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Enabling community action for energy sufficiency

Challenges of energy efficient refurbishment of urban areas

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insar PartG



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Structure


1. Challenges and strategy development
2. Project development
3. Approaches in Germany
4. Participation and co-creation

Challenges and strategy development



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Challenges are...

Climate
adaptation of
green spaces

Climate-friendly
heat supply

Availability of
space

Consumer
behavior

Climate-friendly
electricity
supply

Climate-neutral
mobility

Energy-efficient
building
refurbishment

Renewable
energies

...

**Many topics at
different levels and
competences**

Solutions...?

But which one is the most appropriate for my city?



Involved are...



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private house
and apartment
owners

municipal
administrations

technical service
providers for
energy and
mobility

tenants

(municipal)
housing
companies

social
institutions

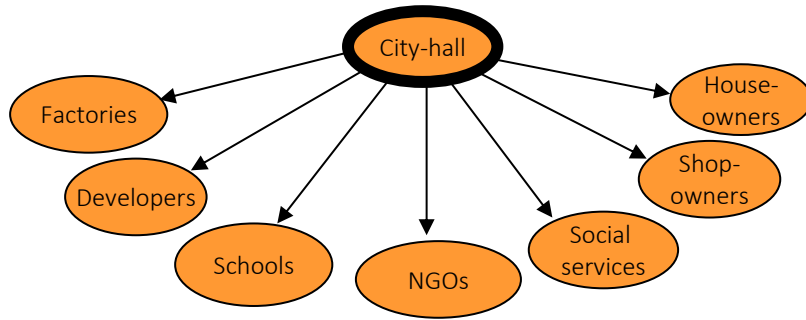
...

local politics

planning offices

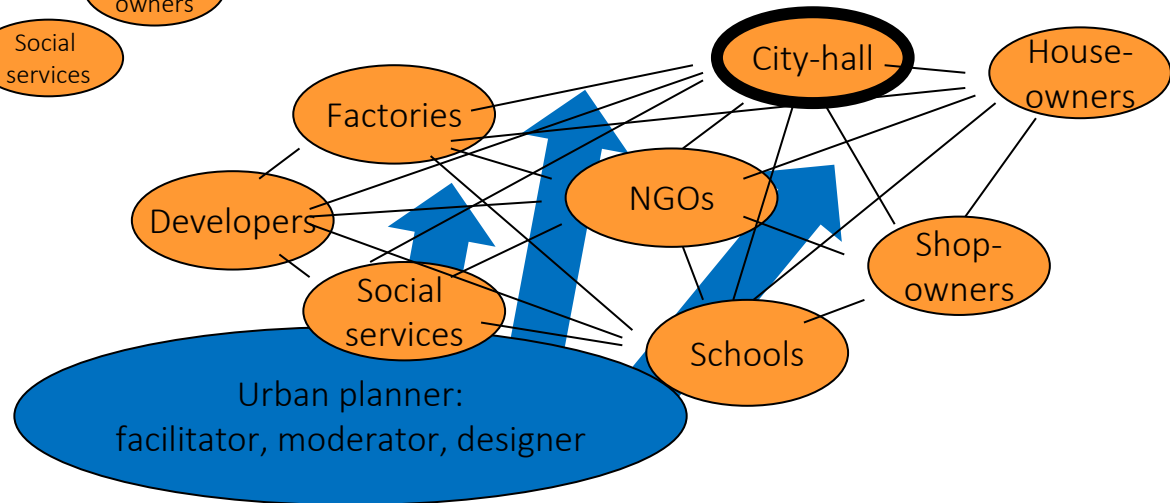
Many stakeholders!

How Integrated Urban Planning should look like



In the past it was an orchestra

today it is a „Jazz-band“



Strategy Development



Identification of the **most important challenges**

Focus on the **process** towards the goal, with 'milestones' and development phases

Complexity: areas of action, competencies, players, ...

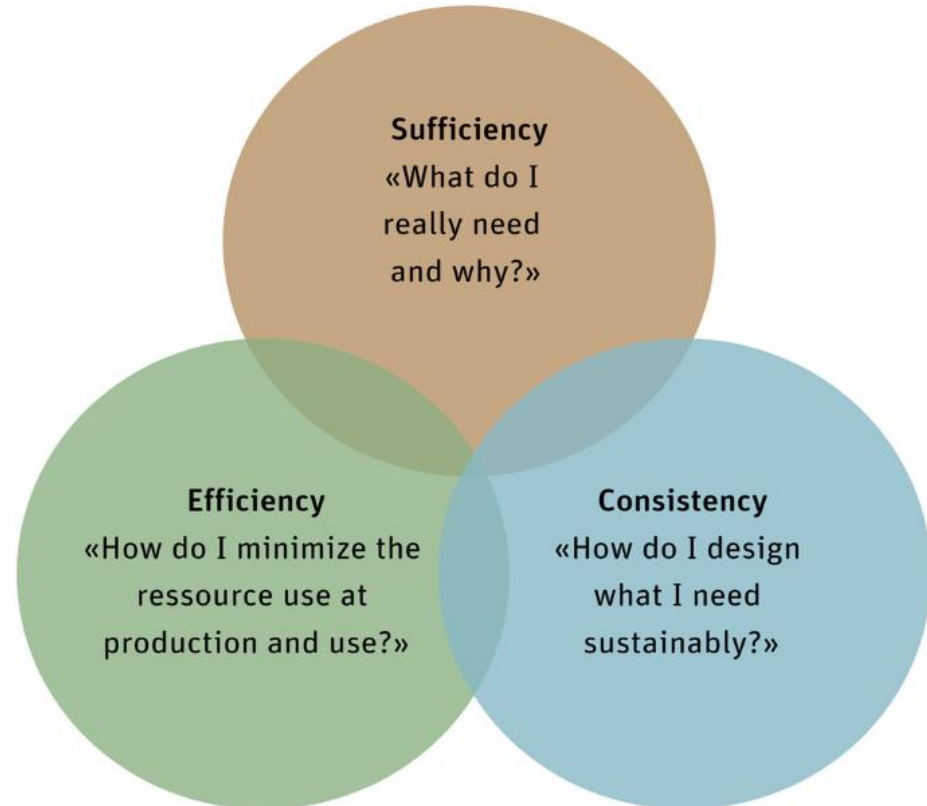
Involving the **various stakeholders**, understanding their motivations and interests

