



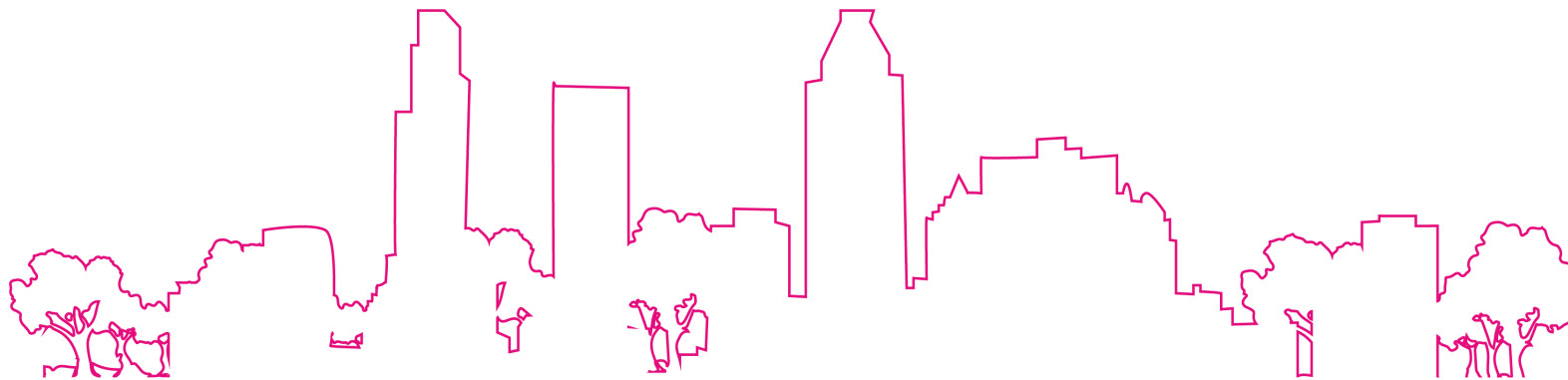
AISRe
Associazione Italiana
di Scienze Regionali



AISRe Winter school

1st – 5th February, Milan, Italy

***Shrinking cities & Just Transition Fund: future trajectories
and potential territorial impacts***



REVIVING SHRINKING CITIES

innovative paths and perspectives towards livability
for shrinking cities in Europe

Agenda

1. Shrinking cities today
2. Shrinking cities tomorrow
3. Just Transition Fund and shrinkage
4. Just Transition Fund and shrinkage: exposure
5. Just Transition Fund and shrinkage: sensitivity
6. Preliminary results: Matrix of shrinking cities sensitivity to the JTF
7. Next steps



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1. Shrinking cities today: definitions



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- **Operational definition:** Shrinking City international Research Network (SCiRN): urbanized area with a minimum population of 5,000 residents that has faced a remarkable population loss of more than 0.15 % annually for 5 years.
- **Descriptive definition:** shrinkage events typically involve more than just the demographic trend of population loss; causes and effects are intertwined around social, economic and environmental factors which can signal symptoms of a structural crisis.



