Green FORCE

International Summer School

Cities In Just and Green Transitions

Towards a 2030 climate-neutral strategy for Turin

18-22 September 2023

Territorial Resilience and Just Green Transitions

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Responsible Risk Resilience Centre – R3C

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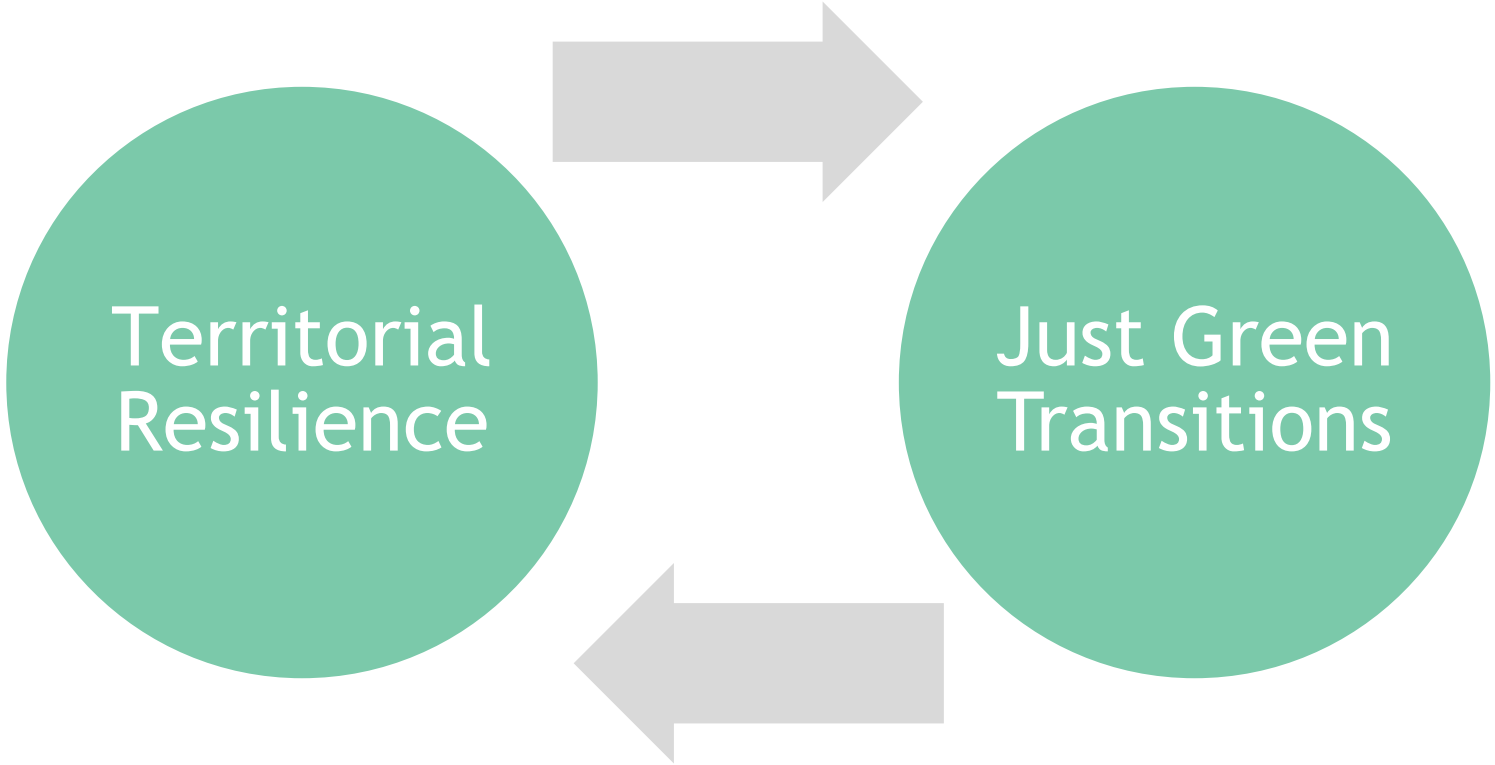
rationality & expected learning outcomes

- Develop a theoretical knowledge about resilience
- Start your understanding on just green transitions policies
- Investigate the relation b/w territorial resilience and just green transitions



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IS RESILIENCE A FAD OR A CONCEPT?
IS RESILIENCE A DRIVER OF INNOVATION?
la Repubblica
TIME
Adapt or Die: Why the Environm
Be Resilience
Resilience: the latest
Trendy business terms come and go, especially in the fields of innovation
becoming the latest, and perhaps the most practical, concept to gain popularity.
Resilience: meaningless jargon or development solution?
Stop calling me
RESILIENT.
Because every time you say,

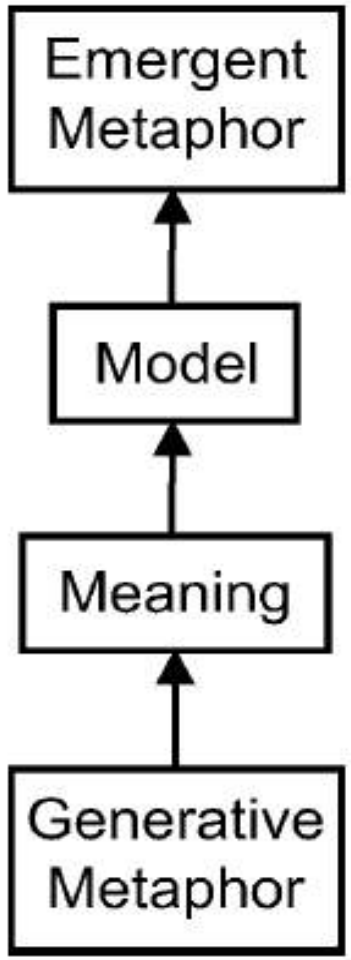
main features of resilience

- The term resilience stems from the **Latin word "resilio"** which means to spring back, rebound, shrink, retreat, and give up. It is a composite word formed by the **prefix "re-",** usually defining the reiteration of action and sometimes used to reiterate a concept, and the **verb "salio"** meaning to jump, to bounce, but also to flow