Selecting and using the **right instruments** - informal and formal

Acquisition of **funding opportunities** and agreement of partnerships

Sustainability – Efficiency, Consistency and Sufficiency

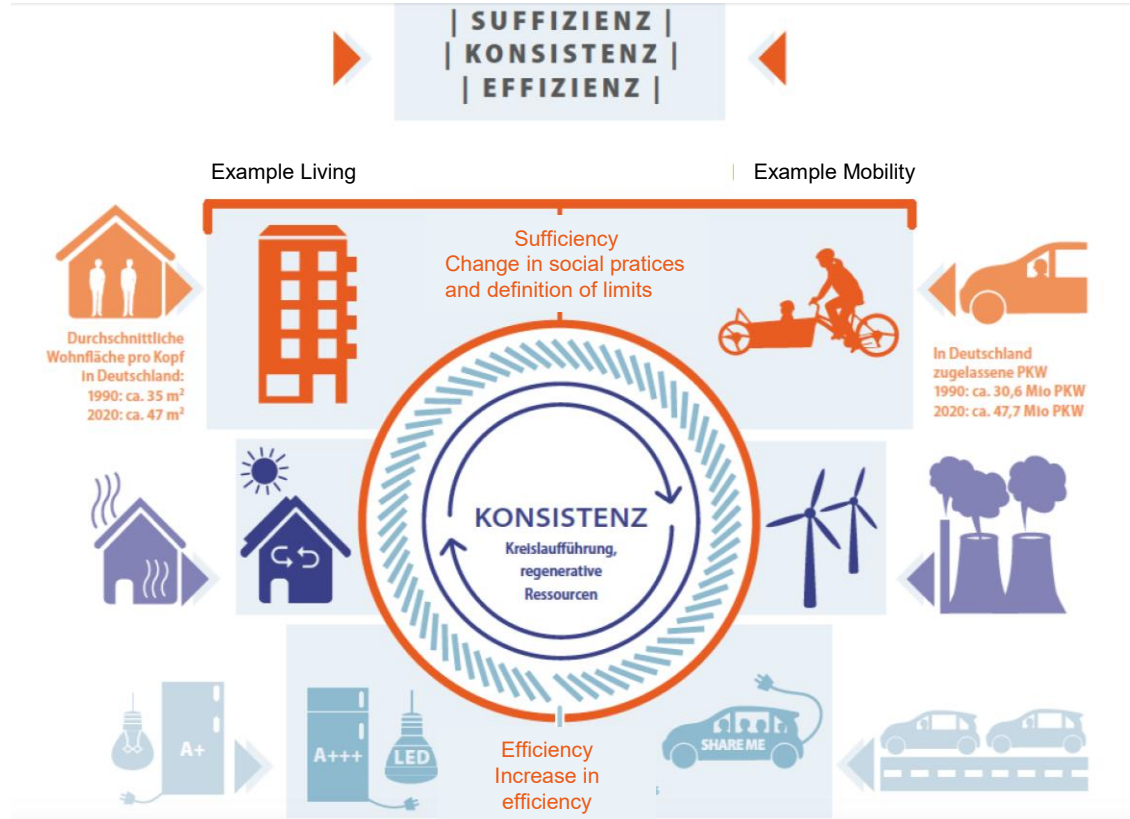
The sustainability strategy is
based on a triad of
efficiency, consistency and sufficiency



Sustainability – Efficiency, Consistency and Sufficiency



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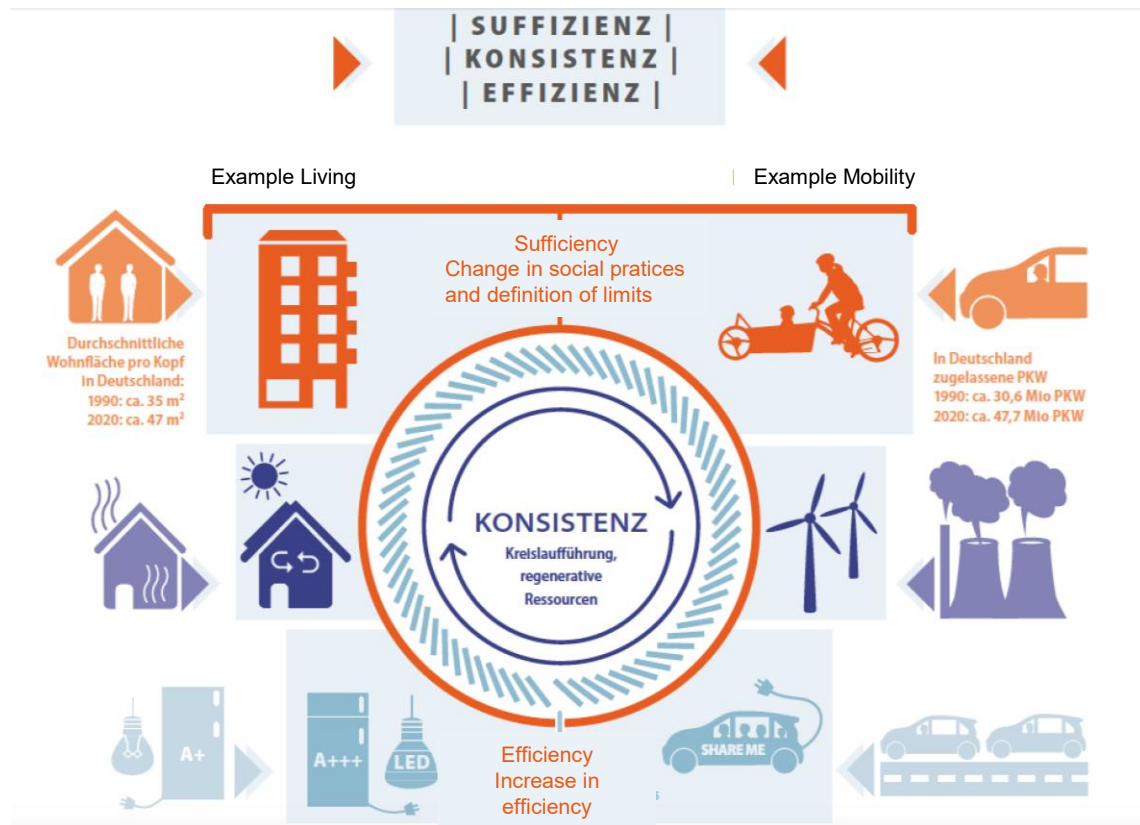
Source: Böcker, Maïke et.al.; Wie wird weniger genug, Suffizienz als Strategie für eine nachhaltige Stadtentwicklung; München 2020

Sustainability – Efficiency, Consistency and Sufficiency



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Source: Böcker, Maïke et.al.; Wie wird weniger genug, Suffizienz als Strategie für eine nachhaltige Stadtentwicklung; München 2020

Project development



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Urban management and integrated urban development

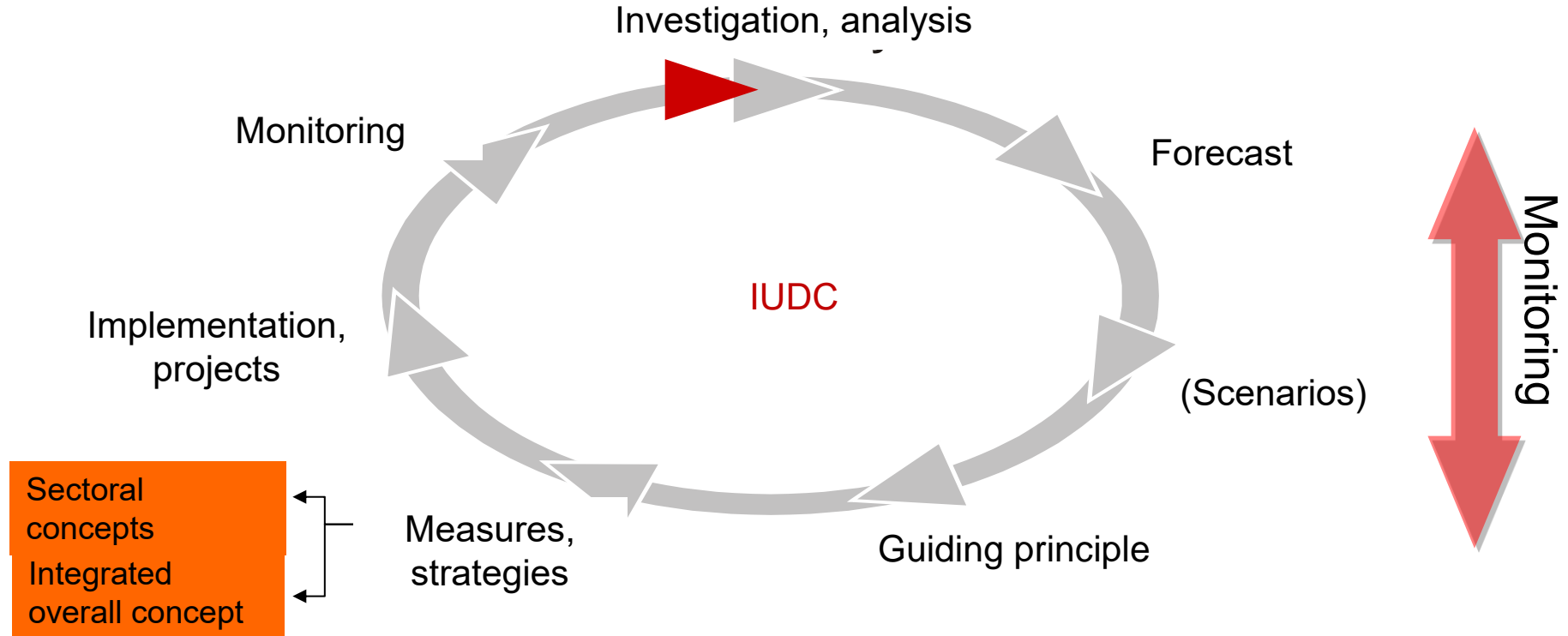
One aim of integrated urban development is the process of

The change from 'governing' to governance



Structure of an integrated urban development concept (IUDC)

The city is never finished, always in the making - in process'



How do I approach the process?

