

CLEARINGHOUSE
中欧城市森林应对方案

CLEARING HOUSE – a Sino-European collaboration towards urban forests as nature-based solutions

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September 14, 2021

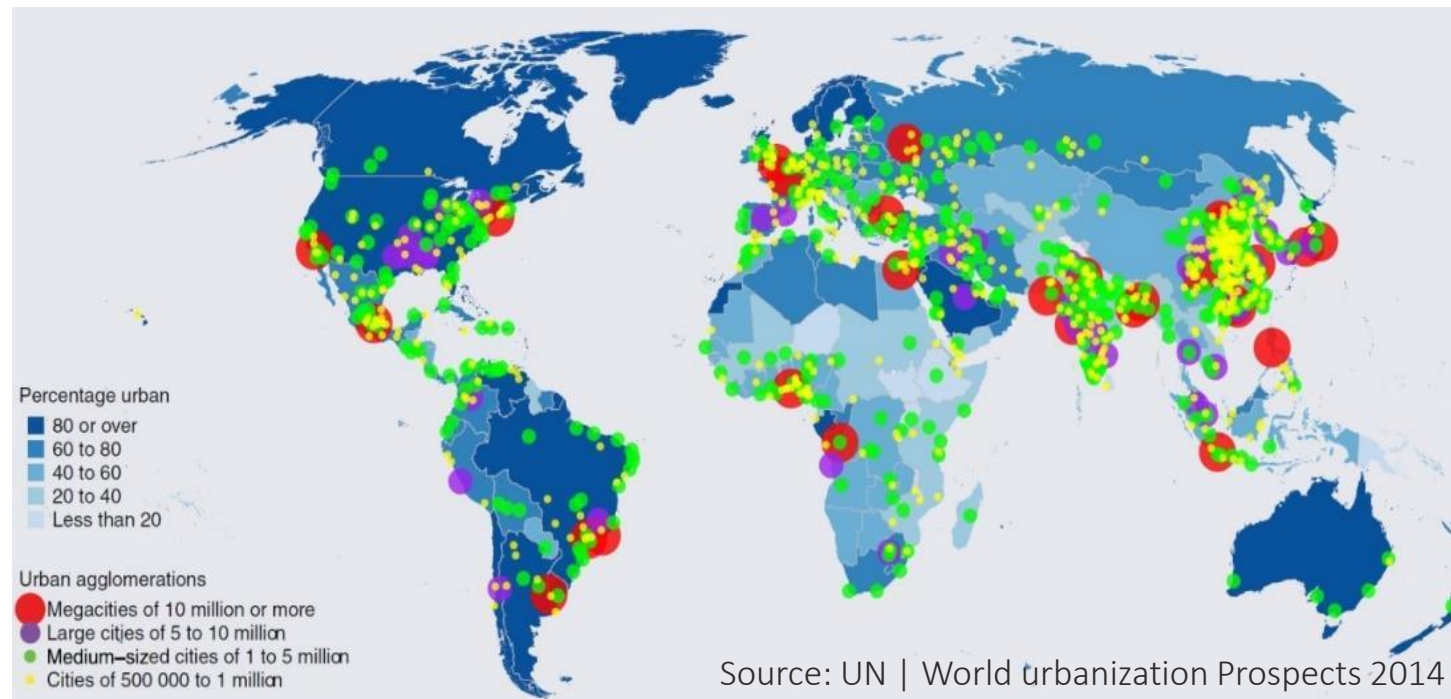


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Cities and urbanization 城市化

Cities are highly vulnerable to environmental change which is happening at an alarming rate! This has consequences to both our health and the economy



Cities are home to:

- >50% of the world's population (by 2050: 70%)
- >90% of global economic activities
- 65% of global energy consumption
- 75% of anthropogenic greenhouse gas emissions