Typical “symptomatology” of shrinking cities

Empty housing stock

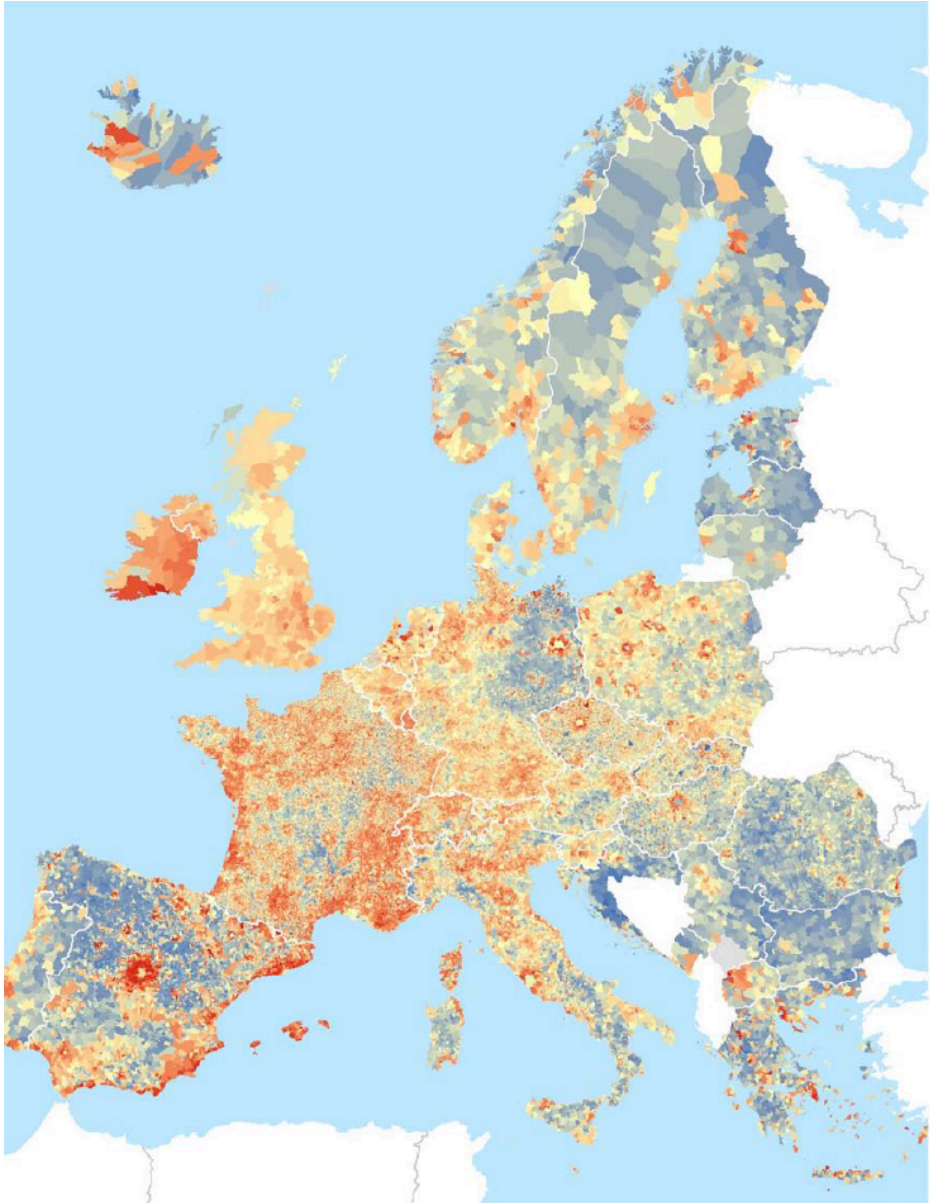


Empty shop windows

1. Shrinking cities today: dimension of the phenomenon



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Dimension of the phenomenon:

in Europe (EU28) almost 25% of European municipalities are shrinking - period of observation 1991-2018.

