



Urban Europe and NSFC



Europe – China joint call on Sustainable Urbanisation in the Context of
Economic Transformation and Climate Change:
Sustainable and Liveable Cities and Urban Areas

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UNCNET

**Urban nitrogen cycles:
new economy thinking to master the challenges of climate change**

D9/1: Dissemination concept

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Start Date of Project: **01/04/2019**

Duration: **35 months**

Organisation name of co-chairs for this deliverable: **IIASA, PKU**

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Dissemination Level		
PU	Public	<input checked="" type="checkbox"/>
PP	Restricted to other programme participants (including funding agencies)	<input type="checkbox"/>
RE	Restricted to a group specified by the consortium (including funding agencies)	<input type="checkbox"/>
CO	Confidential, only for members of the consortium (including funding agencies)	<input type="checkbox"/>

1. Executive Summary

Dissemination is a key activity in each project. UNCNET has created a number of different channels, applicable for very different client types. This report describes the web page and project repository, the social media channels created and the interactions with stakeholder and policy makers as well as the knowledge distribution over scientific channels.

2. Introduction: why dissemination

“Standing on the shoulders of giants” is a metaphor describing the act of science production by very small steps based on huge amount of pre-existing knowledge. Both is necessary – the small steps, and the amassed pre-existing material. Only if these additional steps can be converted to existing knowledge, the “size of the giants”, or the general level of scientific knowledge, will increase. Additional knowledge gained through thorough work, be it as exciting and innovative as imaginable, will be lost forever unless shared with users, people who can carry it forward and take advantage of that.

The general idea is valid throughout the process of knowledge generation. It applies to research projects in the same way as to many other processes in our knowledge society. Only codification of results, in a way meaningful to the recipients, will allow them to be used beyond the (temporal and spatial) boundaries of the project. Hence, also UNCNET needs to find possibilities to make use of the outcome of the work performed and make it attributable to the project. This will prevent that someone else needs to repeat much of what has been developed (for lack of knowledge about it) and at the same time highlight the usefulness of the project as well as justify the work (and funding) spent.

Dissemination is a central idea of UNCNET that best is reflected in a concept. The concept allows the practical implementation of dissemination pathways, identifies the respective user groups of dissemination flows and hence allows to adjust the material provided to the expectation of the respective recipients.

3. Addressing the general public: web presentation

The most generic possibility to address a large number of people is applying tools that are most easily accessible to everyone, and still allow making available up-to-date information. We regard the most efficient means to achieve this a publicly accessible web site. The web page <http://www.uncnet.org> has been established for this purpose. The home page contains a short text to describe the main aims of the project, and contains pictures representing the four cities that will serve as the test areas in the project. For users who are interested in further details, also the participating institutions and the individual work packages are listed and described. A public repository lists all the deliverables and publications achieved within the project that are for general distribution. All relevant results have been made available via the web page. Some information that – for whatever reason – could not be shared publicly is being held at the “internal page” only accessible to the project participants.

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Urban Nitrogen Cycles: New Economy Thinking to Master the Challenges of Climate Change

Urban life is characterized by high population density. Small scale environmental issues easily affect a large number of people. Nitrogen compounds contribute to very different environmental issues, some of which happen at very small scales. Human activities responsible for the release of such compounds are especially notable in cities – with special forms of high-value agricultural production in close proximity of consumers, with combustion to supply the high energy demand, and with waste materials concentrated where the number of people is high. In the UNCNET project we work on systematically developing “urban nitrogen budgets” to understand the reasons, pathways and possible intervention points of the release of such compounds. Specifically, we address the technological and the behavioral options that enable such interventions – considering the reclamation of useful materials like nutrients as possible pathways to support the development of a circular economy. Nitrogen budgets and their impacts will be studied in four European and Chinese cities (Vienna, Shijiazhuang, Beijing and Zielona Gora), learning from the differences – these impacts not only relating to pollution but also addressing the needs of climate protection. An organized stakeholder process will allow to familiarize city authorities and other interested parties to contribute to and learn from the project’s experience.