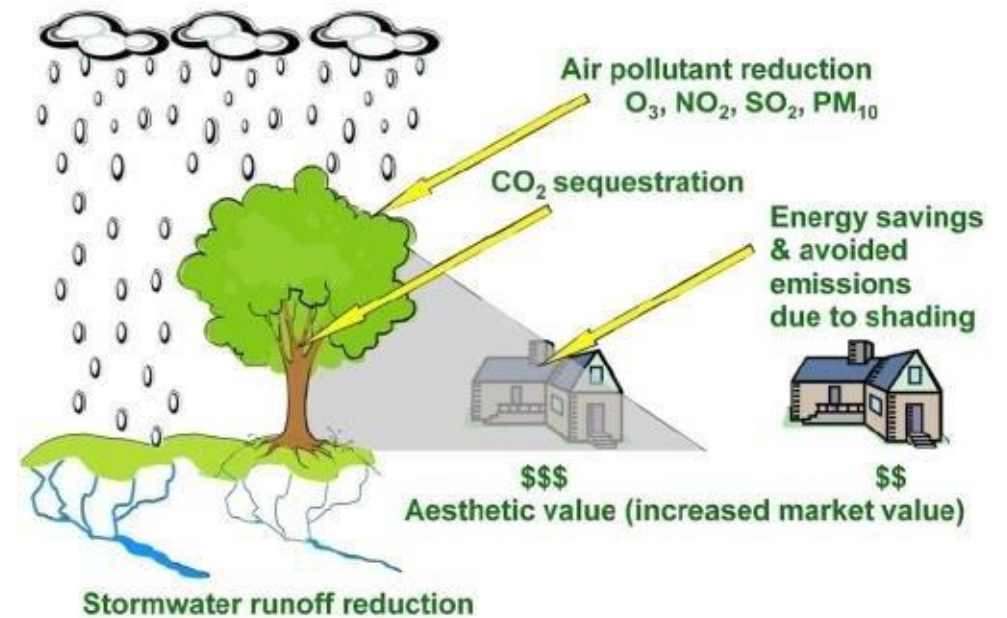


Urban Trees and Forests 城市树木与森林

Knowledge across cities will help improve urban forestry strategies

- Historically trees and forests in urban areas have **been undervalued** in respect of the ecosystem services they deliver to urban societies
- In urban areas, existing policies and practice for the governance, management and conservation of trees and forests will **need to change in ways that provide a focus on enhancing ecosystem services and meeting new societal demands**
- **Increasing our understanding** of different approaches across countries and continents will facilitate **mutual learning and improve urban forestry strategies in the future**