- Extensive use of resilience in its different disciplinary meaning

- Umbrella concept (Brown, 2015) because of its great attractiveness to solve urban challenges

- Emergent metaphor (Pickett et al. 2004), a semantic utopia which should help to design a multidisciplinary knowledge networks to innovate planning and practices



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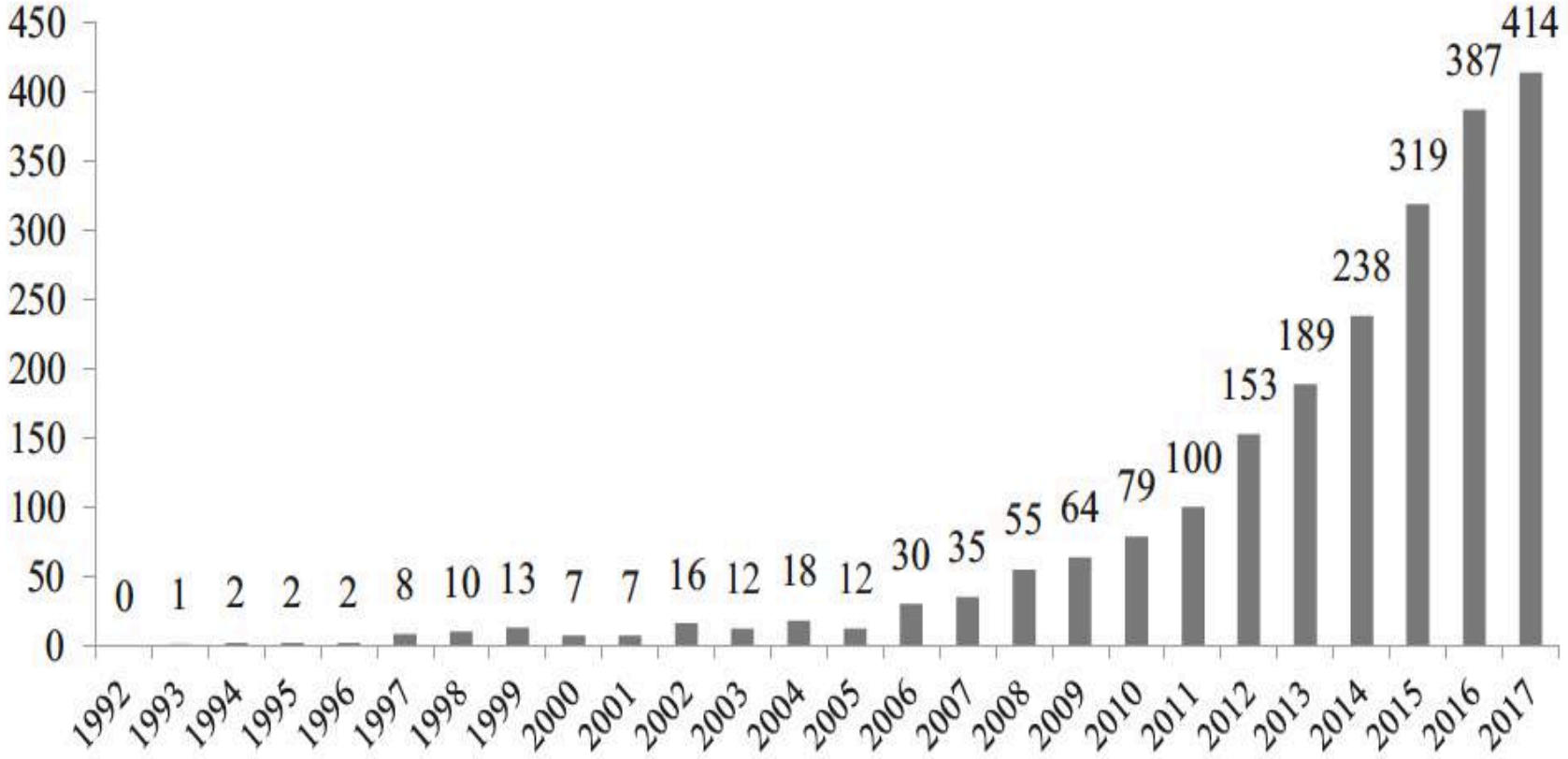
Pickett et al., 2004

the rapid rise of resilience research



Review themes

- definitions of resilience
- characteristics associated with resilience
- how to operationalize resilience
- critiques of resilience

Caldarice, Brunetta and Tollin (2018) based on Scopus database

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scholars' definitions on resilience

1. Engineering Resilience
2. Ecological Resilience
3. Socio-Ecological Resilience
   Evolutionary Resilience

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1 | engineering resilience

Resilience determines the persistence of relationships within a system and is a measure of the ability of these systems to *adsorb changes* of state variables and *persist*, in face of changes, maintaining the stability of the structure

