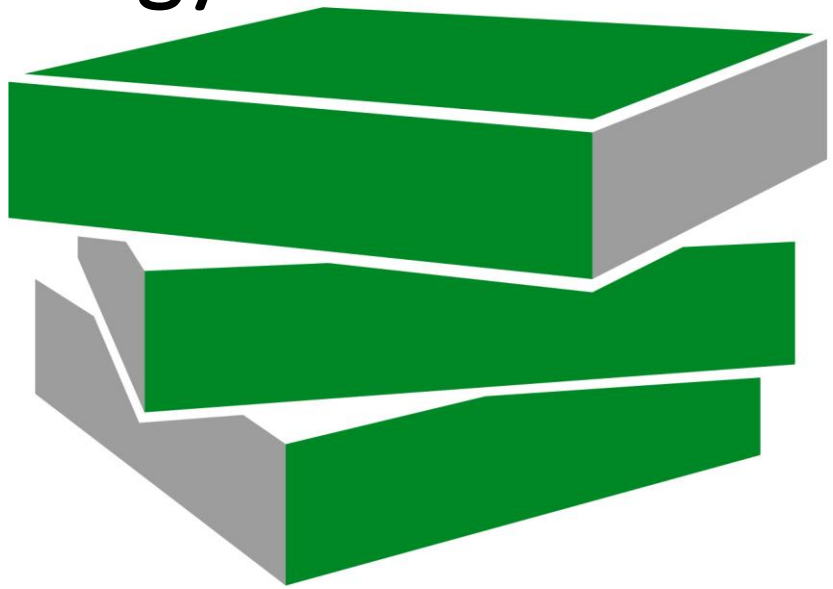
Living Green LAB GRÜNSTATTGRAU

Research & Innovation GmbH

Best pratice examples of Green Roofs and Living Walls Technology



GRÜN STATT GRAU

The Future of Building

Vera Enzi | Date: 8.5.2018

Through our **competence center** for innovation, implementation and upscaling of greening technologies in AT and the EU, we **green up** our **cities buildings for Climate Change Adaptation.**

Project Start	Project Period	Business Model
1.8.2017	5 YEARS +	START UP

100% Ownership of the NPO Austrian Green Roof and Living Wall Association 1990.