City management puts plans into action (van Dijk 2006)



Coordination
Planning
Enforcement
Monitoring
Maintenance

Process and
implementation

Urban management and integrated urban planning



Management process

Problem definition

Goal definition

Selection of planning tools

Decision making

Realisation / Implementation

Control

Urban development process

Analysis

Guiding principle

Planning

Scenarios, weighing up, formal + informal planning instruments

Measures

Evaluation, Monitoring

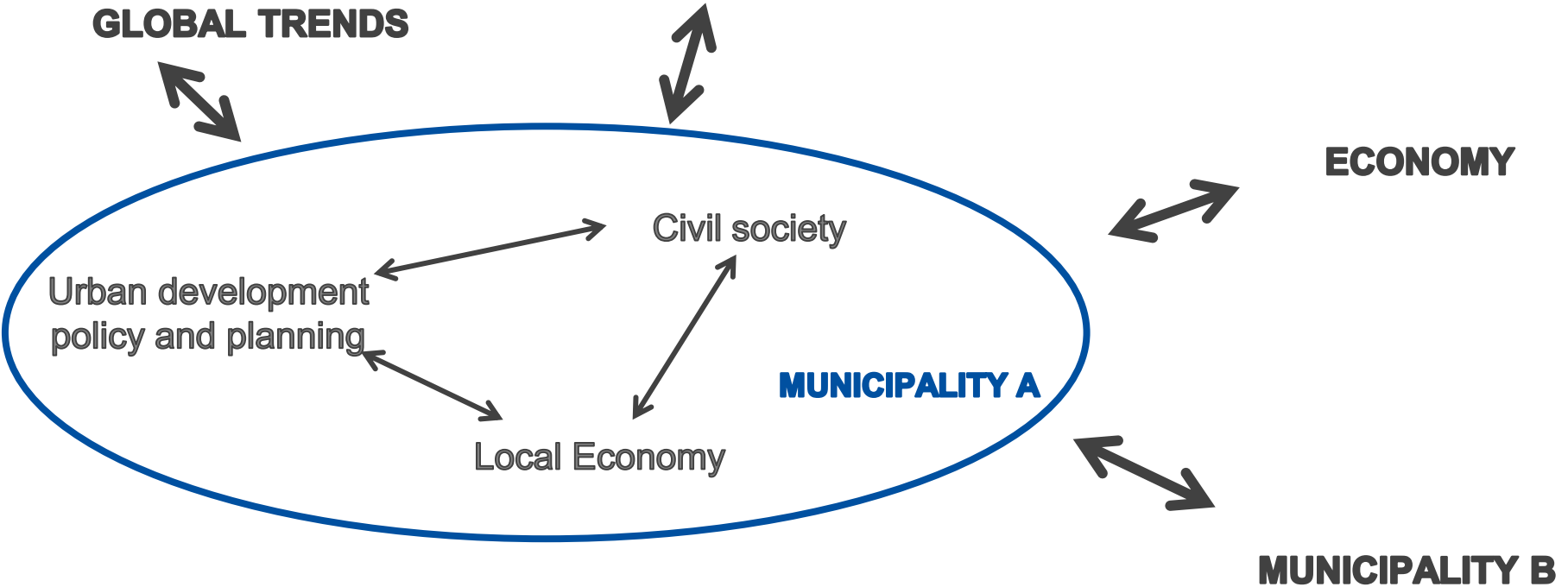
Cooperative planning

**NATIONAL AND
FEDERAL
POLITICS**



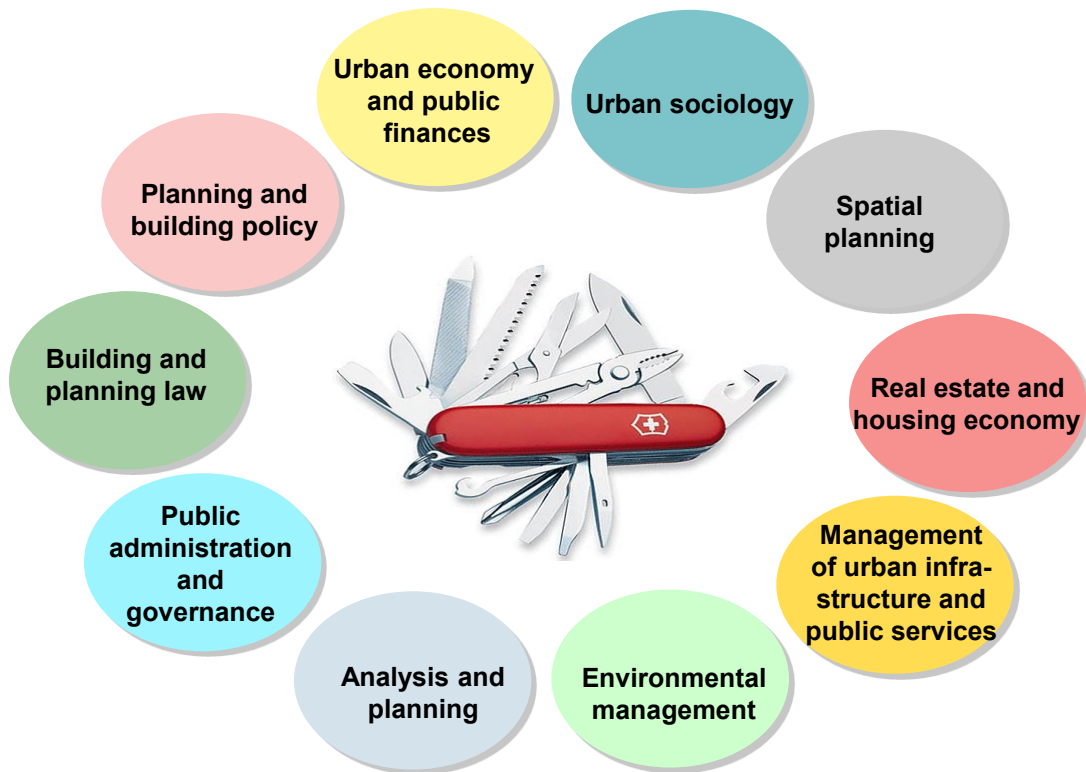
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GLOBAL TRENDS