Holling, 1973

- **Return time**
- **Stability**
- **Single state equilibrium of the system**

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2 | ecological resilience

Resilience is the buffer capacity or the *ability of a system to absorb perturbation* at the aim to change its structure by *changing the variables of the system* facing to a suddenly disturbance

Holling, 1996

- **Robustness**
- **Multiple-state equilibrium of the system - from one stability domain to another one**

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3 | socio-ecological resilience

Resilience is the ability of complex socio-ecological system to change, adapt and transform in response to stresses and strain

Carpenter et al, 2005

The capacity to buffer perturbation, self-organize, to learn and adapt

Folke, 2016

- **Self-organization, learning ability, adaptation capacity.**
- **Dynamic non-equilibrium of the system - system undergo constant change and have no stable state.**

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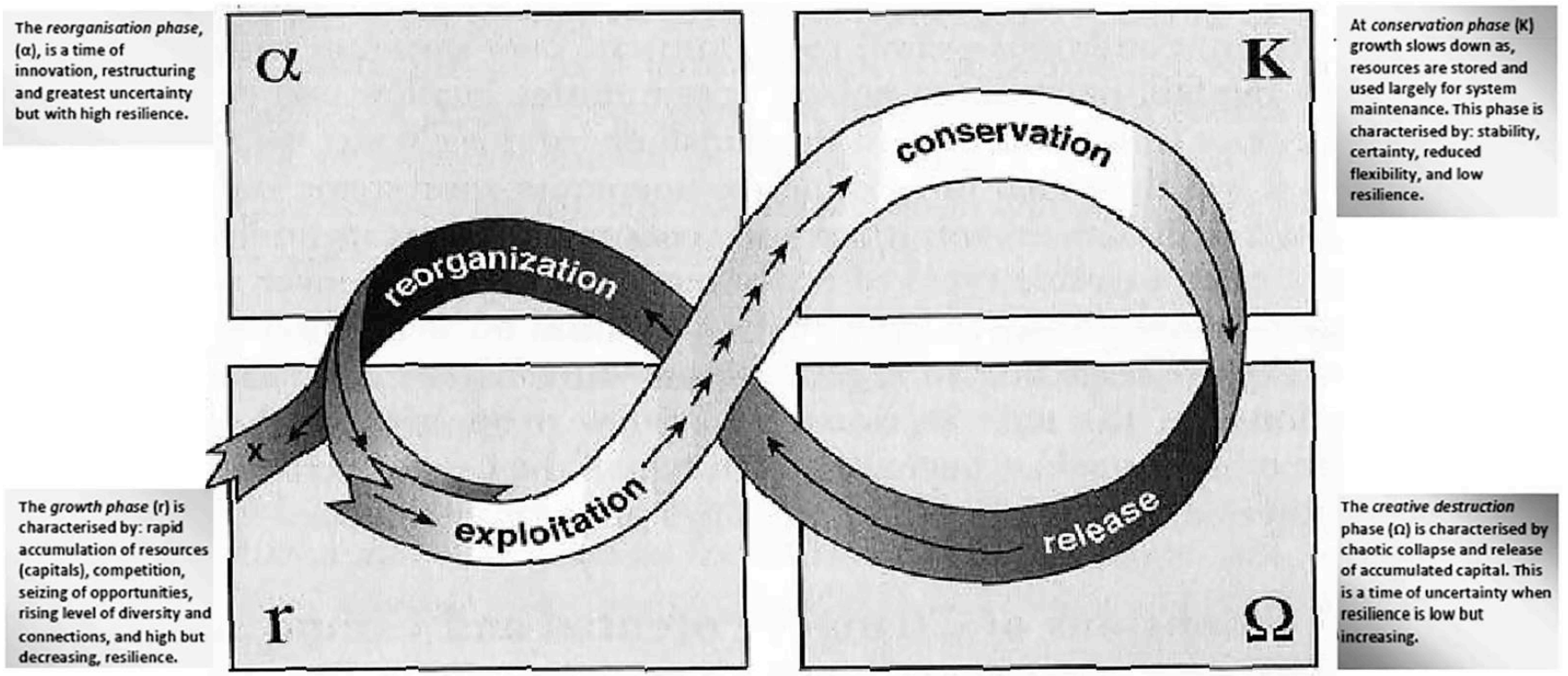
3 | socio-ecological resilience



Panarchy Model

Gunderson & Holling, 2002

- **Adaptive cycles of deconstruction and reorganisation**
- **Dynamic non-equilibrium**

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from socio-ecological to evolutionary resilience

Applying the Resilience Perspective to Planning:

Critical Thoughts from Theory and Practice

Edited by Simin Davoudi & Libby Porter (Planning Theory & Practice, 2012)

Evolutionary resilience **becomes the theoretical paradigm to frame the urban system as a complex socio-ecological and socio-technical systems composed of interconnected networks.**

- **Flexibility – in 'time' and 'scales' of planning**
- **Adaptive learning**
- **Ability of innovation**

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resilience thinking in planning

Urban resilience refers to the ability of an urban system - and all its constituent socio-ecological and socio-technical networks *across temporal and spatial scales* - to maintain or rapidly return to desired functions in the face of a disturbance, to adapt to change, and to quickly transform systems that limit current or future adaptive capacity

Merrow et al., 2016: 39

Spatial resilience is the ability of a territorial system to *improve its adaptive capacity intending to evolve* all its material and immaterial components toward a *new territorial system's organization* after unexpected shocks and disturbances.

