



EU-CHINA SUSTAINABLE URBANISATION FLAGSHIP INITIATIVE IN HORIZON 2020

STRATEGIC JOINT RESEARCH AND INNOVATION ACTIONS TO TURN CHALLENGES INTO OPPORTUNITIES FOR GROWTH, JOBS AND BETTER LIVING CONDITIONS FOR MILLIONS OF URBAN CITIZENS BOTH IN EUROPE AND CHINA

Priority Areas of mutual interest for EU China research and innovation
collaboration on Sustainable Urbanisation

Sustainable Development and Urban Planning
Nature-based Solutions for Cities
Green Urban Mobility
Sustainable Energy Solutions for Cities

*Research and
Innovation*

中欧城市创新国际研讨会 EU-CHINA JOINT WORKSHOP ON URBAN INNOVATION

创新与挑战

Towards Innovative Joint Solutions for Common Urbanisation Challenges
30-31 May 2013, Foshan, China

主办方：中国城市可持续发展研究中心
中国城市可持续发展研究中心
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EU-CHINA SS's Link's Office
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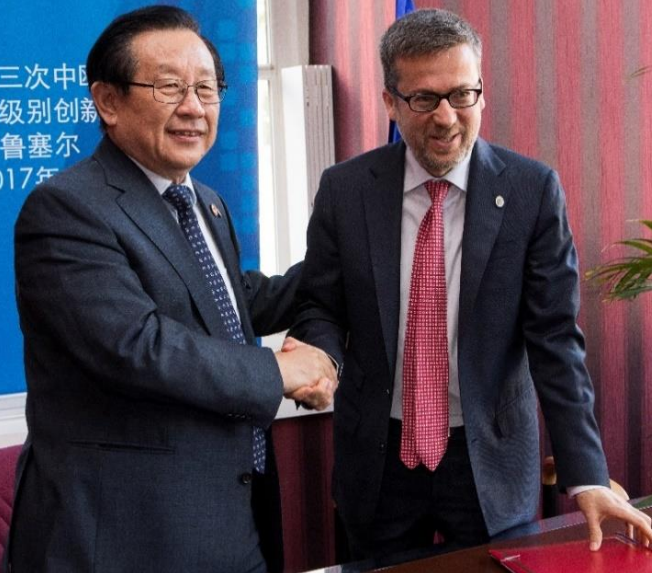


THE EU-CHINA URBANISATION FLAGSHIP INITIATIVE

The EU-China Sustainable Urbanisation Flagship Initiative is one of the five Flagship Initiatives agreed by EU and China to foster the cooperation between the two sides in Science and Technology in the period 2014-2020. The EU-China Urbanisation Partnership started in 2012 with the Joint declaration on the EU-China Urbanisation Partnership by President Barroso and Premier Li, and it was initially led by DG ENER. With the EU-China Joint Workshop on Urban Innovation, held in the city of Foshan in May 2013, the research and Innovation dimension was reinforced, identifying topics of common interest on sustainable development, urban planning, green urban mobility, and sustainable energy solution for cities, confirming the importance of innovation and socio-economic aspects in sustainable urbanisation.

In response to the political commitment, the EU and China set targeted research and innovation actions in various interrelated topics surrounding cities (transport, environment, energy, urban planning etc.) under Horizon 2020. The two sides implemented cost-effective, integrated technological and nature-based solutions that provide multiple benefits, resource and energy efficiency, reduce GHG emissions, increase urban resilience to changes, better health and leverage costly problems into opportunities for growth, jobs and better living conditions for millions of urban citizens both in Europe and China.

第三次中国
高级别创新
布鲁塞尔
2017年



EU-CHINA CO-FUNDING MECHANISM (CFM) IN HORIZON 2020

In 2014, the Horizon 2020 programme ceased to fund automatically Chinese applicants. Co-Funding Mechanisms (CFM) were needed, eventually set by Chinese authorities to support the joint research activities carried between the EU and China. The China CFM on research and innovation cooperation has played a significant role in supporting the cooperation in topics of mutual interest since its launch in December 2015.