Urban management

Urban management needs expertise, resources and partners from many sectors




Approaches in Germany

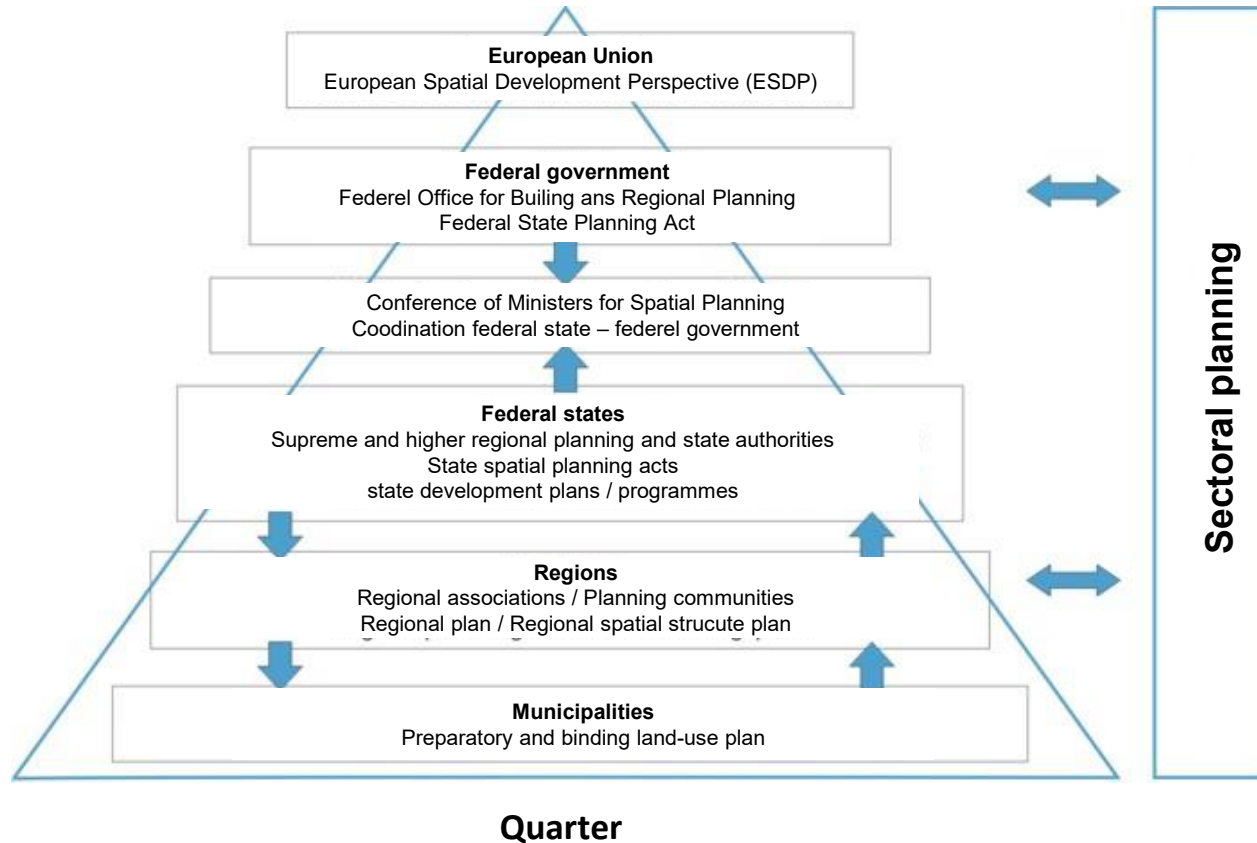


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Levels of planning



Städtebauförderung

Urban Development Support



Urban Development Support

Introduction

- Since 1971, Urban Development Support has been a key instrument of municipal policy and the implementation of the Leipzig Charter as an important source of funding for urban renewal.
- Five features:
 1. Cooperation between federal, state and local authorities
 2. Integrated planning of overall measures
 3. Flexible adaptation to requirements
 4. Participation of urban society
 5. Ongoing evaluation and further development of urban development support



**STÄDTEBAU-
FÖRDERUNG**

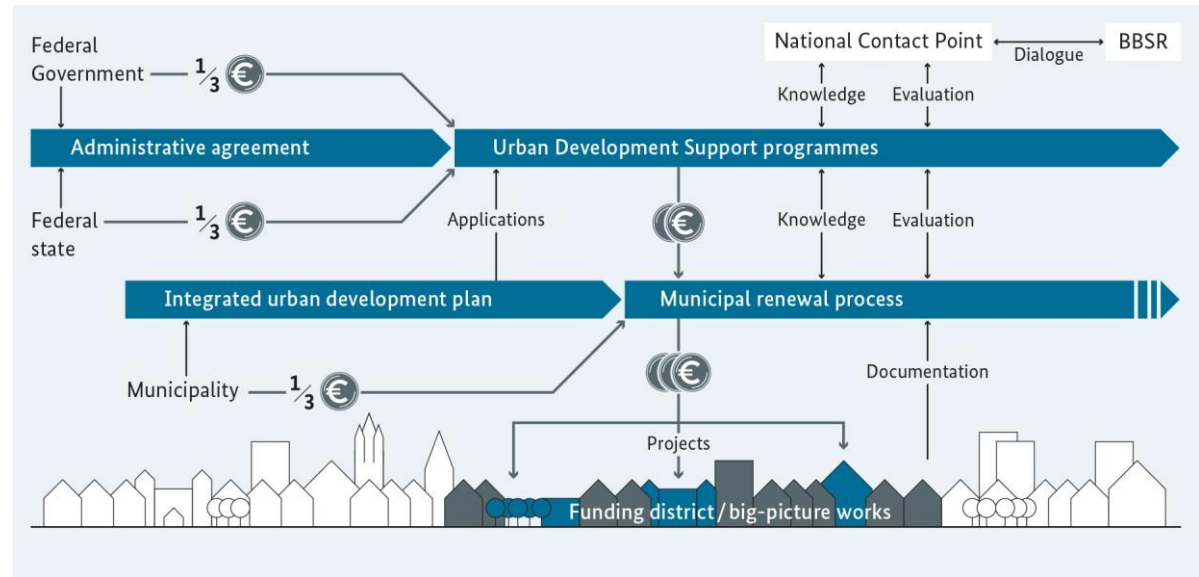
von Bund, Ländern und
Gemeinden

Source: <https://www.tag-der-staedtebaufoerderung.de/informationen/staedtebaufoerderung-zahlen-daten-fakten>

Urban Development Support

How it works

- Third-party funding by federal, state and local authorities.
- Annually renewed administrative agreement between the federal and state governments and definition of the funding programmes.
- Funding is not provided for individual projects big picture works.
- The municipalities have planning sovereignty. They determine a funding district and draw up an IUDP with participation of stakeholders. THE IUDC specifies objectives and measures as a prerequisite for inclusion in the programmes
- If the application is approved, the municipality receives the money from the federal and state governments and can implement projects in the district.

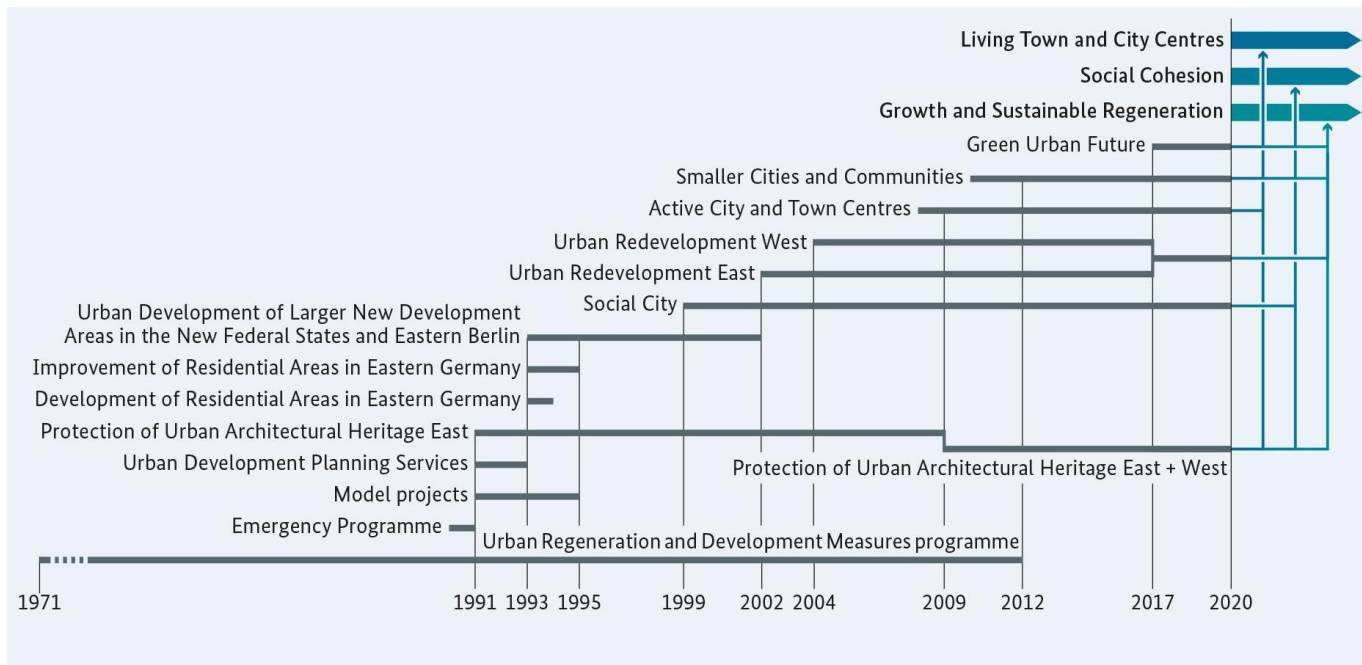


Source:
https://www.staedtebaufoerderung.info/EN/home/home_node.html;jsessionid=5E47587EBF01ED8AE25404D51FB8786B.live21322

Urban Development Support

Programmes in the past / today

Since the 2020 restructuring of urban development support, the many different programs have been bundled into three.