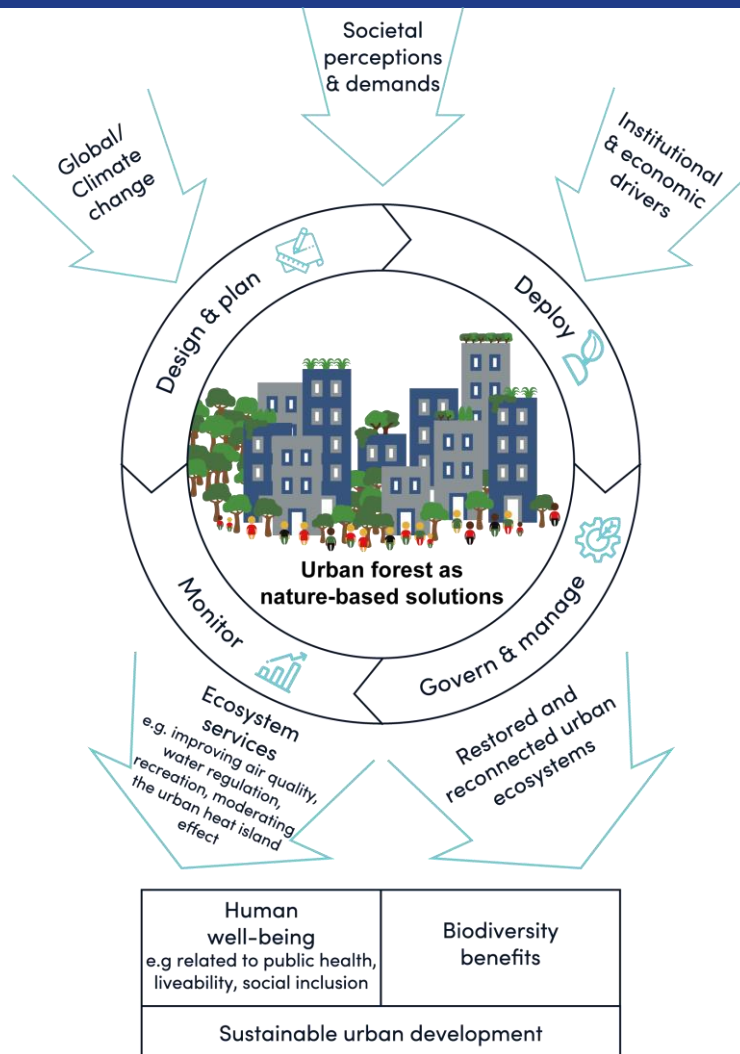
Urban trees provide ecosystem services



Credit: iTreetools.org



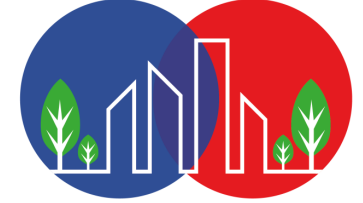
Urban Forests as Nature-based Solutions (UF-NBS)



- Nature-based solutions are “solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience.”
- UF-NBS includes peri-urban and urban forests, forested parks, small woods in urban areas, and trees in public and private spaces.



CLEARING HOUSE Project



CLEARINGHOUSE
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Collaborative **L**earning in **R**esearch, **I**nformation-sharing and **G**overnance on **H**ow **U**rban forests as nature-based solutions support **S**ino-**E**uropean urban futures.

- **Coordinators**

- European Forest Institute (EFI)
- Chinese Academy of Forestry – Research Institute for Forestry (CAF-RIF)



48
MONTHS

26
PARTNERS

11
COUNTRIES

10
CITIES &
URBAN
REGIONS

5.5 MIO EUR
BUDGET



Aims, outcomes & case study cities



CLEARINGHOUSE
中欧城市森林应对方案

1. Identifying and filling **key gaps** in knowledge
2. Policy and management improvements
3. Sino-European tools to **support the whole cycle of UF-NBS implementation**
4. Sino-European research into the **health impacts** of urban green (physical & mental), including COVID-19
5. **Sino-European societal survey** on perception, use and needs regarding urban forests and urban trees
6. Sino-European **thematic guidelines**
 - (a) cost-effective urban ecosystem restoration
 - (b) mechanisms for public and stakeholder engagement
 - (c) management guidelines for UF-NBS
 - (d) change management and institutional reform for the better management of UF-NBS



UF-NBS Case studies:



This project has received funding from the European Union's Horizon 2020 Research and Innovation Program under Grant Agreement 821242.



Case studies in 10 cities in China and Europe

EUROPE		CHINA	
Brussels		Beijing	
Leipzig-Halle		HK + Guangzhou + Shenzhen	
Krakow		Hangzhou	
Gelsenkirchen		Huaibei	
Barcelona		Xiamen	

REFERENCES

-  Inner-city afforestation
-  Urban-rural territorial linkage
-  Air purification/ air quality improvement
-  Heat-wave mitigation
-  Outdoor recreation
-  River catchment restoration
-  Increasing attractiveness & nature connectivity
-  Restoring former mining sites
-  Urban regeneration
-  Socio-cultural integration



CLEARING HOUSE Steps

Step 1	Knowledge review and analytical concept development
Step 2	Comparative case study analysis
Step 3	Collaborative learning process establishment
Step 4	Knowledge synthesis, tool development and solutions piloting
Step 5	Communication and dissemination of CLEARING HOUSE results



Urban Forests as Nature-Based Solutions typology

Objective

- Methodology for **mapping and identifying** Urban Forests as Nature-Based Solutions (UF-NBS)
- Sino-European Urban Forest Based Solutions **typology roadmap** development

Use of results

- Analytical framework to be developed
- knowledge for:
 - the comparative case study analysis
 - the application for Urban Forests as Nature-Based Solutions scenarios
 - and the benchmarking tool for Urban Forests as Nature-Based Solutions



Urban Forests as Nature-Based Solutions typology

Examples of entities included

(Semi-)natural areas

Treed areas (canopy cover > 50%), Forest (a treed area \geq 5000m²), Riparian forest