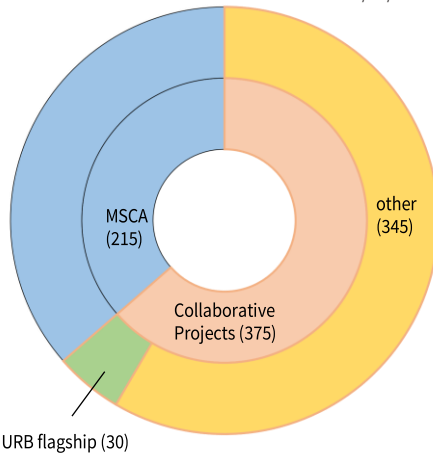
The CFMs involved two Chinese Ministries: the Ministry of Science and Technology (MOST) and the Ministry of Industry and Information Technology (MIIT), as well as one Chinese funding agency, the National Natural Science Foundation of China (NSFC). MOST, MIIT and NSFC co-funded five different flagship initiatives: food, agriculture and biotechnologies; environment and sustainable urbanisation; surface transport, aviation, biotechnologies for health and the environment.

In addition to the flagship initiatives, MOST covered also the participation of Chinese entities in nine additional priority areas, for an overall (flagship and priority areas) commitment of 200M¥ on an annual basis to provide competitive funding to China-based entities participating in joint projects with European partners under Horizon 2020 calls from 2014-15 and 2016-17 Work Programmes. During the third Innovation Cooperation Dialogue (ICD) meeting, held in June 2017, the CFM was renewed for the period 2018-2020 with the same budget commitment from both sides.

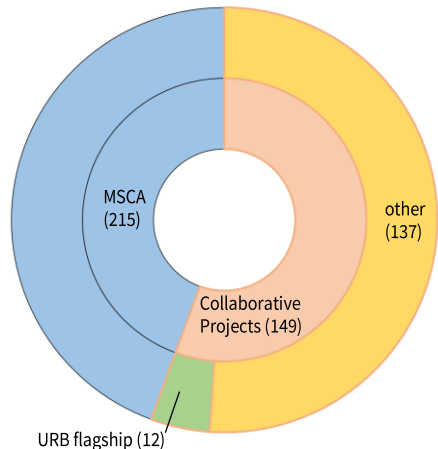
SUSTAINABLE URBANIZATION IN H2020 WITH THE CFM

The CFM set by MOST has supported the flagship initiative on Sustainable Urbanization, for which the two sides (EC and MOST) secured an overall investment of more than 120 M€ altogether under Horizon 2020 (from 2014 to 2020), covering 12 projects, 8 of which were co-funded by MOST, with a successful co-funding rate of 67%. The Urbanization flagship represents a significant portion of H2020 collaborative projects with Chinese participants (30), accounting for 8% of all H2020 Chinese entities participations in collaborative projects.

CN participations (590) in H2020 projects (268)
data as from 31/12/2020

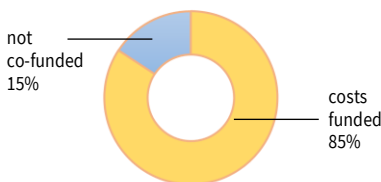


H2020 projects (268) with CN participations (590)
data as from 31/12/2020



Under Horizon 2020, MOST co-funded 8 projects out of 12 (67%). Those not being covered by MOST account however for 15% of the overall Chinese financial contribution to Urbanization projects, meaning that by covering 8 on 12, MOST has covered around 85% of the costs incurred by Chinese participants in Sustainable Urbanization.

Costs of URB projects covered by MOST in H2020



URB projects co-funded by MOST in H2020



■ costs not co-funded by MOST
 ■ costs co-funded by MOST
 ■ projects not co-funded by MOST
 ■ projects co-funded by MOST

SUSTAINABLE URBANIZATION FLAGSHIP IN H2020 WP 2016-2017

Horizon 2020 work programmes 2016-2017 marked the start of the flagship initiative. Two platforms of Sustainable Urbanisation Stakeholders were launched to pave the way to EU-China cooperation in this field. The two platform brought together industry, academia and public administrations to promote EU-China science-industry partnerships on sustainable urbanisation. The platforms identified common challenges and recommended joint priority areas for collaborative research and innovation cooperation, linked European and Chinese cities and promoted joint demonstration projects.

Building on the outcome of Fushan Conference from 2013 a wide topic on “Demonstrating innovative nature-based solutions in cities” was launched, including R&I Action on Urban Planning, covering overall 8 research projects, 4 of them were co-funded by MOST through the CFM, while Chinese participants in the remaining four projects were supported through other sources of funding.

