

PRINCIPLES OF URBAN RESILIENCE AND MATRIX OF MEASURES

FIELDS OF ACTION

Urban Structure

Mobility

Open Spaces

Safety

PRINCIPLE OF URBAN RESILIENCE

REDUNDANT
Same functions are provided multiple times, so that spare capacities are kept free to be able to react to unforeseeable risks and access them if necessary.

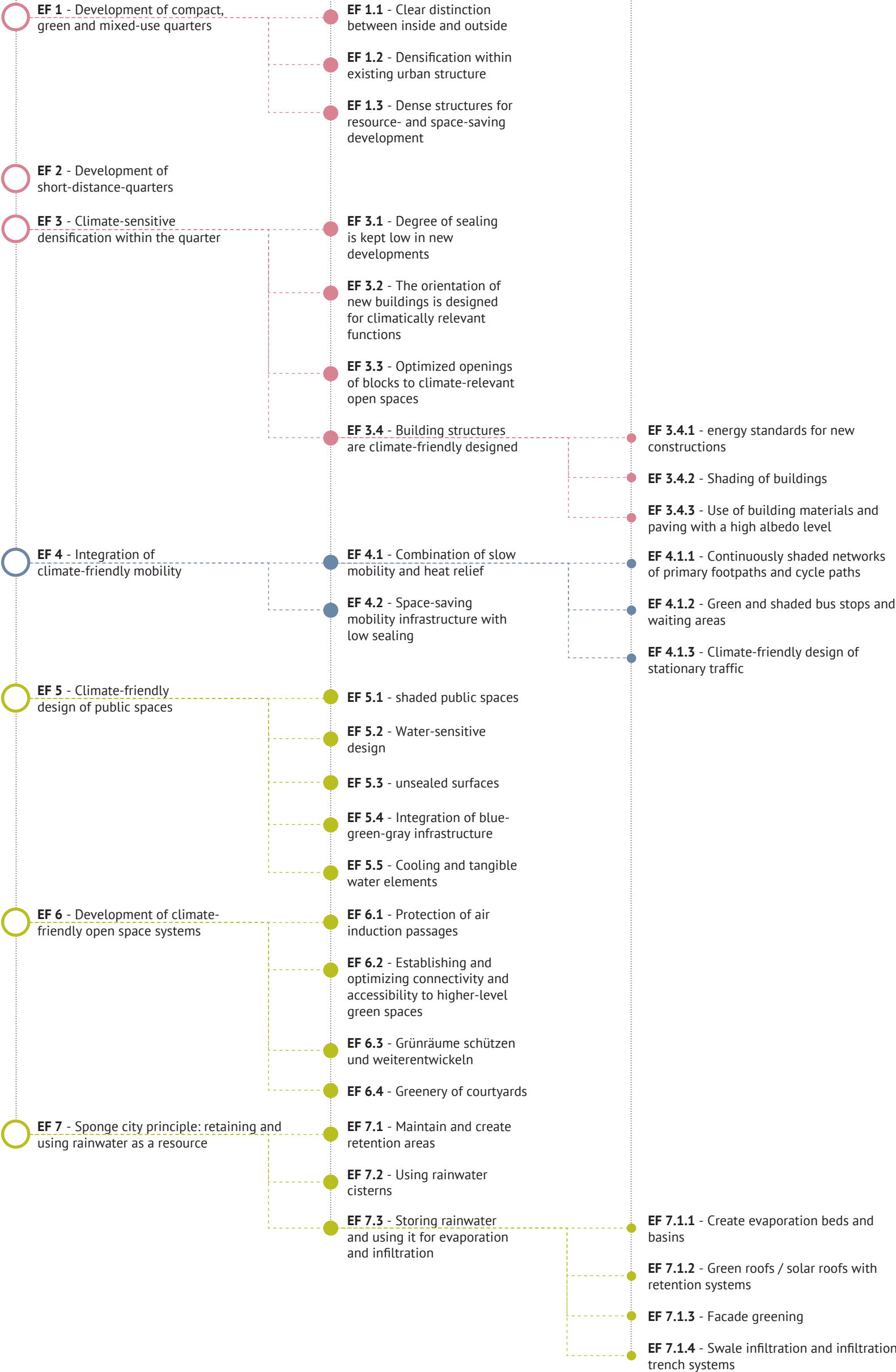
GUIDELINES ON QUARTER-LEVEL

- RE 1 - Identify, check and preserve spatial back-ups
- RE 2 - Double-structures for emergency-/ evacuation-roads
- RE 3 - Redundant retention areas
- RE 4 - Implementation of multiple power supply circuits

MEASURES ON BLOCK-LEVEL

MEASURES ON PLOT- AND BUILDING -LEVEL

EFFICIENT
Spatial functions are planned in a space-saving manner or embedded in existing structures, resulting in efficient spatial structures



PRINCIPLES OF URBAN RESILIENCE AND
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PRINCIPLE OF URBAN
RESILIENCE

ROBUST
Robust systems take precautions, are self-sufficient in an emergency and overcome crises independently.