Parks and gardens

urban parks, historical parks, allotment gardens, community gardens, house gardens, neighbourhood green spaces



Actions seeking the implementation of NBS

afforestation,
wetland construction

Actions seeking the restoration of NBS

reforestation, orchard
restoration, enrichment
planting

Actions seeking the management of NBS

tree monitoring, tree pruning,
tree watering, pest
management



Urban Forests as Nature-Based Solutions typology




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**A NOVEL TYPOLOGY FOR URBAN FORESTS
AS NATURE-BASED SOLUTIONS**

Online Workshop

**Join us on October 7th
8:15 - 11:15 CEST**

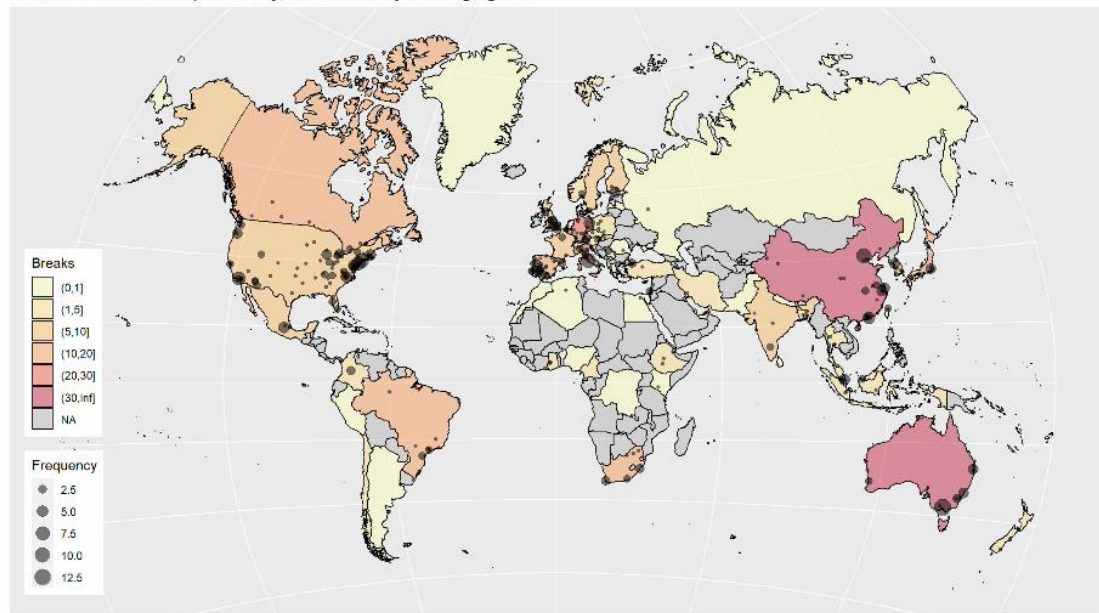
t.ly/bTVf

<https://www.eventbrite.co.uk/e/a-novel-typology-for-urban-forests-as-nature-based-solutions-workshop-tickets-167750936567>



Sino-European literature review

Number of Case Studies per Country, with case study cities highlighted



(based on analysed manuscripts)

REVIEWED PAPERS

A total of 422 records were available and eligible for analysis under the following criteria:

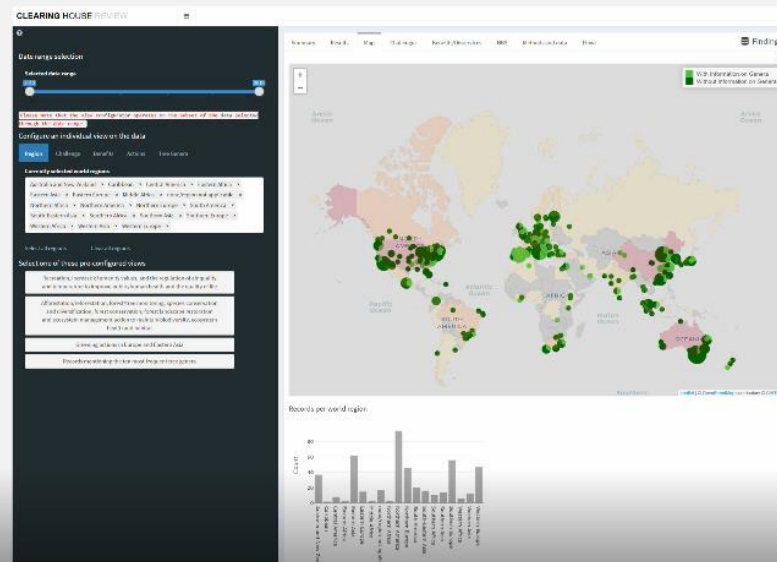
- (i) **Geographic context:** location and scale
- (ii) **NBS context:** Action conducted (if any), type of green-blue infrastructure element, desired or studied benefit/ecosystem service, observed unintentional impacts (ecosystem disservices)
- (iii) **Research context,** including societal, environmental or economic challenges and methods and data used
- (iv) **Tree-specific information**