Strong population
loss



Strong population
growth

2. Shrinking cities tomorrow: projection model



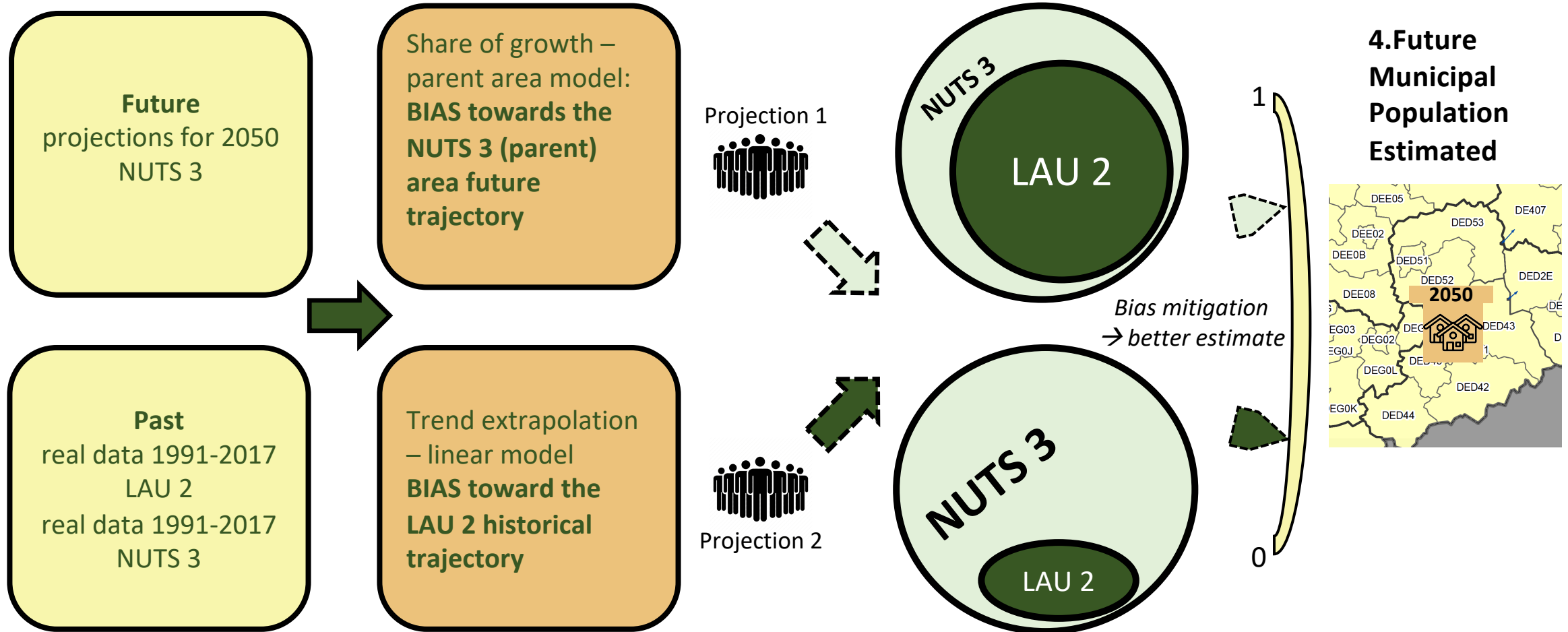
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1. Data sources

2. Stats: demographic model combination

3. Correction coefficients

4. Future Municipal Population Estimated



Formula:

$$Plau(2050) = Plau(2018) + \left[1 - \text{Norm} \left(\frac{City}{Region} \right) \right] * \left\{ \left[\frac{Plau(2018) - Plau(1991)}{2018 - 1991} \right] * [2050 - 2018] \right\} + \left[\text{Norm} \left(\frac{City}{Region} \right) \right] * \left\{ \left(\left| \frac{Lau}{Nuts} \right| \right) * [(Pnuts(2050) - Pnuts(2018))] \right\}$$

2. Shrinking cities tomorrow: future outlook



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Currently shrinking municipalities: a negative future outlook

Shrinkage will expand its relevance further until 2050, after establishing as a solid trend in the past 30 years in 25% of Europe's municipalities. The demographic drop is no cyclic, nor episodic event.

- 77% of currently shrinking municipalities will continue on the shrinking path at equal or greater intensity of population loss (85% of them will experience between x2 and x8 the baseline value of the definition);
- 10 % are predicted to initiate a stabilization process, only 3% are predicted to start a regrowth path.