Figure 1: View of www.uncnet.org homepage

A project logo has been created for establishing a common theme for communication and to differentiate products of UNCNET from those obtained from other projects (both in internal and external communication).



Figure 2: UNCNET project logo

4. Addressing stakeholders: press and media

While a web page allows to comprehensively inform a wide group of people, it would not allow to actively address potentially interested users. A “push” function is most easily implemented in social media. Specifically, UNCNET has created a Twitter account (@UNCNET_project) to allow reporting progress. As Twitter is extensively used by media it is a good opportunity to address them. While during the project’s start-up phase the intensity of communication was quite limited, it is expected to increase once first results start to become available.

With a project scope spanning both Europe and China, the fact that Twitter is not an available channel in China had to be taken into account. A like distribution channel for China is via the popular WeChat network, hence a parallel account on WeChat was opened: 城市氮循环 (WeChat ID: UNCNET). The agreed procedure is to post information on both platforms more or less simultaneously. With identified contact persons for specific tasks, media representatives also can be supplied with further information once needed.

5. Addressing peers and scientific colleagues

Some standard procedures exist to disseminate the results of science and research work. It is useful to take advantage of the most popular of these procedures also for UNCNET. Specifically, this regard the presentation on conferences, and the publication in (peer-reviewed) journals. From an early stage on, UNCNET was active to move forward here. The following publications have been listed on the homepage already, with more in the peer-review process:

- Bai et al. (2019). “Further Improvement of Air Quality in China Needs Clear Ammonia Mitigation Target” [[Environmental Science & Technology](#) – open access]
- Greinert et al. (2020). “The Use of Plant Biomass Pellets for Energy Production by Combustion in Dedicated Furnaces” [[Energies](#) – open access]
- Shang et al. (2019). “Weakened growth of cropland-N₂O emissions in China associated with nationwide policy interventions” [[Global Change Biology](#) – open access]
- Wang et al. (2019). “Data-driven estimates of global nitrous-oxide emissions from croplands” [[National Science Review](#) – open access]

One dedicated forum to communicate research related to the nitrogen cycle and its ecological consequences to is the meeting of the “International Nitrogen Initiative”. INI2020, the tri-annual conference, has been organized for May 2020 in Berlin, Germany. Several papers from within the consortium have been accepted for publication at the conference. Like serving the nitrogen community with this conference, a relevant for the “urban” community will be selected for a future event.

- Lin Zhang et al., Agricultural ammonia emissions and impacts on surface PM2.5 air quality in China
- Haodan Wang et al., Trends of livestock distributions and densities and its impacts on nitrogen flows in Beijing-Tianjin-Hebei city cluster
- Wilfried Winiwarter et al., Nitrogen balances in urban areas: purpose and potentials

A standardized statement has been developed to be added to the acknowledgement in such publications, in respect of the funding institutions. In case of publications involving only part of the team, neglecting funders who have not been supporting that team may be omitted:

“This publication contributes to UNCNET, a project funded under the JPI Urban Europe/China collaboration, project numbers UMO-2018/29/Z/ST10/02986 (NCN, Poland), 71961137011 (NSFC, China) and 870234 (FFG, Austria)”

6. Further expectations

This communication strategy addresses the general distribution of UNCNET achievements across the diverse networks researchers typically encounter. Beyond that, activities that directly concern stakeholders in the four test areas and are covered in a dedicated UNCNET work package on “Urban Stakeholders” (WP8) are not covered here. However, further elements of delivering policy relevant output are considered as follows:

Interaction with the GEF-funded project INMS: The INMS team has been informed of the activities of UNCNET. Still further work and success in integrating urban question is needed before INMS will gain interest in integrating urban questions in its agenda of an “inter-convention Nitrogen coordination Mechanism”.

As the international framework is a central element here, links to UN Environment and the New Urban Agenda have been forged. With results trickling in, it is expected to gain momentum and further disseminate the Urban Nitrogen Cycling context far beyond the cities originally participating.