30 Years of Integrated, Ressource-Efficient Urban Development in Graz – Lessons Learned

IEA Experts Group on R&D Prioritysetting and Evaluation (EGRD) – WS "Technologies and Innovations for the Climate-Neutral City"

12th May 2025, Vienna, Austria

Christian Nussmueller

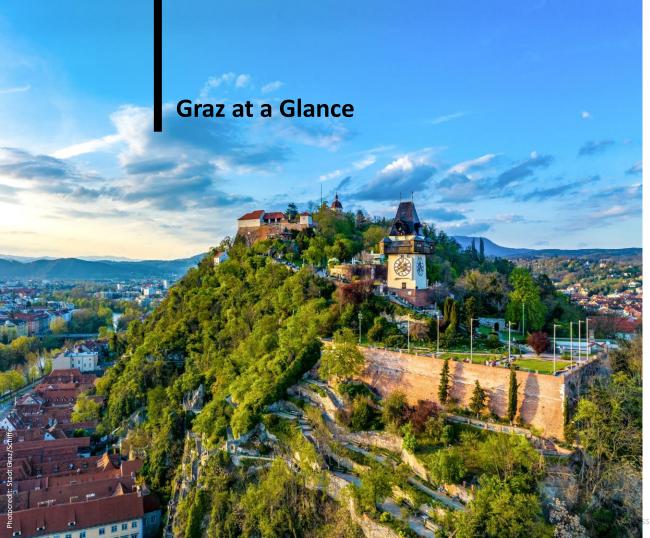
City of Graz
Executive Office for Urban Planning,
Development and Construction







- **Graz at a Glance Current Challenges**
- **30 Years of Integrated Urban Development in Graz**
- **Key Findings from Administrative Perspective**
- **Conclusions for R&D-Policies Supporting Urban Development**





Pop. 306.068 (Primary Residence per 01.01.2025)

City Area: 127,58 km² **68% Green Areas**

UNESCO World Heritage Sites Center (1999) Eggenberg Castle (2010)

Science and Education 4 Universities, 2 UoASc (+ 60.000 Students)

Culture & Design EU Capital of Culture 2003 City of Design (2011)



Facts & Figures

Vienna:

4.900

VIENNA

City of Graz: pop. 343.000

(306.000 primary + 37.000 secondary residence per 01/2025)

Non-self-employed workers: 127.000

(02/2025)

Overnight stays: 1.140.000

(year 2022)

Number of local companies: 17.400

(01/2025)

Province of Styria

UNESCO World Heritage **UNESCO** City of Design

4 Universities

2 Universities of Applied Sciences

2 Colleges

+60.000 Students

+ 4.000 new inhabitants

per year!

14 Scientific Centres of Excellence

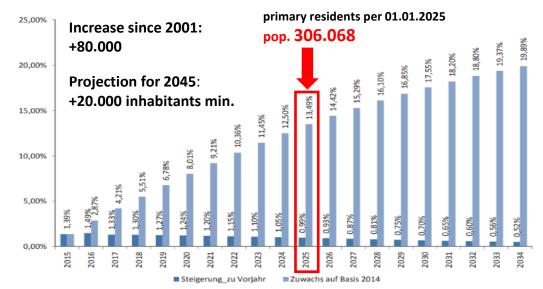


(Some) Current Challenges

#1 Dynamic Population Growth



#2
Rising Infrastructure
Costs, Social Sector
Costs, (affordable)
Housing, etc.





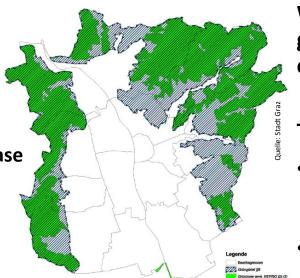
(Some) Current Challenges

#3 Limited **Settlement Area**

(white area in map)

+ continuous increase in population

Ressource saving inward development (densification and maintaining the quality of living in parallel)



Where/how can the city grow without loss of quality of life?

Total City Area: 127 km²

- thereof Green Belt: 1/2 restricted building potential (grey hatching)
- thereof **Green Zone**: 1/3 ≠ non buildable area (green)



15% MOBILITÄT ca. 2 t CO2e 18% KONSUM 2,3 † CO₂e 18% WOHNEN 2,3 t CO2e 2 t CO₂ Klima-ziel 25% FRNÄHRUNG 24%

Hitze-Vulnerabilitätsindex

(Some) Current Challenges

Solution Approaches

#4 **Climate Mitigation** (local GHG-Emissions reduction target: Net Zero until 2040)



Guiding principles of resource efficient urban development strategies in Graz



Technical and Processual Innovations (R&D)

Public Governance Levers:

Urban Development Concept,

Zoning Plan, Green Space

Factor, fostering brownfield

Development Contracts, etc.