PROJECTS/TOPICS IN WORK PROGRAMME 2016-2017

URBAN-EU-CHINA

EU-China Innovation Platform
on Sustainable Urbanisation
<http://www.urbaneuchina.eu>

TRANS-URBAN-EU-CHINA

Transition towards urban sustainability
through socially integrative cities in the EU
and in China
<http://transurbaneuchina.eu/>

EdiCitNet

Edible Cities Network
Integrating Edible City Solutions
for social resilient and
sustainably productive cities
<http://www.edicitnet.com/>

CONNECTING Nature

policy and practices necessary to
scale up urban resilience, innovation
and governance via nature-based
solutions
<http://www.connectingnature.eu/>

CLEVER Cities

Co-designing Locally tailored
Ecological solutions for Value
added, socially inclusive
Regeneration in Cities
<http://clevercities.eu/>

GrowGREEN

Green Cities for Climate and
Water Resilience, Sustainable
Economic Growth, Healthy
Citizens and Environments
<http://growgreenproject.eu/>

proGIneg

productive Green Infrastructure for
post-industrial urban regeneration
<https://progireg.eu/>

URBAN GreenUP

New Strategy for Re-Naturing
Cities through Nature-Based
Solutions
<http://www.urbangreenup.eu/>

UNALAB

co-creation with stakeholders
and implementation of ‘living
lab’ demonstration areas
<https://www.unalab.eu/>

URBiNAT

Healthy corridors as drivers of social
housing neighbourhoods for the co-
creation of social, environmental and
marketable NBS
<http://www.urbinat.eu/>

Color coding EU-China cooperation on sustainable urbanisation//Platform of Stakeholders
 Demonstrating innovative nature-based solutions in cities

SUSTAINABLE URBANIZATION FLAGSHIP IN H2020 WP 2018-2020

Capitalizing on existing practices, actions from H2020 Work Programme 2018-2020 brought together European and Chinese research partners, government agencies and urban authorities, private sector and civil society with relevant expertise and competence and fostered participatory engagement in urban ecological restoration actions. One wide topic was proposed to strengthen international cooperation on sustainable urbanisation, targeting specifically nature-based solutions for restoration and rehabilitation of urban ecosystems. Two projects were awarded and co-funded by MOST. The projects developed models, tools, decision support systems, methodologies, strategies, guidelines, standards and approaches for the design, construction, deployment and monitoring of nature-based solutions and restoration, prevention of further degradation, rehabilitation and maintenance measures for urban and peri-urban ecosystems and the ecological coherence and integrity of cities.

PROJECTS/TOPICS IN WORK PROGRAMME 2018-2020

REGREEN

Fostering nature-based solutions for smart, green and healthy urban transitions in Europe and China
<https://www.regreen-project.eu/>

CLEARING HOUSE

Collaborative Learning in Research, Information-sharing and Governance on How Urban tree-based solutions support Sino-European urban futures
<https://clearinghouseproject.eu/>

Color coding

Strengthening international cooperation on sustainable urbanisation: nature-based solutions for restoration and rehabilitation of urban ecosystems

SYNERGIES OF SUSTAINABLE URBANIZATION FLAGSHIP WITH OTHER INITIATIVES

The issue of urbanization goes beyond the mere Sustainable Urbanisation flagship. Different thematic components can be found for example under the FAB flagship (Urban agriculture) and under the flagship on Surface Transport (emissions in urban road transportation system, urban mobility, sustainable electrification in large urban areas).

EU and China urban and regional cooperation to date is also driven forward by DG REGIO and China's NDRC who are maintaining an active High Level Regional and Urban Policy Dialogue at Commissioner/Vice-Chairman level. At implementation level, several EU funded programmes have translated the political will into concrete actions and focused on delivering more concrete

outcomes, notably by using the opportunities provided by the EU's International Urban Cooperation programme (IUC). As of 2021 IUC will be enriched by a new component targeting on region-to-region cooperation on innovation building on the experience of the EU's Smart Specialisation Strategies (RIS3).