Source:
https://www.staedtebaufoerderung.info/EN/home/home_node.html;jsessionid=5E47587EBF01ED8AE25404D51FB8786B.live21322

Programmes of Urban Development Support



„Lebendige Zentren“ „Living Town and City Centres“

Objective: City and district centers are to be made more attractive and developed into identity-creating locations for living, working, business and culture (urban monument protection).

„Sozialer Zusammenhalt“ „Social Cohesion“

Objective: To increase the quality of living and quality of life as well as the diversity of use in the neighborhoods, to support the integration of all population groups and to strengthen cohesion in the neighborhood.

„Wachstum und nachhaltige Erneuerung“ „Growth and Sustainable Regeneration“

Objective: To support cities and municipalities in coping with economic and demographic change in areas affected by significant loss of urban development functions and structural changes.

Funding Districts

Use of programmes in spatially defined districts according to BauGB = German Building Code, thus anchoring as a legal instrument.

„Living
Town and
City
Centres“

Sanierungsgebiet § 142
BauGB, Erhaltungsgebiet
§172 Abs. 1 Nr. 1 BauGB or
Maßnahmengebiet § 171b, §
171 e oder 171 f BauGB

„Social
Cohesion“

Maßnahmengebiet §
171 e Abs. 3 BauGB,
Sanierungsgebiet §
142 BauGB or
Erhaltungsgebiet § 172
BauGB

„Growth and
Sustainable
Regeneration“

Stadtumbaugebiet § 171b,
städtebaulicher
Entwicklungsbereich § 165,
Sanierungsgebiet § 142 or
Erhaltungsgebiet §172 Abs.
1 Nr. 1 BauGB

Redevelopment procedure and Sanierungsträger

Sanierungsträger / Redevelopment agency

- = a company commissioned by the municipality to plan and implement the redevelopment measure.
- They usually act as 'trustees' for the municipality in accordance with § 160 BauGB.

Phase 1 Preparation

Vorbereitende Untersuchungen

(§ 141 Abs. 1 BauGB)

- Beteiligung der Betroffenen und der Aufgabenträger
- Schätzung zur Kosten- und Finanzierungsübersicht

Bestimmung der Ziele und Zwecke der Maßnahme

(§ 140 Nr. 3 BauGB)

Beginn der städtebaulichen Planungen

(§ 140 Nr. 4 BauGB)

- Erarbeitung eines Sanierungs- bzw. Rahmenplans

Abschätzungen zu den sozialen und wirtschaftlichen Auswirkungen, Bau- und Ordnungsmaßnahmen

(§ 140 Nr. 6 und 7 BauGB)

Förmliche Festlegung des Sanierungsgebietes, Erlass der Sanierungssatzung

(§ 142 Nr. 1 BauGB)

Phase 2 Realisation

Eintrag Sanierungsvermerk im Grundbuch

(§ 143 Abs. 2 BauGB)

Konkretisierung städtebaulicher Planungen, Aufstellung und Fortschreibung des Sozialplans

(§ 180 BauGB)

Ordnungsmaßnahmen (§ 147 BauGB)

- Bodenordnung
- Grundstückserwerb, usw.

Baumaßnahmen (§ 148 BauGB)

- Modernisierung und Instandsetzung
- Neubebauung und Ersatzbauten, usw.

Fortschreibung Kosten- und Finanzierungsübersicht

Ggf. Ablösevereinbarungen, Abgeschlossenheitserklärungen

Phase 3 Completion

Aufhebung der Sanierungssatzung

(§ 162 BauGB)

Erhebung der Ausgleichsbeträge

(§ 154 BauGB)

Löschung der Sanierungsvermerke in den Grundbüchern

(§ 162 Abs. 3 BauGB)

Management

There are fixed management structures for some programmes.

„Living
Town and
City
Centres“

City centre/ Centre management

Works on behalf of the local authority (e.g. redevelopment agency or planning office).

Task: the implementation of the IUDP. It networks stakeholders, initiates projects and controls processes.

„Social
Cohesion“

Quartiersmanagement / Neighbourhood management

Establishes horizontal and vertical networked cooperation between all local stakeholders.

Pools expertise and financial resources.

Low-threshold contact point on site in district or neighbourhood management offices.

„Growth and
Sustainable
Regeneration“

-

Disposal Funds

Municipalities can set up funds to increase the participation and involvement of those affected and for private-public cooperation in neighbourhood development. A local committee decides on the use of the funds.

„Living Town and City Centres“

Generally 50 % financed from
urban development support

+

At least 50 % from the economy,
property and location
associations, private or
additionally municipal

„Social Cohesion“

Up to 100 % financed by
urban development support

„Growth and Sustainable Regeneration“

Generally 50 % financed from
urban development support

+

At least 50 % from the economy,
property and location
associations, private or
additionally municipal

Energetische Stadtsanierung

Energy-Efficient Urban Redevelopment



Energy-Efficient Urban Redevelopment



Introduction

- Started in 2011 and expired by end of 2023
- Responsible: Federal Ministry of Housing, Urban Development and Building
- Background: The building stock accounts for approx. 40% of Germany's final energy consumption and approx. 30% of CO2 emissions. By 2050, the building stock is to be almost climate-neutral.
- Goal: The central goal of energy-efficient urban refurbishment is to initiate measures to increase the energy efficiency of buildings and infrastructure in the neighbourhood.

Fields of action

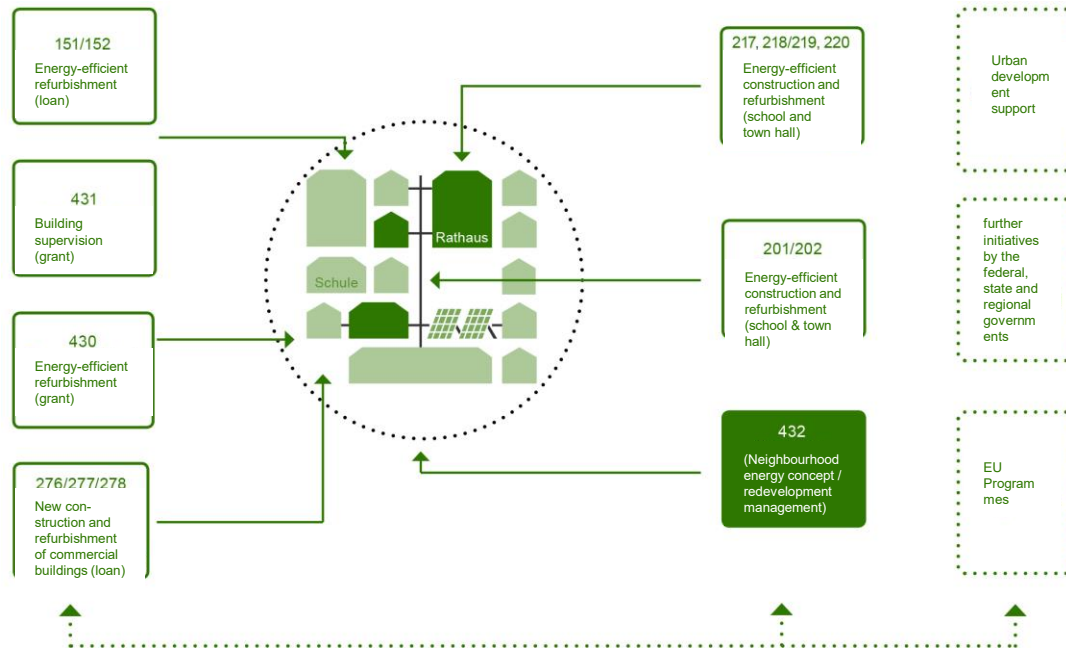
- Energy-efficient refurbishment of the building stock
- Energy-efficient heat supply
- Climate-friendly mobility
- Promotion of climate-conscious consumer behaviour
- Energy-efficient use of electricity
- Use of renewable energies
- Embedding in sustainable urban and regional development