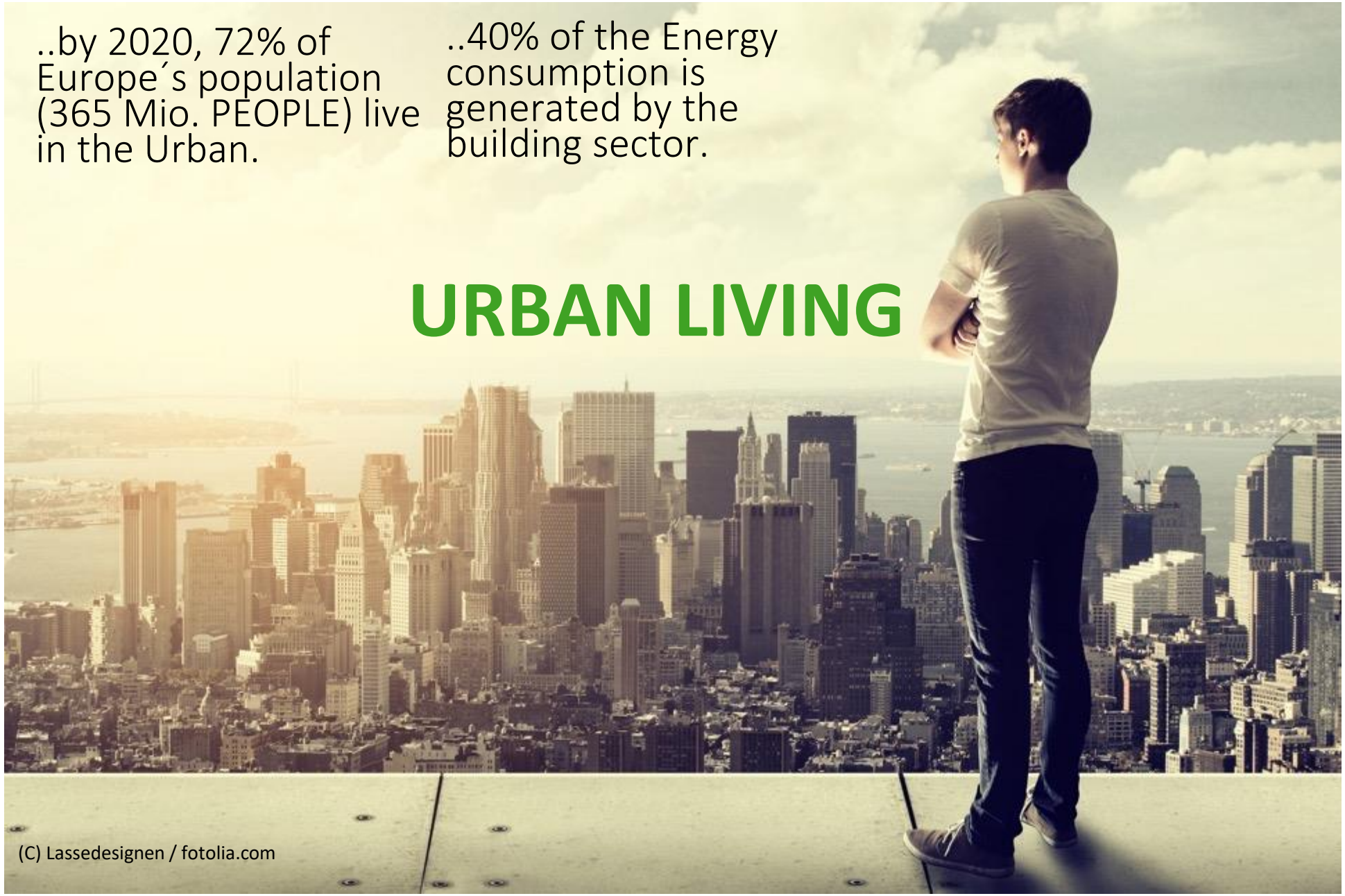
GRÜNSTATTGRAU Research and Innovation GmbH

https://gruenstattgrau.at

..by 2020, 72% of Europe´s population (365 Mio. PEOPLE) live in the Urban.

..40% of the Energy consumption is generated by the building sector.

URBAN LIVING



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URBAN CHALLENGE

- Urban **Stormwater**
- Urban **Heat Islands**
- Reduced **Air Quality** and high **Pollution Rates**
- Increased **Noise Pollution**
- Decreasing physical and mental **Health**
- Decreased **Biodiversity**
- Reduced **Quality of Life**

