing climate’
- EEA Report (2014) ‘Adaptation of transport to climate change in Europe - Challenges and options across transport modes and stakeholders’
- EEA Report (2014) ‘National adaptation policy processes in European countries — 2014’
- EEA Report (2013) ‘Adaptation in Europe

- Addressing risks and opportunities from climate change in the context of socio-economic developments'
- EEA Report (2012) 'Urban adaptation to climate change in Europe - Challenges and opportunities for cities together with supportive national and European policies'

The recent **EEA Report *"Urban adaptation in Europe: how cities and towns respond to climate change"*** has been developed from a joint work of the EEA and the European Topic Centre on Climate Change Impacts, Vulnerability and Adaptation (ETC/CCA) and presents the state of play of adaptation to climate change in European cities. This report provides an overview on the climate change adaptation at the local government level, with a particular focus on cities along with an overview of the scientific evidence on climate risks to cities and of types of adaptation options available at local level. It furthermore highlights opportunities to scale up and speed up the implementation of climate change adaptation at the local level. This EEA report highlights some relevant key messages:

- *'The number of cities and towns committed to climate change adaptation has grown substantially in Europe, However, the implementation of adaptation actions is still in its infancy, lagging particularly far behind in smaller cities and towns.'*
- *'Early warnings, awareness raising and Nature-based Solutions emerge as effective and cost-efficient adaptation actions. However, the success of adaptation measures is highly context-dependent and the limited amount of knowledge on the successfulness of various adaptation measures calls for improved monitoring and evaluation of the solutions implemented.'*
- *'There is an urgent need to change the way we plan and construct our cities in the changing climate, because unsustainable urban development — built-up floodplains, progressive surface sealing, small amounts of green space or urban sprawl encroaching on wildfire- and landslide-prone areas — magnifies the impacts of climate-related hazards.'*
- *'Concerted action at all governance levels — from EU through national to local — is needed to support urban adaptation through improved access to knowledge and funding; political commitment and community engagement; and mainstreaming adaptation into all policy areas.'*
- *'The absence of a single, comprehensive overview of adaptation planning and action at the local government level in Europe precludes a detailed assessment of the level of preparedness for climate change in Europe. Streamlined monitoring and reporting of local adaptation plans and actions is needed if EU and national governments are to effectively support local adaptation.'*

Also, a new EEA report 'Nature-based Solutions to climate change adaptation and disaster risk reduction in Europe - policies, evidence, practices and opportunities' will be launched around March 2021.

Furthermore, the recent **EU Green Deal** includes the cross-cutting objective of integrating all actions for sustainable development in order to have a "*carbon free and resilient*" Europe by 2050. Achieving this goal requires a transformation of Europe's society and economy: the reduction of greenhouse gas emissions must go in parallel with an increase of resilience and with the preservation of biodiversity. The EU Green Deal will create new economic opportunities, stimulate investments and offer new jobs.

Already in 2020, the European Commission adopted the new **EU Biodiversity Strategy for 2030** and in early 2021 the Commission will adopt a **new, more ambitious EU strategy on**

adaptation to climate change in order to strengthen efforts on climate-proofing, resilience building, prevention and preparedness, ensuring that businesses, cities and citizens are able to integrate climate change into their risk management practices.

Finally, it is useful to recall the relevant role for adaptation at European, National and local level played from the **European *Climate Adaptation* Platform (*Climate-ADAPT)***, which is a partnership between the European Commission and the European Environment Agency. Climate-ADAPT makes available a catalogue of potential adaptation options and case studies, which provide illustrative and inspiring examples of implemented adaptation options across Europe. Finally, Climate -ADAPT also include the **Urban Adaptation Support Tool (UAST),** which aims to assist cities, towns and other local authorities in developing, implementing and monitoring climate change adaptation plans. The UAST was developed as a practical guidance for urban areas, in recognition of their importance in the European economy.

Information sources:

General

1. Climate-ADAPT: The European Climate Adaptation Platform (guidance, reports, maps, data, case studies) - https://climate-adapt.eea.europa.eu/
2. 'Urban adaptation in Europe: how cities and towns respond to climate change' (EEA Report No 12/2020)
3. Urban adaptation to climate change in Europe 2016 – Transforming cities in a changing climate' (EEA report 12/2016) - https://www.eea.europa.eu/publications/urban-adaptation-2016
4. 'Urban adaptation to climate change in Europe – Challenges and opportunities for cities together with supportive national and European policies (EEA report 2/2012) - https://www.eea.europa.eu/publications/urban-adaptation-to-climate-change

Policies

1. Current EU Adaptation Strategy - https://ec.europa.eu/clima/policies/adaptation/what_en
2. Forthcoming new EU Adaptation Strategy
3. EU Biodiversity Strategy for 2030 - https://ec.europa.eu/environment/nature/biodiversity/strategy/index_en.htm
4. Urban Agenda for EU - https://ec.europa.eu/futurium/en/urban-agenda-eu/what-urban-agenda-eu
5. Covenant of Mayors for Climate and Energy Europe - https://www.covenantofmayors.eu/en/

Tools

Urban Adaptation Support Tool - https://climate-adapt.eea.europa.eu/knowledge/tools/urban-ast/step-0-0

Maps

Urban Adaptation Map Viewer (Climate-ADAPT) - https://climate-adapt.eea.europa.eu/knowledge/tools/urban-adaptation

Financing

1. Financing urban adaptation to climate change (EEA Report No 2/2017) - https://www.eea.europa.eu/publications/financing-urban-adaptation-to-climate-change
2. Financing opportunities for Sustainable Energy & Climate Action Plans (overview on different options by the Covenant of Mayors) - https://www.covenantofmayors.eu/support/funding.html

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