Sino-European literature review

ACCESS TO FINDINGS

- HUB developed an interactive dashboard to provide access to review findings
- Access the dashboard at review.clearinghouseproject.eu



Mapping the potential of UF-NBS in European urban areas



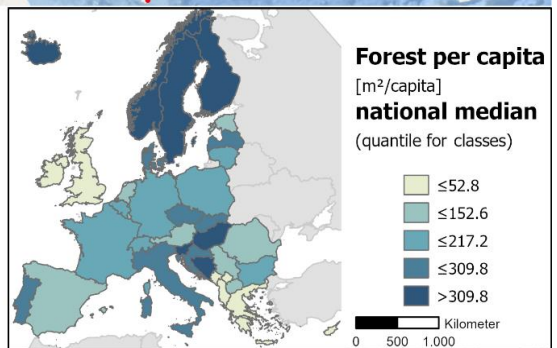
Forest area per resident
[m²/capita]
for cities (N=926)

Low (2.7)
High (20,426.6)

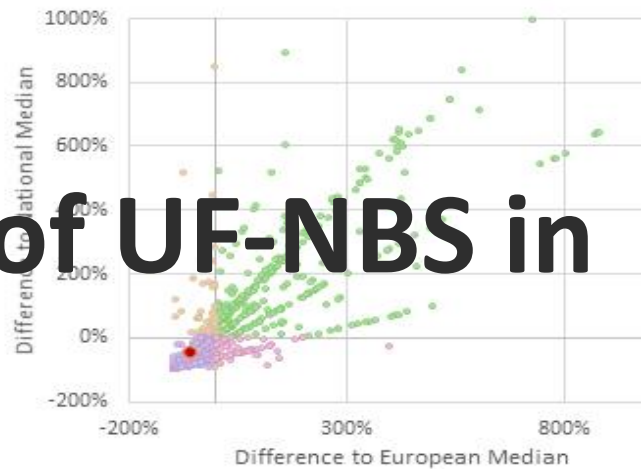
Forest share on total area [%]

0.01
25
50
80

Source: Copernicus, 2020

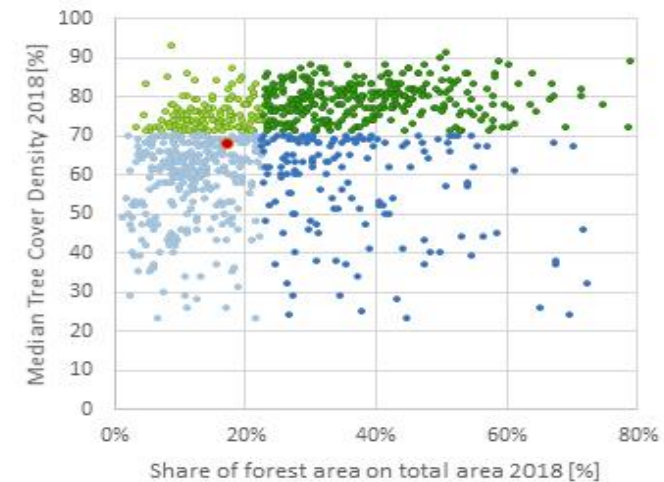


Relation between forest area provision of a city and its difference to the European and national median