Energy-Efficient Urban Redevelopment

KfW-Programm 432 “Energetische Stadtsanierung – Klimaschutz und Klimaanpassung im Quartier”

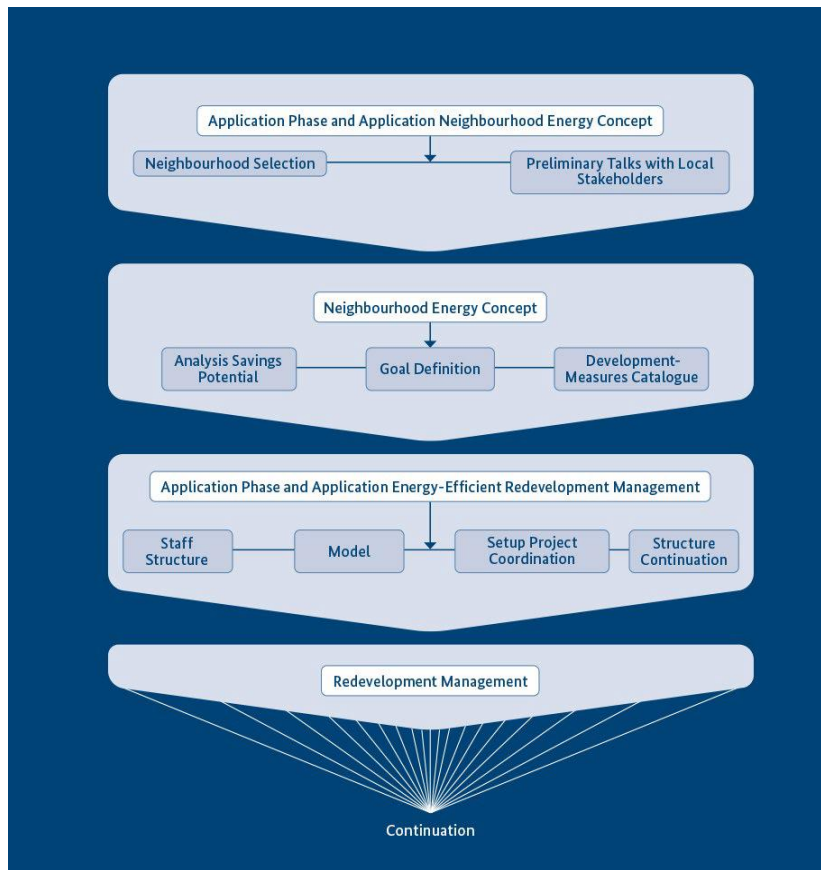
KfW-Programm 432 “Energy-Efficient urban Redevelopment – Climate Protection at the Neighbourhood Level”

- As an interface in neighbourhood development.
- Various measures and instruments from different funding programmes can be linked together.



Source.: <https://energetische-stadtsanierung.info/energetische-stadtsanierung/programmekfw/>

Programme Phases



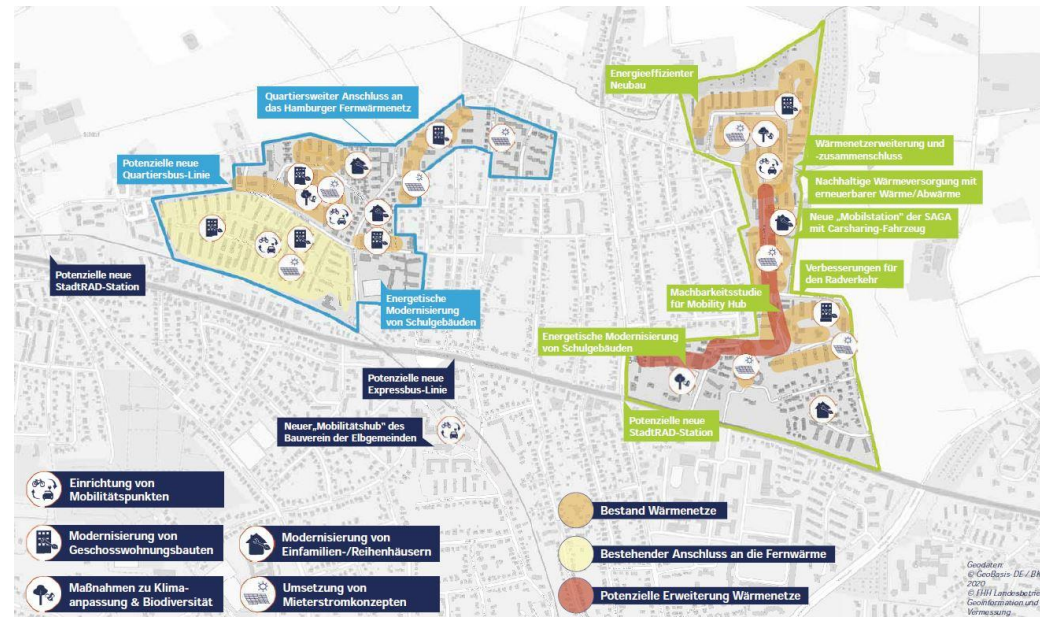
Two central elements

- **Integriertes Quartierskonzept**
Neighbourhood Energy Concept
- **Sanierungsmanagement**
Redevelopment Management

Integriertes Quartierskonzept – Neighbourhood Energy Concept

Integrated with a sectoral focus on energy efficiency

- KfW has funded the development of integrated neighbourhood energy concepts at 75% of the cost.
- As part of the concept, requirements for energy-efficient building refurbishment, efficient energy supply systems and the expansion of renewable energies are combined with demographic, economic, urban planning and housing issues.
- By involving all relevant stakeholders - citizens, the housing industry, private owners, tenants and energy suppliers – jointly supported approaches are possible



Source:

<https://www.hamburg.de/resource/blob/268084/90c21aa016981f136c4e1dba3c17dd2b/energetische-quartierskonzepte-download-data.pdf>

Neighbourhood Energy Concept

Components

Analysis of current situation and potential

Who consumes how much energy in the neighbourhood? How efficient are the energy infrastructure and supply networks? Where is the potential for saving energy and increasing efficiency?

Concept of action

Which goals will be achieved by when? What specific measures are planned?

Costs and financing

What costs can be expected? What does the financing concept look like?

Performance monitoring

How is it checked whether the desired goals are being achieved? How are quality objectives safeguarded during implementation?

Implementation strategy

What strategies should be used to drive implementation in the short, medium and long term? How will the stakeholders be mobilised and integrated into the strategy?

Information, counselling and public relations work

How can the relevant partners be activated? What information, counselling and public relations measures are required?

Sanierungsmanagement – Redevelopment Management

Task

- Based on an Neighbourhood Energy Concept, Redevelopment Management has the task to...
 - plan the implementation process
 - be available as a contact point for questions regarding financing and funding
 - initiate individual process steps for the overarching co-operation and networking of important players
 - coordinate the players' refurbishment measures
 - initiate measures for monitoring and success control.

Sanierungsmanagement - Redevelopment Management

Execution of management task

- KfW has subsidised the personnel and material costs of renovation management for a maximum term of 3 years to 5 years (up to 75 % of the costs).
- The task of Redevelopment Management can be performed by:
 - Employees of a municipality or a municipal company who are released from their duties or additionally employed for the project.
 - The body responsible for urban redevelopment (or other authorised parties within the meaning of the administrative agreement on urban development support).
 - Planning associations, e.g. from urban planning, engineering or architectural offices.