CLIMATE CHANGE- FACTS AUSTRIA

number of summer days will double in coming 100 years

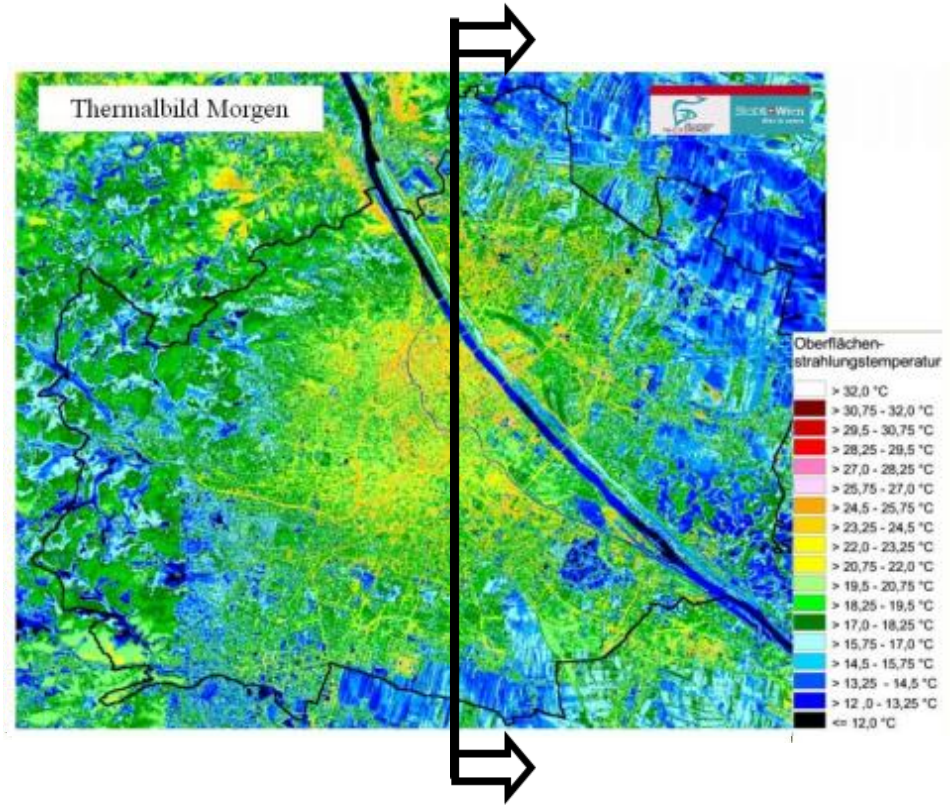
cooling energy demand will triple in 50 years

Map 6.6 Overview of macro-regions in Europe

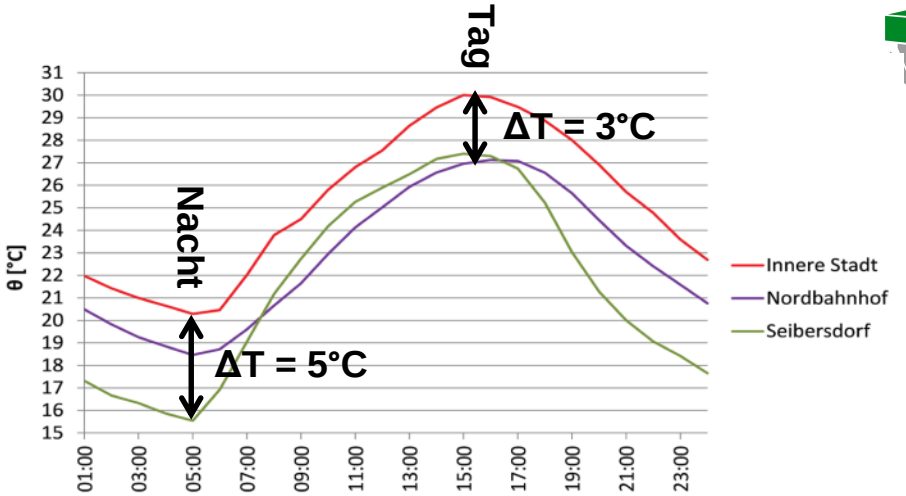
Note: The map broadly delineates various macro-regions in Europe that are covered by climate change impact assessments in this section. The map is provided for illustrative purposes only, and it does not intend to provide a legal definition of any of these regions.

Source: EEA.