Brunetta & Caldarice, 2020: 1

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resilience thinking in planning

Applying the Resilience Perspective to Planning:

Critical Thoughts from Theory and Practice

Edited by Simin Davoudi & Libby Porter (Planning Theory & Practice, 2012)

"There are some promising parallels between evolutionary resilience and the interpretive approach to planning […] because both ***promote the understanding of places not as units of analysis or neutral containers****, but as complex, interconnected socio-spatial systems with extensive and unpredictable feedback processes which operate at multiple scales and timeframes"*

As the world is "a becoming", resilience is not the "return to normalcy", but instead "a ***continually changing process****"*

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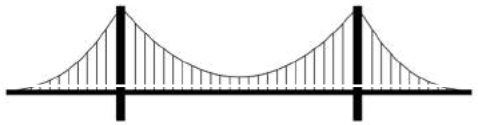
a paradigm shift

Resilience as…	SYSTEM TRAIT or CONDITION	PROCESS (or set of processes)	OUTCOME (or set of outcomes)
			
Embedded Values	Theoretically neutral	Normative about "best practices", assumed to lead to desirable outcomes	Normative about outcomes, explicitly or implicitly value-driven
Link to Sustainability	Resilience may or may not at all support sustainability	Resilience is a requirement for sustainability	Resilience is essentially the same as sustainability (in a dynamic context)

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Moser et al., 2019

new urban challenges

Urbanization Challenges

75% natural resources, 80% energy supply, 80% carbon emissions, 50% of global waste

Development Challenges

poverty, sprawl, inequality, pollution, security, depletion/access of resources

Climate Challenges

multiply effect on urban challenges, direct threat slow/rapid on-setting risk, mitigation

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RESILIENCE IS THE SOLUTION?

UN, 2009

the international policy momentum

2012: UN RIO+20: THE FUTURE WE WANT

11 paragraphs on resilience to ecosystems, climate change, cities

SUSTAINABLE DEVELOPMENT GOALS

Transforming our World: the 2030 Agenda for Sustainable Development" or Agenda 2030

Sustainable Development Goals

Sendai Framework for Disaster Risk Reduction 2015 - 2030

Strong focus on city resilience related to natural disaster and hazards

Sendai Framework

PARIS2015 UN CLIMATE CHANGE CONFERENCE COP21·CMP11

Resilience used coupling mitigation and adaptation to be implemented in cities

Paris Agreement

HABITAT III QUITO - OCTOBER 2016

United Nations Conference on Housing and Sustainable Urban Development

New Urban Agenda - 21st Century

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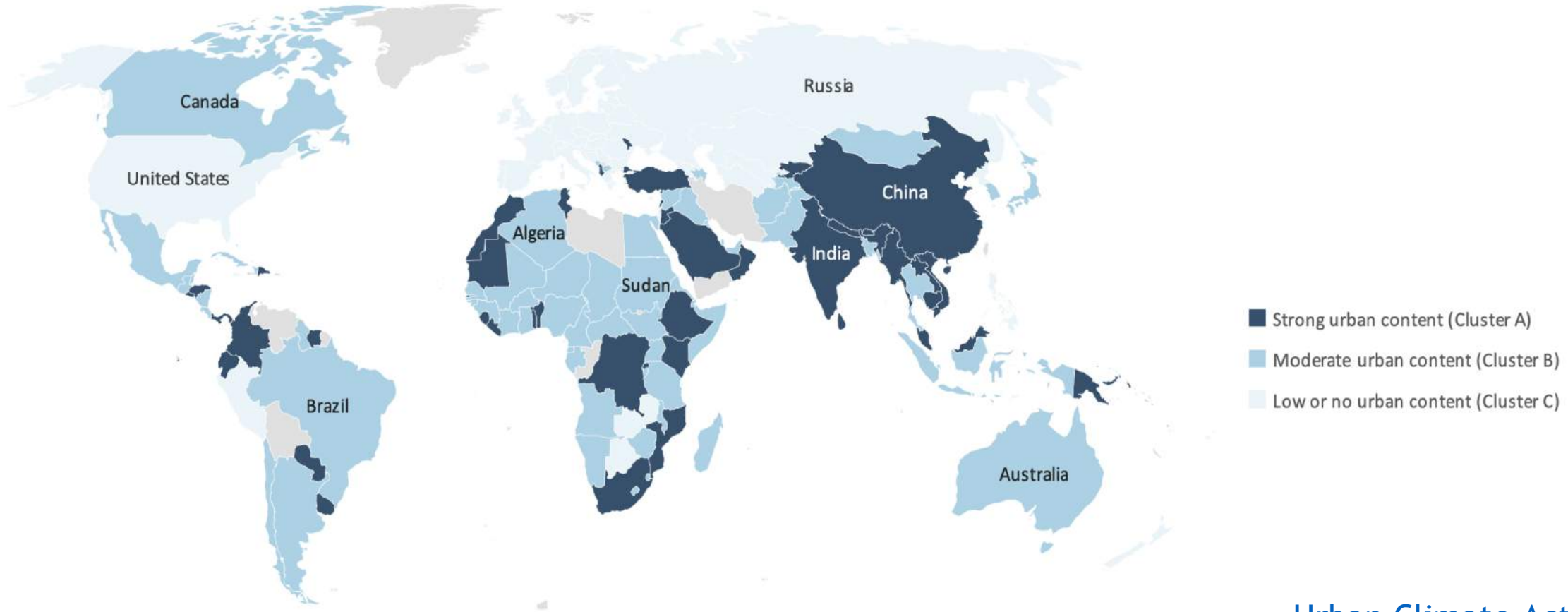
the international policy momentum

Map 1: Map of Urban Content, Cluster A, B and C.