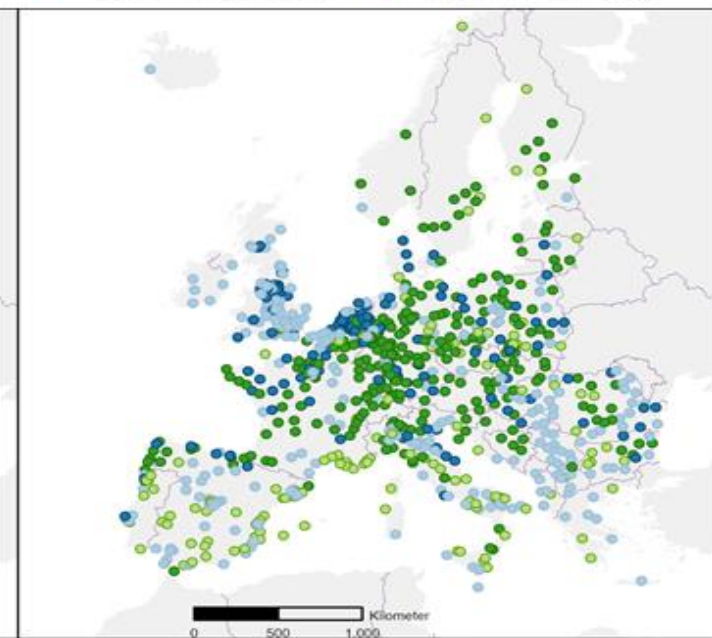
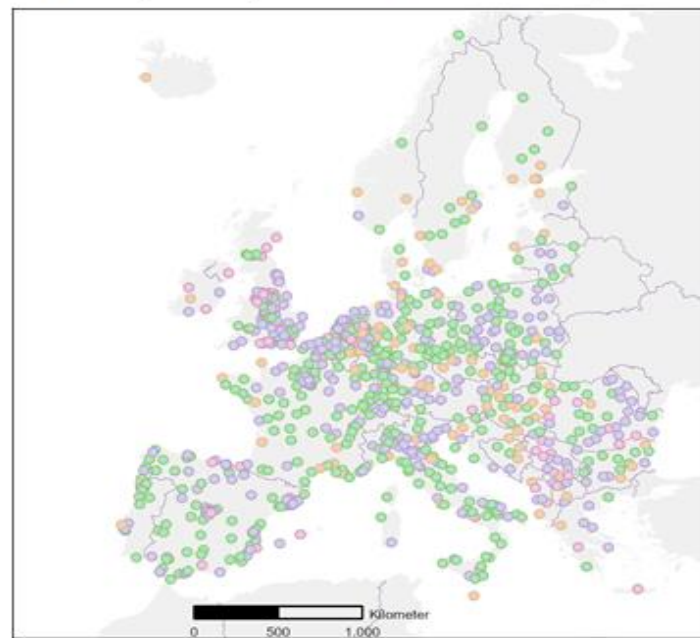


"Double champions" "Low performer"
"European champions" "National champions"

Relation between tree cover density and forest area share on total area



"Little and low density" "Much and low density"
"Little and high density" "Much and high density"



Collaborative learning process establishment

Objective	<ul style="list-style-type: none">• Implementing the CLEARING HOUSE co-design and co-learning process• CLEARING HOUSE learning architecture – city twinning, task forces and scientific workshops• Developing and implementing a citizen science monitoring
Agenda	<ul style="list-style-type: none">• Sino-European co-design event bringing together cities, policymakers, civil society and scientists from all selected case studies and relevant continental organizations in Europe and China• Identification of the information demands of the key user groups at both city and (supra-)national levels• Objective: translate these into research questions for the project
Use of results	<ul style="list-style-type: none">• Identification of the most critical questions to be analyzed in the comparative case study



Deriving business models and investment cases

Objective

- Development of sustainable business models and investment cases for selected Urban Forests as Nature-Based Solutions and their scenarios
 - Environmental, socio-cultural and socio-economic factors analyzed, with the aim to boost Urban Forests as Nature-Based Solutions deployment
 - Selected novel business models will be tested in the local case studies