developments, PPP Urban

Basis: Personnel & Financial Resources

#5 **Climate Adaption of** urban infrastructures







1995: Austria becomes a Member of the EU

Österreich in der EU



1997-2001: UPP e.l.m.a.s. Graz Jakomini



1st Integrated urban development project based on a master plan; funded by EU/ERDF; Initiation of partnerships between public, semi-private and private initiatives and institutions of the local economy and cultural scene;



Training and qualification measures to empower underprivileged local residents;







1996-2001: URBAN I Graz Gries

Improvement of living and working conditions in the deprived district Graz Gries following an integrated urban development masterplan

<u>55 implementation measures</u>: design of public space, green and blue infrastructure, revitalisation of public historic buildings, social soft measures, education and training, participatory approaches, etc.

EU/ERDF-funded

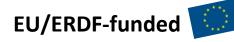




2000-2008: URBAN II Graz-West

Transformation of a formerly heavily industrialized urban area into a living environment of "new, sustainable urbanity"

Innovative mix of measures in the areas of R&D, education, culture, economy and residential, recreational and mobility sectors, citizen participation (>40 integrated sub-measures)









2012: Smart City Graz Strategy as integral part of the official binding Urban Development Concept Graz 4.0

- Overall objective:

 "... to become an energy-efficient,
 resource-conserving and low-emission
 city of the highest quality of life ..."
- Umbrella strategy integrating various sectors - integrated/holistic development approach
- Quadruple-Helix-Approach (government, academia, industry, community)





since 2013: District Development Smart City

Austria's 1st Smart City Lighthouse Project

funded by





since 2009: <u>District Development Reininghaus</u>

Smart City Graz Strategy:

Integrated Urban Development Approach

Focus on people and quality of life! (not only technology-oriented)







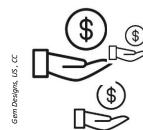
Key Findings from Adminstrative Perspective / Lessons Learned

<u>Integrated urban development – no end in itself!</u>

- Quadruple-Helix / PPP-collaboration models shall be seen as a key driver for innovative urban development (co-creation, co-financing)
- general aim:
 to <u>create win-win-situations</u> between public and private sector









Key Findings from Adminstrative Perspective / Lessons Learned

Integrated Urban Development:

- needs <u>systemic changes</u> in basic public governance approaches
- smart <u>horizontal integration</u> of different sectors/players
- as well as <u>vertical collaboration</u> of different governance levels
- focusing of main tasks of local politics and municipal administration:
 - a) balancing interests of different urban stakeholder groups
 - b) <u>prioritization</u> of administrative resources and public investments



Key Findings from Adminstrative Perspective / Lessons Learned

Integrated Urban Development:

- successful multi stakeholder processes need <u>more personnel resources</u> than simple "one fits all" processes!
- constant fight against the phenomenon of "Intrinsic Reproduction of Bureaucracy"! (inefficient self-administration, over-regulation, gold-plating, etc.)



Conclusions for R&D-Policies / Funding Schemes Supporting Urban Development

- R&D-projects which strive to include local public administrations need to be <u>application-oriented</u> and have to concretely <u>support</u> <u>municipal strategies</u> (quantifiable results)
- R&D-Community has to get a better, <u>realistic understanding</u> of:

 a) the complex systems of local urban development processes
 (different sectors, multi stakeholder, dependencies, sensitivities etc.)
 b) the "habitat of local public governance" (priorities, area of operations, possibilities, ressources, limiting factors, dependencies, sensitivities etc.)



Conclusions for R&D-Policies / Funding Schemes Supporting Urban Development

- local public administrations generally need <u>dedicated personnel</u> <u>ressources</u> to get empowered to make use of / cooperate in R&D- projects at all (good Austrian practise: Climate Neutral Cities-process – strategic alliance between federal level and cities)
- working for a better <u>acceptance of scientific activities</u> in the broad public (= political decision makers) - better explanation of the seeked benefits for society



Conclusions for R&D-Policies / Funding Schemes Supporting Urban Development

- Broader innovation concepts in terms of technological, systemic and social innovations that contribute to the progress of climate-neutral and resilient quarters, neighborhoods, and buildings
- R&D-funding schemes in general have to be set up attractive for public and private beneficiaries:
 - optimal balance between thematic flexibility and thematic focus
 - adequate financial incentives (funding rates and shares)
 - simplified implementation/administration efforts, etc.
- Streamlining and better strategic alignment of public funding (horizontally and vertically/Multi-Level-Governance)

Thank you for your attention!



Christian Nussmueller
City of Graz, Executive Office for Urban
Planning, Development and Construction

christian.nussmueller@stadt.graz.at www.graz.at

Linked inlinkedin.com/in/christiannussmueller