Urban Heat Island VIENNA

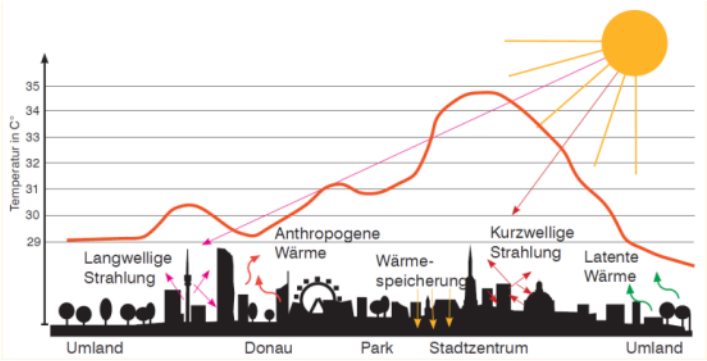


Thermal image *of Vienna and surroundings day / night. There is a noticeable difference between the urban agglomeration and the cooler rural areas*



Average hourly temperature distribution *on a given day in the summer of 2012 – pictured here are two selected areas in Vienna (see chapter 4) compared to a rural area in Seibersdorf*

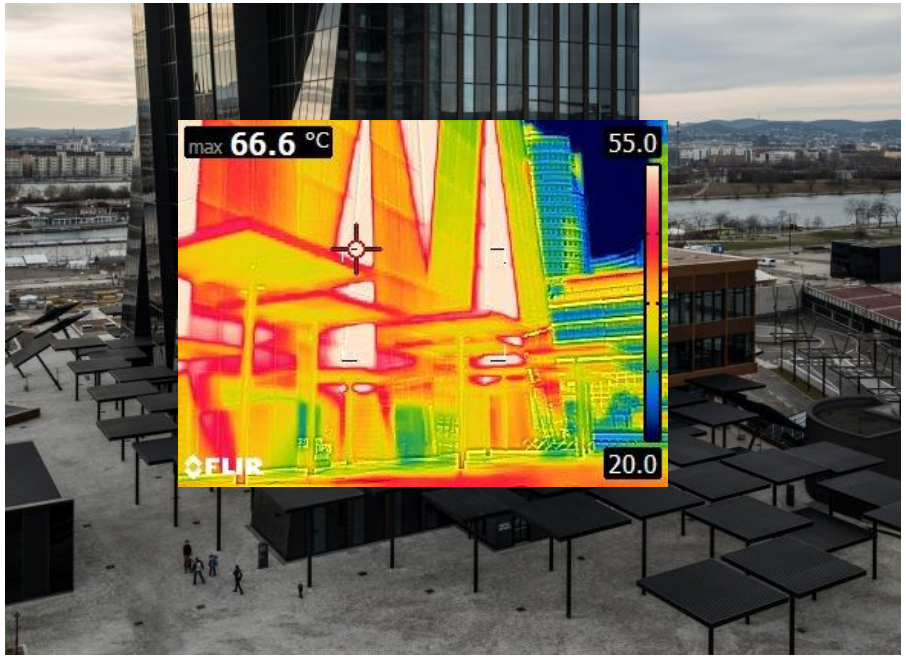
Source: Vienna University of Technology



Energiebudget der Stadt: UHI Effekt

Composed by: DI Jürgen Preiss, MA 22

URGENT NEED: Change in Paradigma



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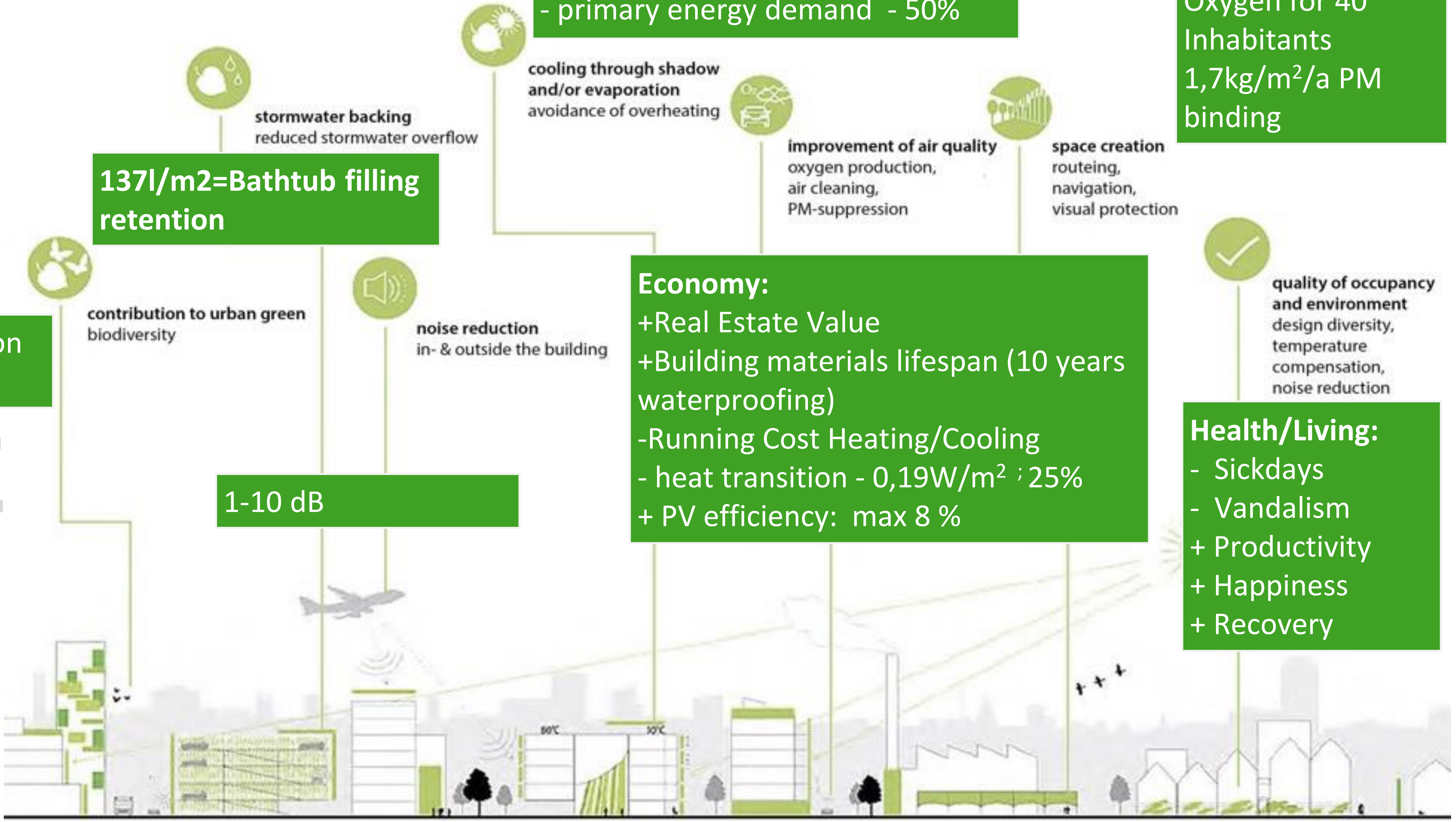
1. WATER
2. RADIATION
3. WIND

Composed by: DI Jürgen Preiss, MA 22

GREEN INFRASTRUCTURE BENEFITS

- 75 AC units (3000 W/8h)
- thermal Comfort: -13°C PET
+ thermal insulation: +10%
- surface temperature: - 20 °C
- primary energy demand - 50%

850m² Living Wall= Oxygen for 40 Inhabitants
1,7kg/m²/a PM binding



137l/m2=Bathtub filling retention

Over 30 Wildbee Species on one intensive green roof

1-10 dB

Economy:
+Real Estate Value
+Building materials lifespan (10 years waterproofing)
-Running Cost Heating/Cooling
- heat transition - 0,19W/m² ; 25%
+ PV efficiency: max 8 %

Health/Living:
- Sickdays
- Vandalism
+ Productivity
+ Happiness
+ Recovery

RESILIENT CITIES

Exa[illegible]le: [illegible]re[illegible] Imp[illegible]ct, ([illegible]y [illegible]oser Ja[illegible]obs AG 2015 and GRÜNSTATTGRAU 2018, baseline: MA 48)

Balancing building energy – reduce cost

AND - high quality of life & motivation to work, live, play,..