Urban Climate Action.
The urban content of the NDCs: Global review 2022

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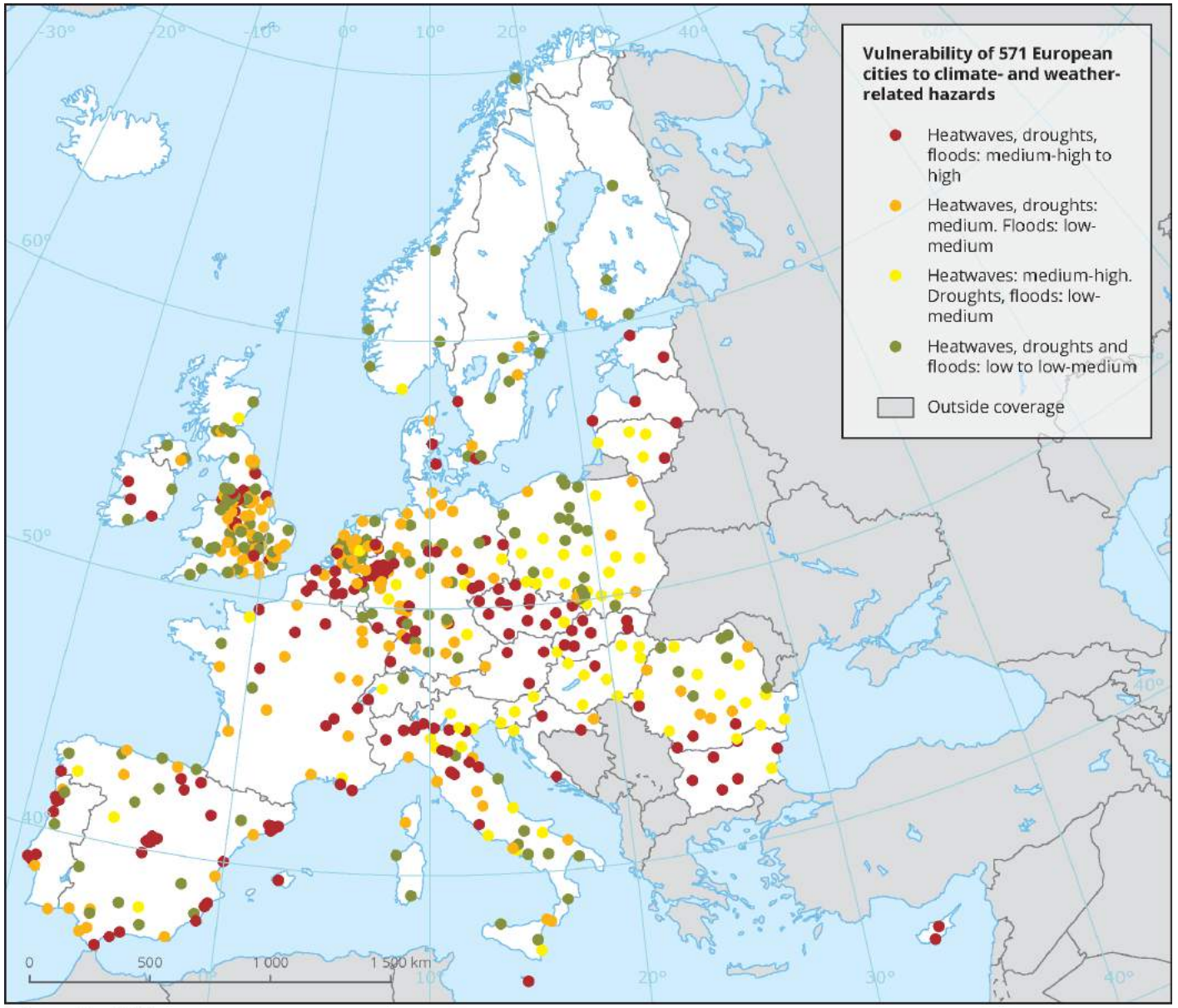
Faroe Islands
(DENMARK)
Shetland
(U.K.)
NORWAY
SWEDEN
FINLAND
RUSSIA
Åland
(FINLAND)
ESTONIA
Hiiumaa
(ESTONIA)
Saaremaa
(ESTONIA)
Gotland
LATVIA
WHAT ABOUT EUROPE?
IRELAND
Isle of Man
(Crown dep.)
UNITED
KINGDOM
Bornholm
(DENMARK)
RUSSIA
BELARUS
NETHERLANDS
GERMANY
POLAND
UKRAINE
BELGIUM
LUXEMBOURG
Bailiwick of Guernsey
and Jersey (Crown dep.)
CZECH
REPUBLIC
SLOVAKIA
MOLDOVA
AUSTRIA
HUNGARY
FRANCE
LIECHTENSTEIN
SWITZERLAND
ROMANIA
SLOVENIA
CROATIA

