NATURE 4 CITIES

A knowledge diffusion and decision platform for renaturing cities

WP 2 - T2.4
DEVELOPMENT OF A SIMPLIFIED URBAN ASSESSMENT TOOL (SUA TOOL)

BASIC METHODOLOGY - WP 2 - T2.4 Flow

Covered Topics

- CLIMATE
- ENVIRONMENT
- SOCIAL

Task 2.1 Definition of Urban Performance Indicators and Urban Challenges Framework → Task 2.2 Compilation of an expert modelling toolbox → Task 2.3 Completion of an NBS database with urban performance assessment results → Task 2.4 Development of a simplified performance assessment tool

Case Studies ↕ Task 2.4

Task 2.4 → Key Performance Indicators ⇄ Review/Test

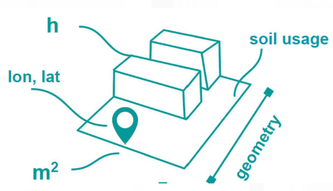
Review/Test ↕ WP6 API development

Review/Test ↕ Task 7.5 N4C case studies

TOOL ARCHITECTURE - Holistic Assessment Box

Input

NATURE 4 CITIES Platform



Input Parameters:
- Area and volumetric analysis
- Location (GPS)
- Building informations (volume, height, ...)
- Land use informations (areas, networks, ...)
- NBS age and type
- NBS management intensity and modalities
- Soil usage
- Physical and chemical properties of soil
- Chemical properties of water outflow
- Rainfall data

Overall Box

Simplified Urban Assessment Tool (SUA Tool)

- GREENPASS®
- colouree
- EMB Box

+ Noise Box

up to 9 USC → **up to 22 KPIs**

USC	KPIs
1.1 | Climate mitigation	Annual Carbon Sequestration; CO_2 Sequestration Score
1.2 | Climate adaptation	Thermal Load Score; Thermal Comfort Score; Thermal Storage Score
2.1 | Urban water management & quality	Run-Off Score; Peak Flow Variation; Water Quality
4.1 | Biodiversity	Urban Green Space Proportion; Shannon Index
4.2 | Urban space development & regeneration	Connectivity of Green Spaces; Biotope Area Factor
4.3 | Urban space management	Sustainable Practices Indicator
5.1 | Soil management and quality	Chemical Fertility; Ecotoxicological Factor; Soil Organic Matter; Soil Available Water
7.1 | Acoustics	L_{den} Day-evening-night noise level; L_{night} Night noise level
9.1 | Urban planning and form	Areal Sprawl; Accessibility; Betweenness

TOOL OUTPUT - Simplified Assessment of KPIs

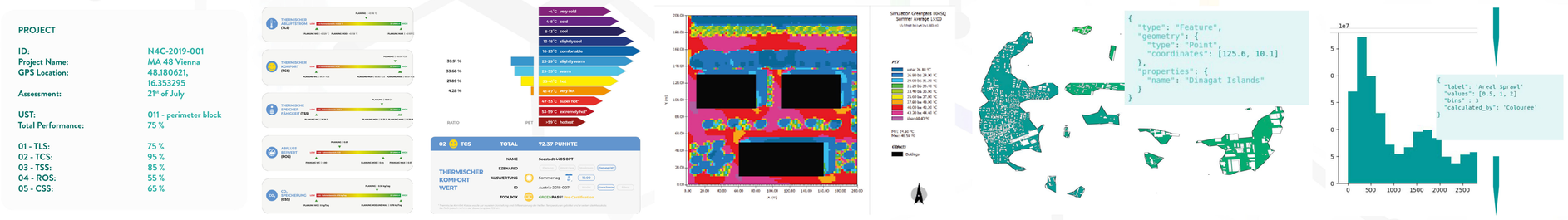


Fig: Assessment results of SPI

Fig: Project information, EMB Box results

Nature4Cities consortium

> 6 leading Research and Technology Organizations

NOBATEK/INEF4 (FR) – Coordinator
Cerema (FR), Tecnalia (ES), Eurecat (ES), Cartif (ES), Luxembourg Institute of Science & Technology (LU)

> 4 universities

University of Nantes / IFSTTAR (FR), Agrocampus Ouest (FR), University of Szeged (HU), Middle East Technical University (TR)

> 2 leading industrial organizations

Acciona Construction (ES), Acciona Ingeneria (ES), Rina Consulting (IT)

> 9 Small and Medium-sized Enterprises (SMEs)

Green4Cities (AT), Terranis (FR), Colouree (IT), Duneworks (NL), Argedor (TR), Ekodenge (TR), Innova Integra (UK), R2M Solution (IT), Grün statt Grau (AT)

> 2 clusters of stakeholders

Plante & Cité (FR), Hungarian Urban Knowledge Center (HU)

> 4 pilot cities

Alcala de Henares (ES), Città Metropolitana Di Milano (IT), Szeged (HU), Çankaya (TR)

Join the community!

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