Kommunale Wärmeplanung

Municipal Heat Planning



Municipal Heat Planning

Introduction

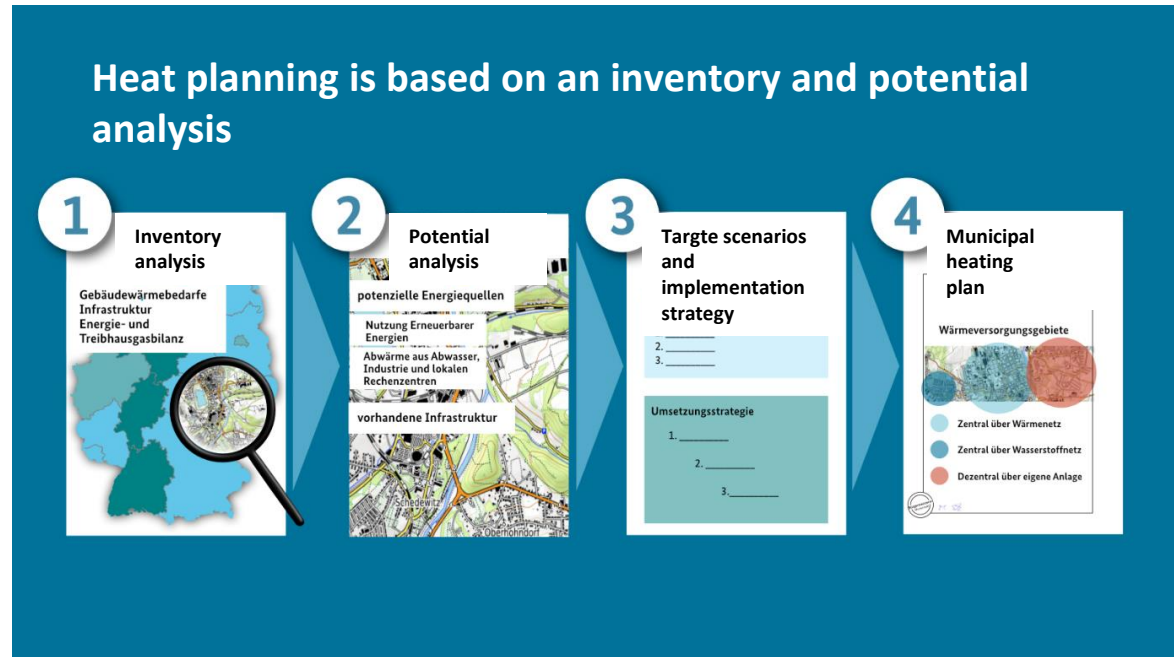
- The 'Heat Planning and Decarbonisation of Heating Networks Act' (Heat Planning Act / Wärmeplanungsgesetz) came into force on 1 January 2024.
- Goal: to determine the best and most cost-efficient way to achieve a climate-friendly and progressive local heat supply.
- Background: around 80 per cent of heating demand is currently covered by fossil fuels. Current figures: 50 % gas, 25 % heating oil, 14 % district heating (also predominantly supplied by fossil fuels).
- The act forms the legal basis for **systematic area-wide heat planning throughout Germany**.

Kommunale Wärmeplan – Municipal Heating Plan

Obligation: Municipal areas with > 100,000 inhabitants have to have a heating plan by 2026 and smaller ones by 2028 drawn up.

Task: Strategically plan showing which areas are to be supplied with decentralised or grid-based heat and how renewable energies and unavoidable waste heat can be used in generation and distribution.

Financial support for the initial preparation of heat plans by the federal government (budget of 500 mio. €) which are passed on to local authorities.



Wärmenetze – Heating Networks

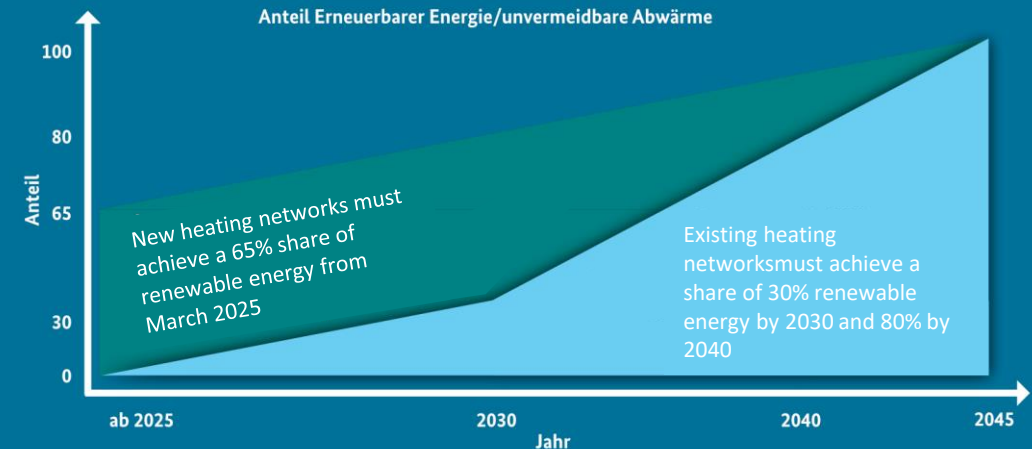
Gird-based heat supply

Heating networks can be a flexible and particularly cost-efficient solution for supplying heat to communities or neighbourhoods:

- heat demand from a central source without the need to install new individual heating systems.
- integration of various renewable energy sources and unavoidable waste heat (industrial plants and data centres).

Low expansion status: 30% of households connected to heating networks in eastern and 10% in western Germany.

The Heat Planning Act regulates until when heat must be supplied from renewable energies and unavoidable waste heat

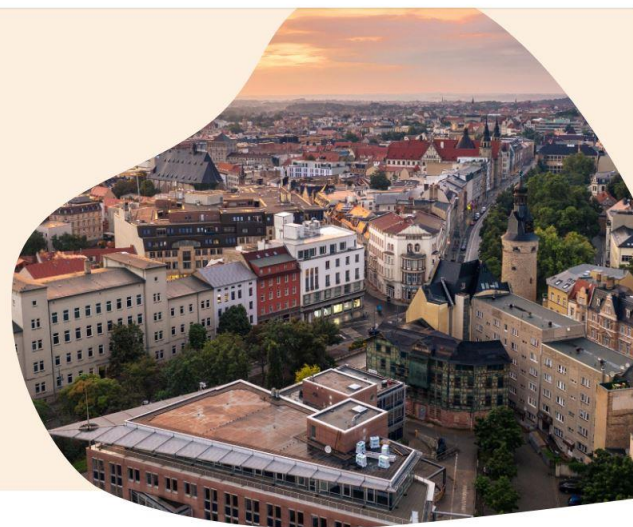


Gemeinsam gestalten wir die Wärmewende.

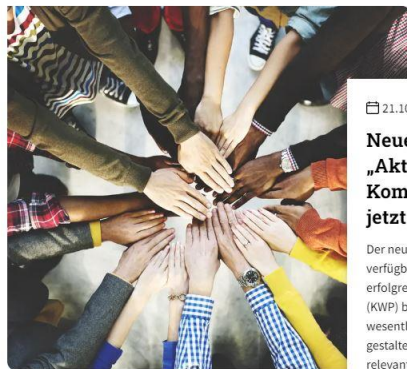
Herzlich willkommen auf der digitalen Plattform des Kompetenzzentrums Kommunale Wärmewende (KWW).

Auf unseren Seiten finden Sie die Informationen und Unterstützungsangebote, die Sie auf dem Weg zur Kommunalen Wärmeplanung (KWP) voranbringen - ganz gleich, ob Sie in Ihrer Gemeinde ganz am Anfang stehen oder im Wärmewendeprozess schon vorangeschritten sind.

Aufbauend auf einer breiten Wissensbasis stellen wir Ihnen Beratungsmaterialien zum Prozess der KWP, zu Technologien oder gesetzlichen Rahmenbedingungen zusammen. Wir geben konkrete Einblicke in die Praxis, halten Sie auf dem Laufenden und laden Sie in unser KWP-Netzwerk ein sowie zu Weiterbildungen und Veranstaltungen.