the European policy momentum



EEA, 2020

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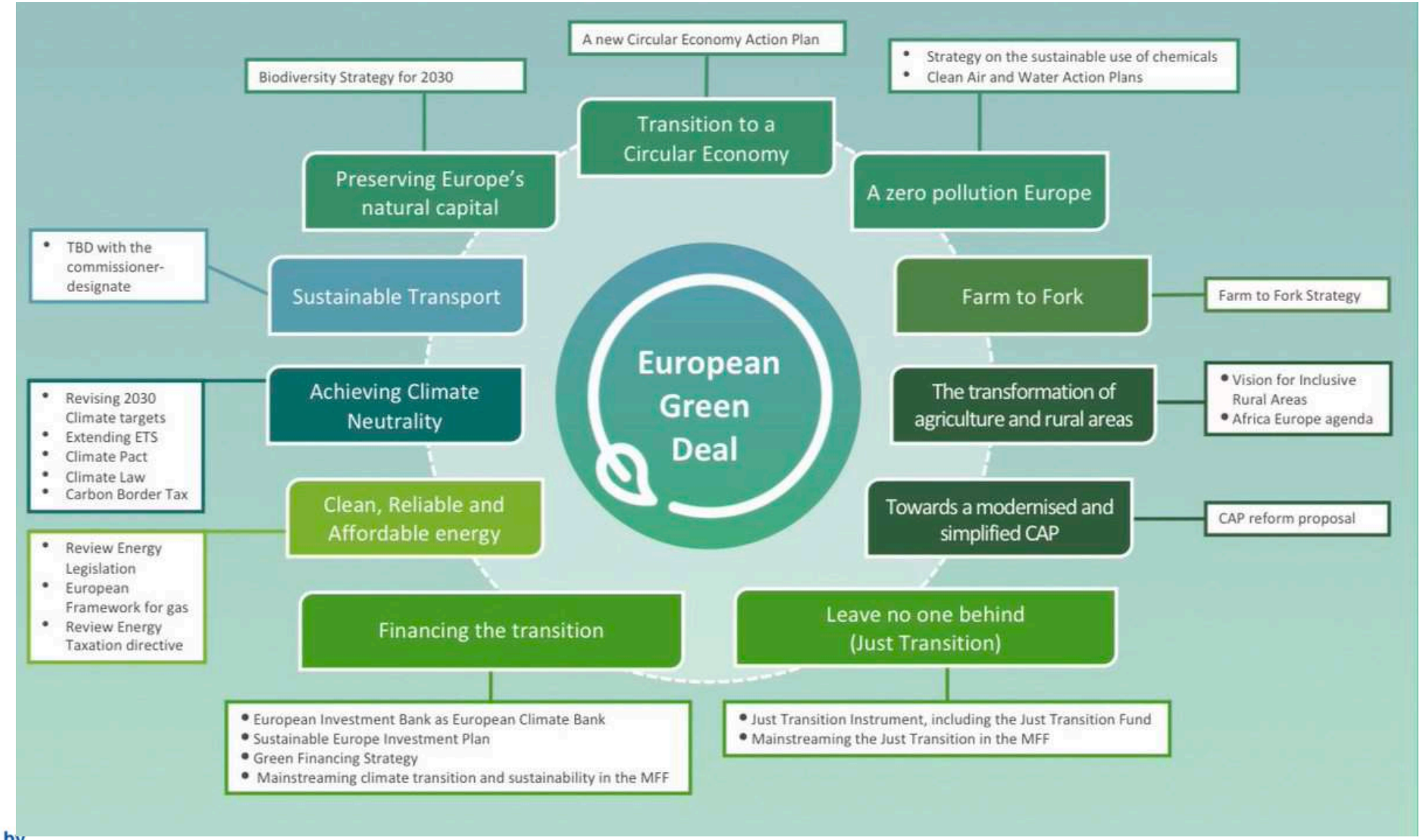
the European policy momentum | EU Green Deal (2019)