Example: Areal Impact, (by Pfoser N., Jakobs AG 2015)

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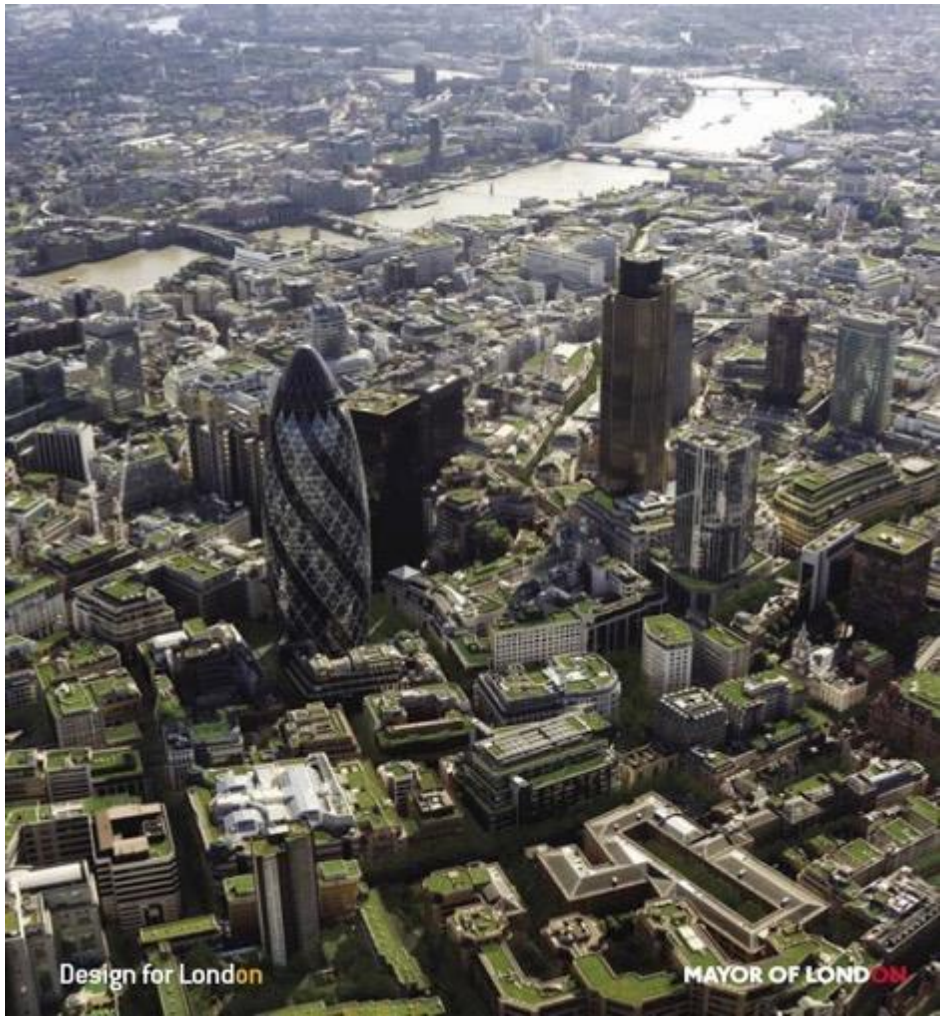
THE IMPLEMENTATION GAP

© VMware EMEA Blog

BARRIERS

-knowledge
-financials
-law/regulations
-low tech/cost
- technology
-complexity
-competition
-terminology
-…

USP and ACTIVITIES



BENEFIT

- INFRASTRUCTURE
- PLATFORM
- COMPETENCES
- AWARENESS
- NETWORK
- (DEMO-)PROJECTS

IMPLEMENTED GREEN CITY QUARTERS

MUGLI mobil.urban.grün.lebendig.innovativ.