KWW-News



📅 21.10.2024

Neuer KWW-Leitfaden „Akteursbeteiligung in der Kommunalen Wärmeplanung“ jetzt verfügbar

Der neue Leitfaden zur Akteursbeteiligung ist nun verfügbar. Er informiert darüber, wie Fachakteure erfolgreich an der Kommunalen Wärmeplanung (KWP) beteiligt werden können. Dies trägt wesentlich dazu bei, die KWP erfolgreich zu gestalten, gesellschaftliche Akzeptanz zu sichern und relevante Kompetenzen frühzeitig zu bündeln.

Recap



Energy efficient neighbourhoods



Multi...Approaches

- Level
- Layered
- Stakeholder
- Measures

Processes, Not Solutions!

Active management as fundamental part of planning processes and implementation strategies!



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Participation and co-creation



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What is Participation?

Relevance

- No integrated planning without participatory approaches / formats
- Mandatory task in all relevant funding schemes

Definition

- Participation comes from the Latin "partem capere" = to take part in.
- Means active participation of citizens in political decision-making processes.
- Klaus Selle formulates the entire planning process "from problem definition to implementation of the solutions found" as a communication task.

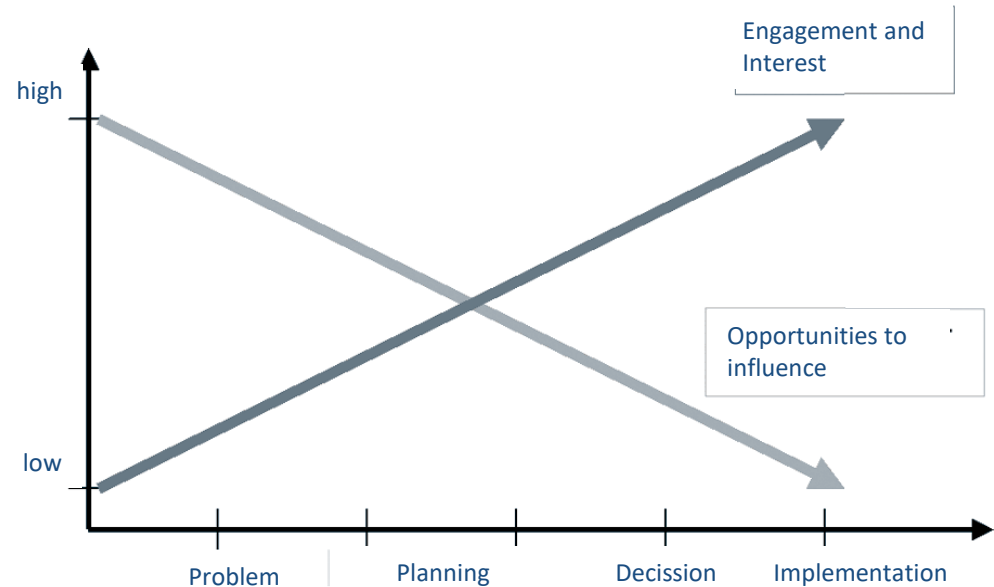
The Participation paradox

Relationship between politics and the public

- Politics implements urban development as a field of action
- Policy is implemented through administrative action and administrative action makes policy advice
- many other actors involved: urban planners, architects, etc. on behalf of private or public initiatives.

Where should and can citizens contribute to this process and make urban development an interplay between administration and the public?

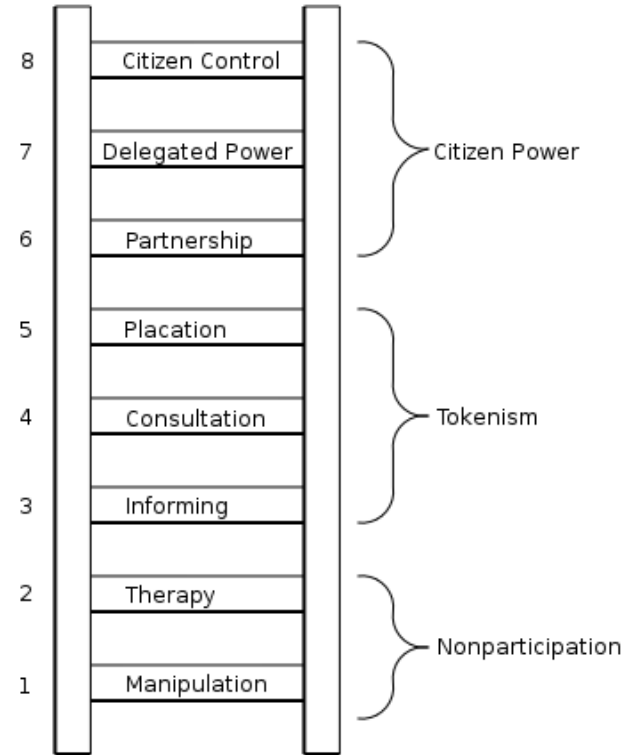
The Participation paradox



From information to participation

Ladder of Citizen Participation“ (Arnstein, 1969)

- Sherry Arnstein starts from the extent of actual participation (intensity)
- there is not only "participation or no participation", but different gradations
- conscious planning: which level should be reached with the project?
- "Ladder of Participation": suggests a tiered arrangement of participation, but cooperative urban development is an overall process!



Participation formats

Participation is not a stand-alone task and needs a coherent strategy

Important aspects in participation design

Moderation?

Expertise and technical knowledge?

Process design?

Occasions, planning types?

Addressing target groups appropriately?

- Who? How? How many?

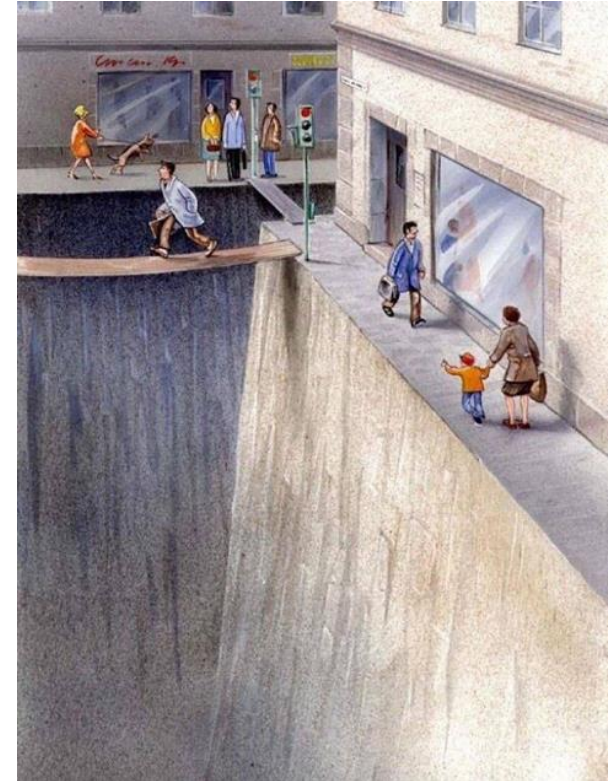
Selection of a suitable participation procedure

Urban planning is always a communication task!

The Challenge: Multiple perspectives on cities

Sustainable urban development involves conflicting goals

- System changes contain conflict potential
- Enabling negotiation processes with a variety of actors
- Making change processes understandable and tangible



Source: <https://twitter.com/urbanthoughts11>

The need: Co-Creation

Spatial-administrative boundaries and sectorally organized governance structures no longer do justice to today's realities and challenges

Dissolving institutional barriers and building cooperative structures

- To map the complexity of the problems in the corresponding diversity of actors.
- Enable citizens and other actors to participate in shaping and producing public values.
- Create low-threshold ways of active participation that tap local knowledge and creativity and make them usable in innovation processes.

Closing remarks

- Participation is neither an end in itself nor a panacea
- Participation needs commitment and promotion of ownership
- Participation uses local knowledge resources: Flexible integration of stakeholders and everyday experts
- Participation requires a clear formulation of goals while at the same time being open to results.
- The art of making: visualizing, experimenting, discarding, penetrating.
- Participation enables work at eye level
- Participation is costly: The price of solution quality and output



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Thank you!