GUIDELINES
ON QUARTER-LEVEL

- RO 1 - Self-sufficiency through circular quarters
- RO 2 - Strengthening the building stock to create stable urban structures
- RO 3 - Urban identity as a strength
- RO 4 - Clear hierarchies of streetscapes and squares
- RO 5 - Preserving landscape-heritage
- RO 5 - Developing open spaces into a robust framework of a city/quarter
- RO 6 - Development of urban-/vertical agriculture
- RO 7 - Developing and maintaining a safe grid of reachable shelter and bunker
- RO 8 - Implement heavy rain precautions

MEASURES
ON BLOCK-LEVEL

- RO 2.1 - Defining spaces due to ownership and responsibility
- RO 2.2 - Development of robust typologies
- RO 3.1 - Urban and architectural heritage is protected and preserved as a cultural asset
- RO 3.2 - Urban heritage buildings are subject to special protection
- RO 3.3 - Cautious design of historically significant zones in a city
- RO 7.1 - Securing and developing water-dominated cultural landscapes
- RO 7.2 - Qualify water bodies and banks as retention areas
- RO 7.3 - Route drains via emergency waterways
- RO 7.4 - Protect objects
- RO 7.5 - Avoid substructures / basements
- RO 7.6 - Integration of warming- and water-self-sufficiency

MEASURES
ON PLOT- AND BUILDING -LEVEL

- RO 7.2.1 - Develop near-natural shoreline areas
- RO 7.2.1 - Renaturation of water bodies
- RO 7.4.1 - Permanent / mobile protective devices
- RO 7.4.2 - Backsplashes
- RO 7.4.3 - Preventive planning

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PRINCIPLE OF URBAN RESILIENCE

FLEXIBLE
Flexible systems can change, evolve and adapt to changing circumstances

GUIDELINES ON QUARTER-LEVEL

- FL 1** - Development of polycentric structures
- FL 2** - Planning flexible building structures and transforming existing ones
- FL 3** - Flexible design of public spaces
- FL 4** - Diverse scales of public spaces
- FL 5** - Establish modular / decentralized infrastructures (water, electricity, gas or telecommunications networks) to prevent cascading incidents.
- FL 6** - Development of a healthcare-grid
- FL 7** - Qualifying suitable building structures to shelters

MEASURES ON BLOCK-LEVEL

- FL 1.1** - Polycentric structures have to be equipped with daily needs on a local scale
- FL 1.2** - Polycentric structures are/ can be embedded in a hierarchical networkof different scales
- FL 1.3** - Decentralized supply
- FL 1.4** - Equip and develop quarter centers as anchors of a neighborhood with everyday amenities
- FL 2.1** - Activating vacancies through pop-ups, temporary uses and conversions
- FL 2.2** - Transformation of socialistic structures into hybrid blocks
- FL 2.3** - Transforming conflict-loaded urban and architectural heritage into new typologies
- FL 3.1** - Mobile urban furniture for a more flexible design of public squares, streets and green spaces
- FL 3.2** - Transforming parking spaces into parklets
- FL 7.1** - make existing infrastructures accessible as safe spaces: metro, existing bunker, basements of public buildings
- FL 7.2** - Transformation of publicly accessible buildings into shelter in case of emergency
- FL 7.3** - During an unexpected attack, a city quickly converts schools and community centers into emergency shelters and medical facilities to accommodate displaced residents.

MEASURES ON PLOT- AND BUILDING -LEVEL

DIVERSE
Urban systems are less vulnerable to disruptions when different alternatives and choices are provided. Diversity enables a faster response to crises and the ability to adapt to new conditions..

- DI 1** - Establish multifunctional and diverse (sub-) centres
- DI 2** - Mixed-used mobility-Hubs in different scales
- DI 3** - Provide a diverse and integrated mobility mix
- DI 4** - Develop diverse designed public spaces including green areas next to housing
- DI 5** - Development of UA-specific Safe-Hubs / Security-Hubs
- DI 6** - Decentralization of critical infrastructures ensures a supply network despite isolated outages

- DI 1.1** - Mix of typologies
- DI 1.2** - Active first-floor-zones
- DI 1.2** - Integrate new usage concepts in the quarter: Third places (combinations of business, culture, education and participation)