Developing decision support for UF-NBS implementation

Objective

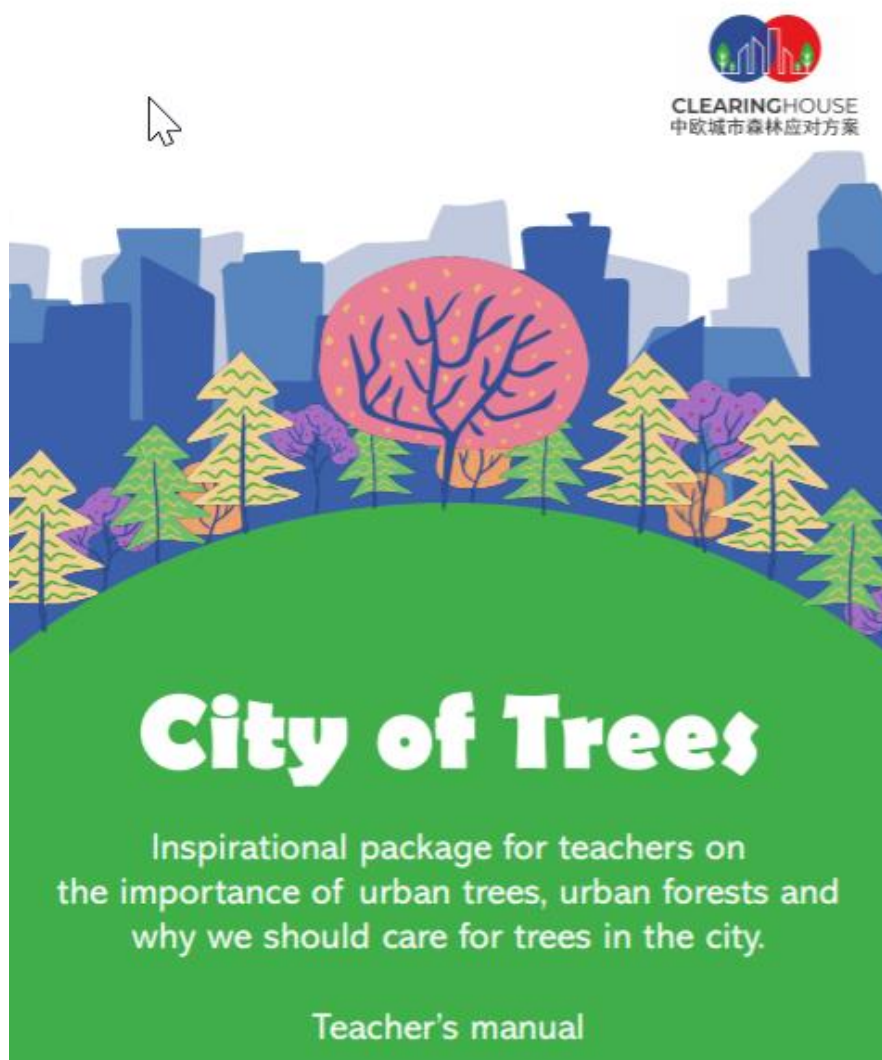
- Development and testing of distinct decision support tools for facilitating the deployment of Urban Forests as Nature-Based Solutions
 - an application for developing, modelling and assessing Urban Forests as Nature-Based Solutions scenarios in urban development for a cost-effective and performant service delivery at diverging scales
 - A simple but effective global benchmarking tool to compare UF-NBS in different settings

Agenda

- Defines the **terms for further decision support development** by the consortium partners and external stakeholders
- Stakeholders will be involved in the tool development



Education package

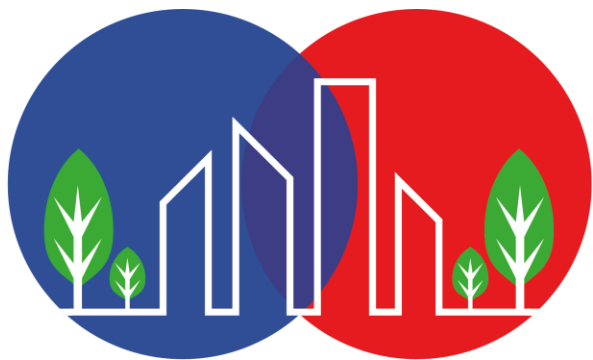


谢谢

Thank you



Thank you



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