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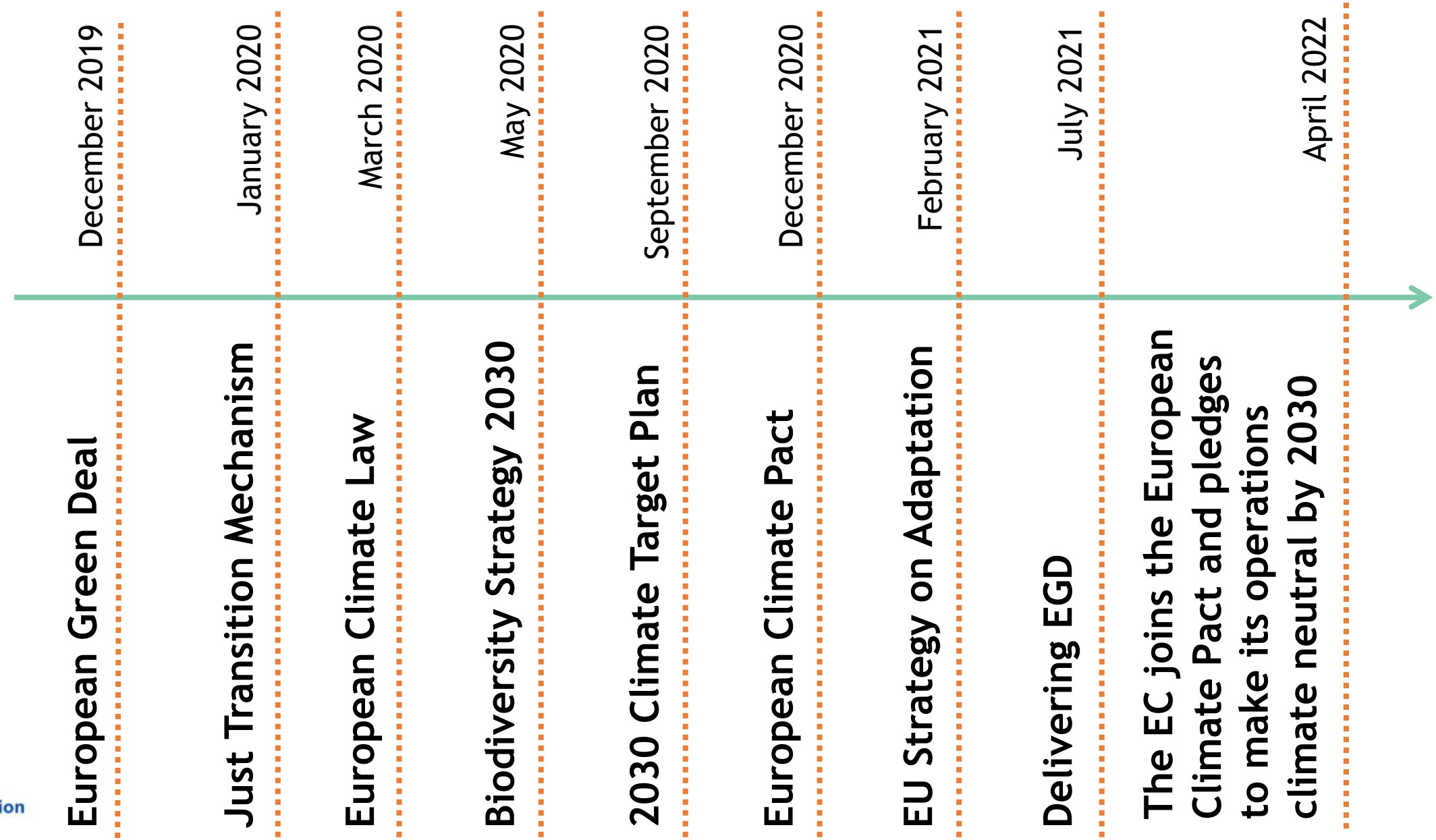
https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_it

the European policy momentum | EU Strategies



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[Just] Green Transition

"Climate change and environmental degradation are an existential threat to the European Union and to the world. To overcome these challenges, the European Green Deal is Europe's new growth strategy, which will **transform the Union into a modern, resource-efficient and competitive economy.** The European Green Deal aims to make Europe climate neutral by 2050, boost the economy through green technology, create sustainable industry and transport, and cut pollution. **Turning climate and environmental challenges into opportunities will make the transition just and inclusive for all.**" (EU Commission – DG Reform)

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the European policy momentum | EU Green Deal (2019)

- New growth strategy that aims to **transform the EU into a fair and prosperous society,** with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use.

- It aims to **protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts**.

- At the same time, **this transition must be just and inclusive**. It must put people first, and pay attention to the regions, industries and workers who will face the greatest challenges.

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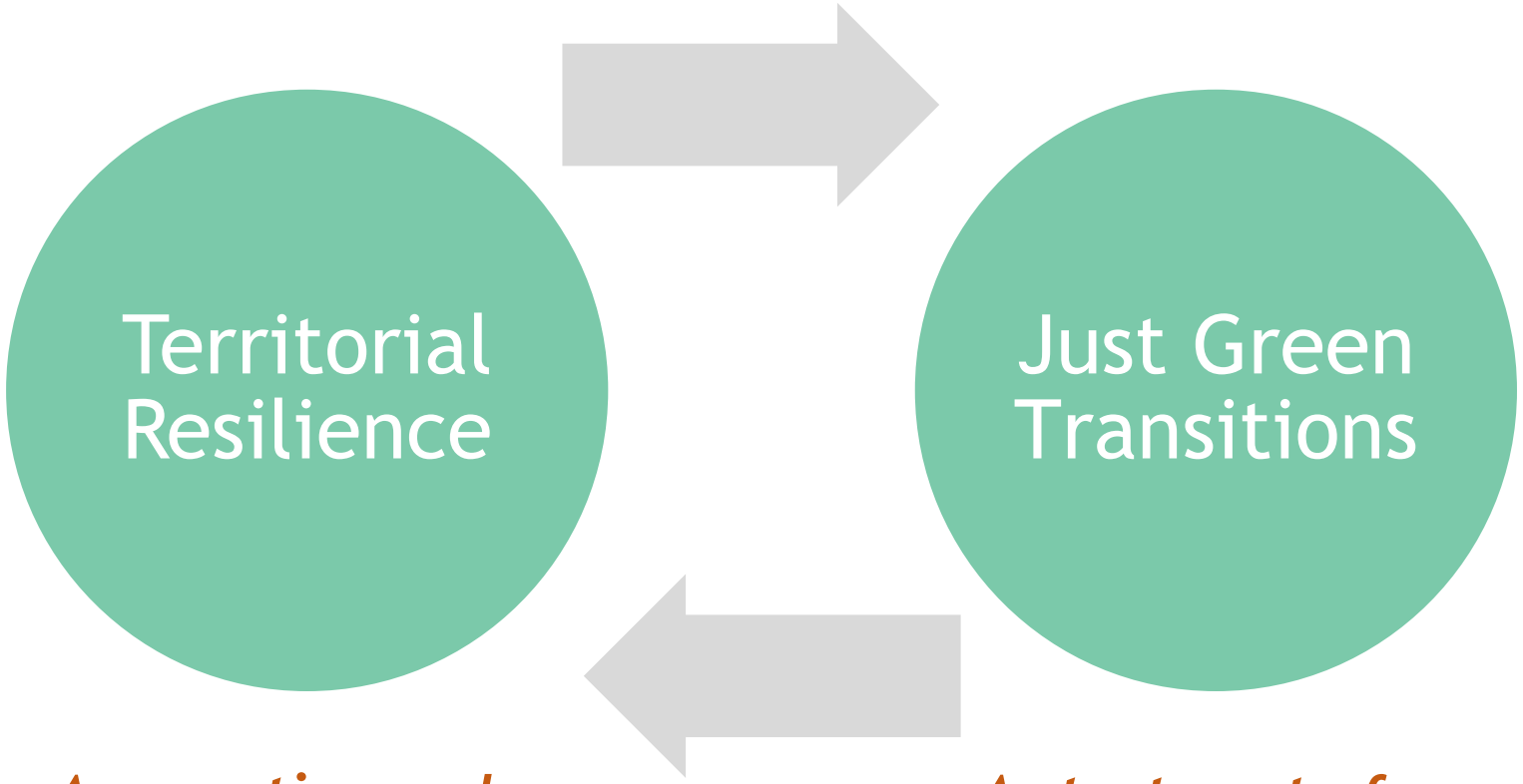
Territorial Resilience & Just Green Transitions



