

NATURE CAN BE A SOURCE OF INNOVATION FOR A SUSTAINABLE CITY

Principles and approaches

1. Cities can be considered as urban metabolism and a holistic approach needs to be taken to integrate climate change, biodiversity, extreme events and health of individuals, populations, ecosystems which are interwoven.
2. We need to articulate them in an intellectual framework as well as in public policy at all scales
3. The respect of “carrying capacity” should be a basis for action, to preserve the regeneration capacity process of ecosystems.
4. We urgently need a better understanding of the ecological principle of urban metabolism. Moreover, principles, approaches and tools, such as life cycle, biomimicry, bio-inspiration, could guide the design and innovation oriented towards synergies, energy autonomy and resilience in order to ensure an ecological intelligence.

Research for actions

1. In cooperation with **COP21 (2015, Paris)**, the Urban Climate Change Research Network (UCCRN) with Centre National de la Recherche Scientifique (CNRS) and universities hope to organize a scientific event about biodiversity, ecosystem health and climate in urban areas.
2. **We ask NCSE** to help establish contact with **World Conference of Mayors for Climate Change**, and with UNEP, WHO, UNISDR, UN habitat, etc; in order to provide funding for interdisciplinary and integrated research in field of climate change, biodiversity, urban agriculture, ecohealth and cities to develop networks of scientists from all disciplines, working with city governments and citizens.
3. One of the first tasks will be to establish **priorities of research, policies and actions** contributing for example to reduce, in a sustainable manner, impacts of extreme events (e.g. floods), or to reduce food desert and increase resilience of population by working on biodiversity, urban agriculture in an ecohealth approach.
4. Identify and analyse successful experiences as well as failures related to the introduction of nature in cities such as roofscape, urban agriculture, green infrastructure, etc, and share **best practices**, and guidelines, including scientific analysis.
5. Involve, with the support of NCSE, university programs and university students for research, experimentation and integrated living laboratories in cities.
6. Build an international platform to enhance science-based decision making related to sustainable issues in cities. It will benefit from a first initiative between Paris, Montreal and Chicago on roofscape (roofscape.org).

Some tools

- 1) **Share knowledge and experience –**
 - a. e.g. develop a **listserv** and a **Webinar series social networks**;
 - b. see prototypes in action;
 - c. provide contacts global dimension and way to expand the process;
 - d. training and coaching;
 - e. outreach (education, large audience co-construction of knowledge with users, which is community outreach.