MUGLI mobil.urban.grün.lebendig.innovativ.


ÖBB
Wien Hauptbahnhof

VIABILITY & SCALABILITY

(Demo)-Projects

20% of 1100 Vienna Kretaviertel potentials and further target cities areas

Upscale technologies & raise awareness

Infrastructure

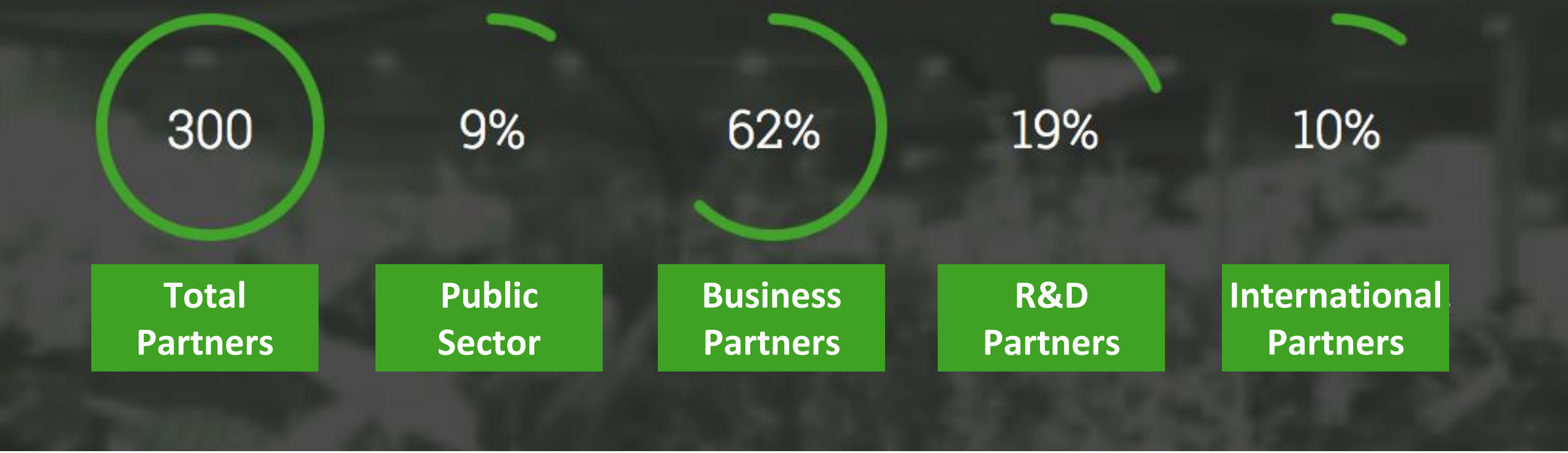
digital /physical

Services portfolio

(closing implementation Gaps)

strategic contacts & Co-Creation

(Business, External Advisory and Scientific Board)