***A proactive and collective process** that fosters active learning, capacity of adaptation and innovation with respect to changes*

***A strategy to far-reaching change** leading to climate-neutrality while preserving biodiversity and ensuring social justice*

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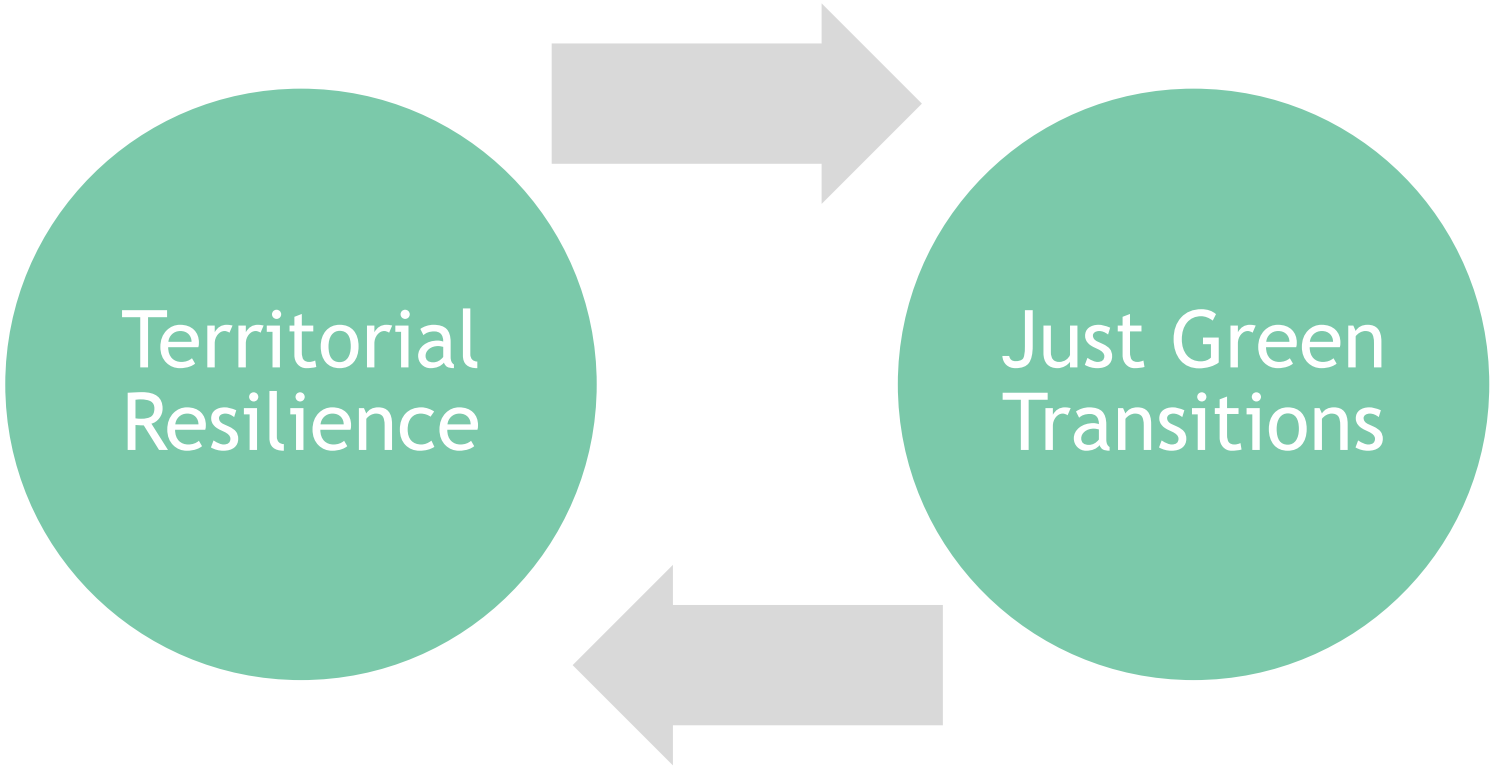
Territorial Resilience & Just Green Transitions



Transition requires an agent of change

Resilience supports the ability of cities to stay in the game by way of coping, absorbing, recovering and adapting fostering transitions

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