JPI Urban Europe – NSFC Call: Sustainable and Liveable Cities and Urban Areas

Joint Programming is an EC instrument that as from 2008 aims at implementing the European Research Area (ERA) and at promoting strategic cooperation among EU Member States. JPI Urban Europe was created in 2010 to address the global urban challenges of today, with the ambition to develop a European research and innovation hub on urban matters and create European solutions by means of coordinated research. JPI Urban Europe engages selected EU Members States and Associated Countries, in addition to the European Commission.

In answer to the global urbanisation challenge, NSFC and JPI Urban Europe have agreed to a long-term cooperation under the strategic theme Sustainable Urbanisation in the Context of Economic Transformation and Climate Change, setting a joint call as a joint initiative of nine European funding agencies participating in JPI Urban Europe and NSFC in China. The call on “Sustainable and Liveable Cities and Urban Areas” was launched in 2018 and addressed three main themes:

- reduce the adverse environmental impact of cities, paying special attention to the quality of air, water and soil, and municipal and other waste management;
- access to safe, affordable, and sustainable housing, transportation and basic services;
- integrated policies towards inclusion, resource efficiency, mitigation and adaptation to climate change and resilience to disasters.

The call invited researchers from Chinese and European universities, research institutes, research and technology organisations (including municipal research institutes), cities and city planning departments, as well as European companies to submit proposals in four topics:

1. Climate change and new urban economies

2. Transformation of energy systems and strengthen urban circular economies
3. Urban public administration and services innovation
4. Urban data management

The total funding available in this programme was approximately M€ 9.35 on the European side, across the participating European funding agencies. NSFC funded the Chinese part of all projects. Eleven projects were approved strengthening EU-China cooperation in Sustainable Urbanization.

MAAT: Multi-faceted valuation and administration of access to housing and transportation

SIRIUS: Sustainable, Innovative, Resilient, and Interconnected Urban food System

SIMETRI: Sustainable Mobility and Equality in mega-city Regions

STEP-UP: Socio-Techno-Economic Pathways for sustainable Urban energy development

U-PASS: Urban Public Administration and Services innovation for Innovative Urban Mobility Management and Policy

Financing Clean Air: The potential of Land Value Capture to secure sustainable urban development supporting air quality enhancement

DeSCIPHER: Sponge Cities within airshed and river basin management: integrating nature-based solutions to create sustainable places

SMUrTS: Sustainable mixed urban transit system with electric and conventional buses

RECREATE: Resource nexus for transformation to circular, resilient, and liveable cities in the context of climate change

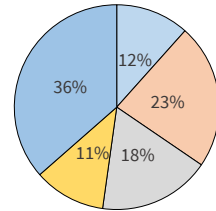
HERMES: Integrated evaluation of energy saving, emission reduction potential and management strategies for urban road systems

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

IMPACT OF THE URBANIZATION FLAGSHIP IN H2020

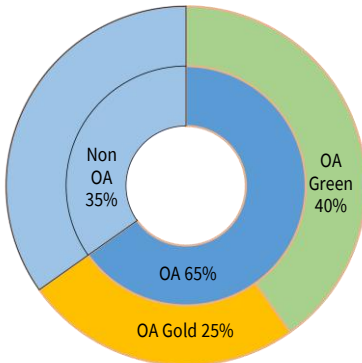
The flagship initiative on Sustainable Urbanization was able to mobilize Chinese entities in cooperating with a variety of organizations, with a prominent role played by municipalities and other organizations linked to municipal administrations (e.g. municipal companies and agencies). Altogether, the two groups account for almost 30% of the total stakeholders taking part in H2020 projects of the Urbanization flagship. In general, the projects of the Sustainable Urbanization flagship saw quite an equal distribution of the three main types of stakeholders: local administration, research organizations + universities, private sector.

Types of Participants in flagship projects on Sustainable Urbanization



- Research Organization
- University
- Municipality
- Municipal Administration
- Private/Other

OA modality of publications (113) produced by H2020 Urbanization projects



Overall, the projects funded under the Urbanization flagship initiative in Horizon 2020 produced so far more than 110 publications, 65% of them in peer review journals and in open access mode, thus allowing a solid dissemination and a high impact. Projects in this flagship have usually a long duration (4-5 years) and the production of publications is usually richer towards the end of the lifetime of a project. Additional publications are expected in the months/years to

come. With the focus of the projects not exclusively on research, but rather on demonstrations and best practices, it is also not surprisingly that the main outcome of the projects might not be a scientific publication, but rather a different type of product.