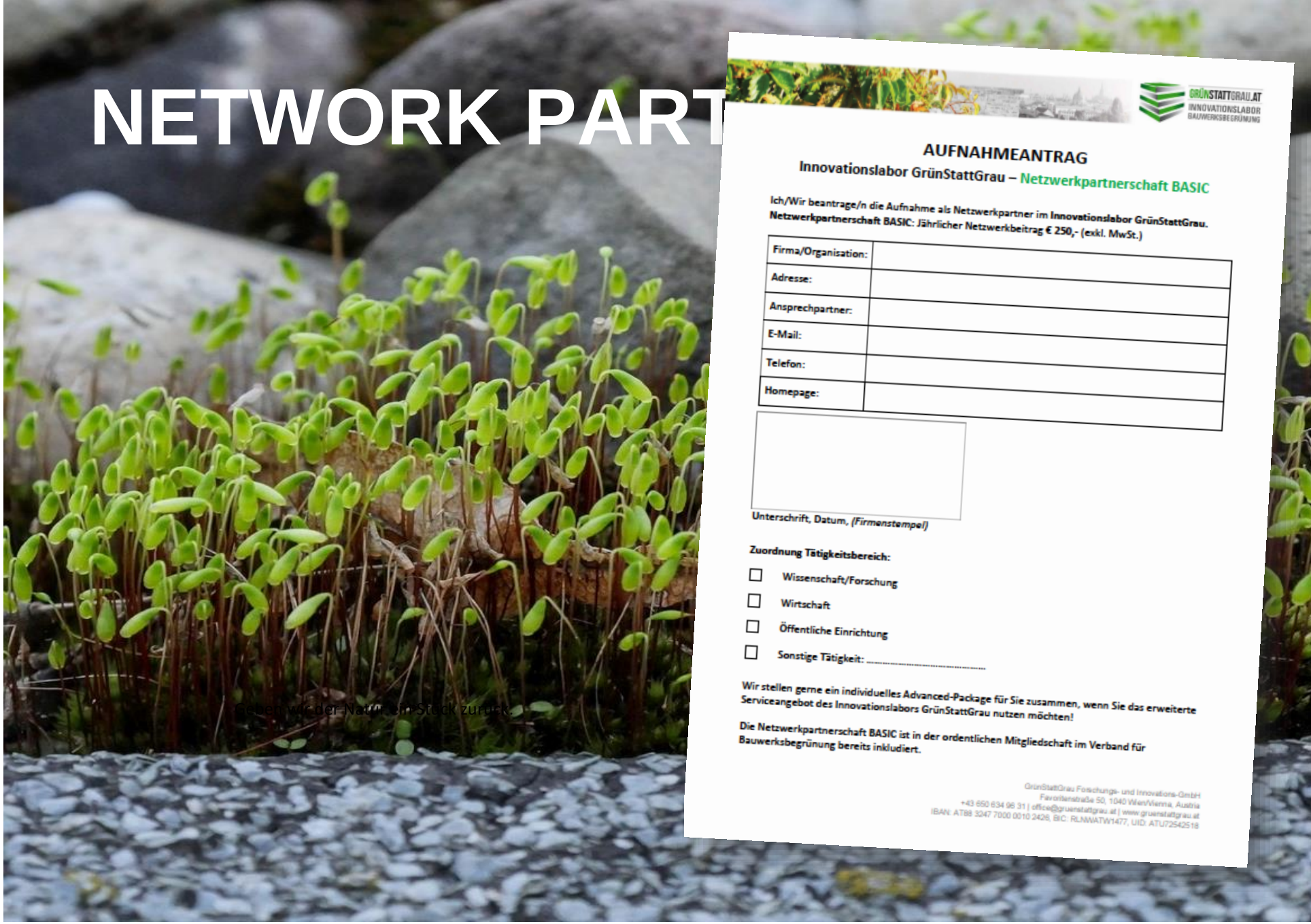


- **Large Enterprises** with their Real Estates and own customers located in european cities
- **SMEs** with excellent skills in interdisciplinary fields, looking for new market opportunities
- **Communities and Investors** that want to turn their cities into smart cities and promote green
- **Scientists** who have new approaches to services and technology development in this field

(TARGET)

NETWORK/MARKET

BECOME NETWORK PART



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PARTNERSHIP AS SUCCESS

BENEFIT

Access to new players and ideas, cooperative Demo-projects, share and use infrastructure, competence network, develop certification system for the European Market, generate system performance data, new strategic partners, innovation and awareness raising.

Susanne Formanek DI
Vera Enzi DI

Innovationslabor GrünStattGrau

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LEAD QUESTION MUMBLING ROUND ☺

Stakeholder-oriented Communication and a good set of arguments are the key element for re-naturing our cities.

Thinking of your largest/most important stakeholder groups, **what arguments do YOU consider the most important?**