Blind spots of future shrinkage

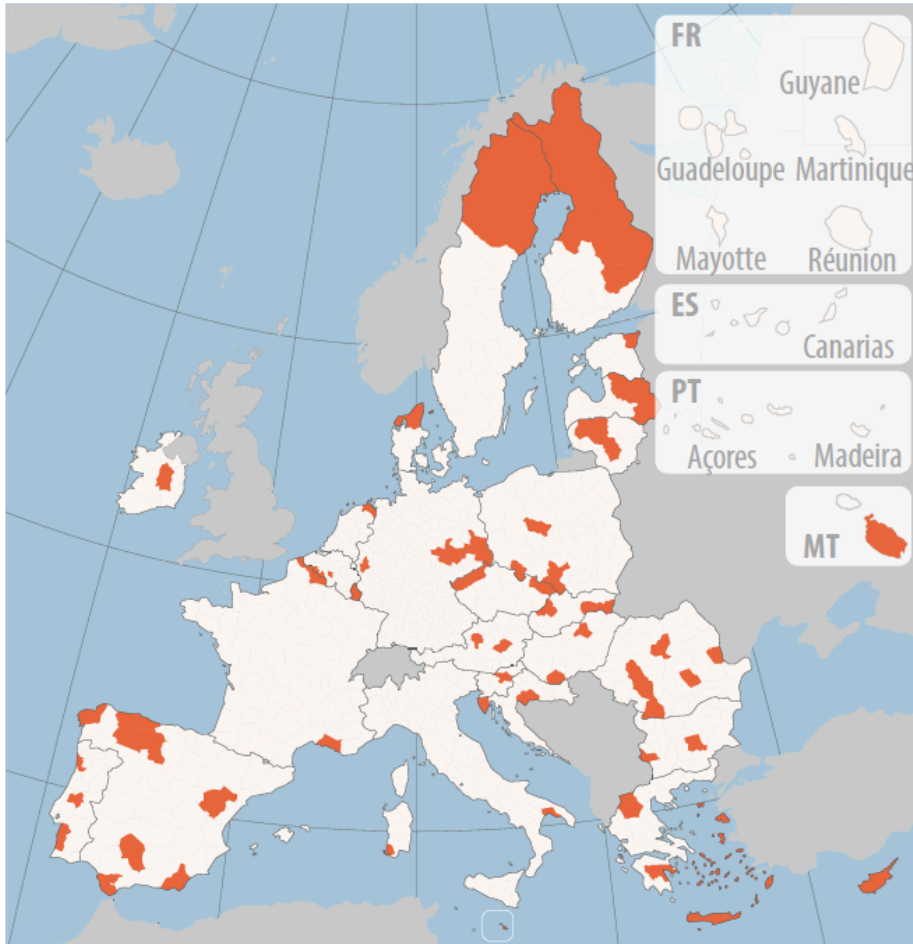
New areas in Europe where shrinkage is now completely absent but will become a new reality to face.

- 15% of all European NUTS 3 units that did not shrink in the past, will face significant population decline in the period 2018-2050.
- 267 additional municipalities that did not qualify as shrinking (yet) but showed an initial path of decline (>0,15% per annum) in the period 2011-2018, are expected to continue shrinking

3.The Just Transition Fund



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Territorial eligibility of the JTF, Oct 2020 (provisional)

The Just transition Fund is part of the EU Green Deal which aims at climate neutrality by 2050. The Just Transition Fund is fresh money made available to support EU regions in their transition from carbon intensive economies.

This will require a socio-economic transformation in regions relying on fossil fuels and high-emission industries (territorial thinking). JTF aims at supporting EU regions most affected by the transition to a low carbon economy that require deep socio-economic transformation.

The distribution of the JTF budget to the Member States is based on five socio-economic criteria:

- Industrial greenhouse gas emissions – GHC- (49%)
- production of peat (0,95%)
- Production of oil shale and oil sands (0,5%)
- Employment in industry with a high carbon intensity (25%)
- Employment in mining of coal and lignite (25%)

3. JTF: The concepts of exposure and sensitivity

From the *Territorial Impact Assessment* literature and practice



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Exposure

taking different components of the policy as starting point, exposure is determined by asking: To what degree is a **region/territory** likely to be subject to the **policy addressed** (positively or negatively)?

Sensitivity

taking regional characteristics as starting point, sensitivity is determined by asking: To what degree might regional development be affected due to **specific regional characteristics and endowments**?

Region/territory: the statistical group of shrinking cities in EU27

Policy addressed: the Just Transition Fund

Regional characteristics and endowments: twofold sensitivity in this case:

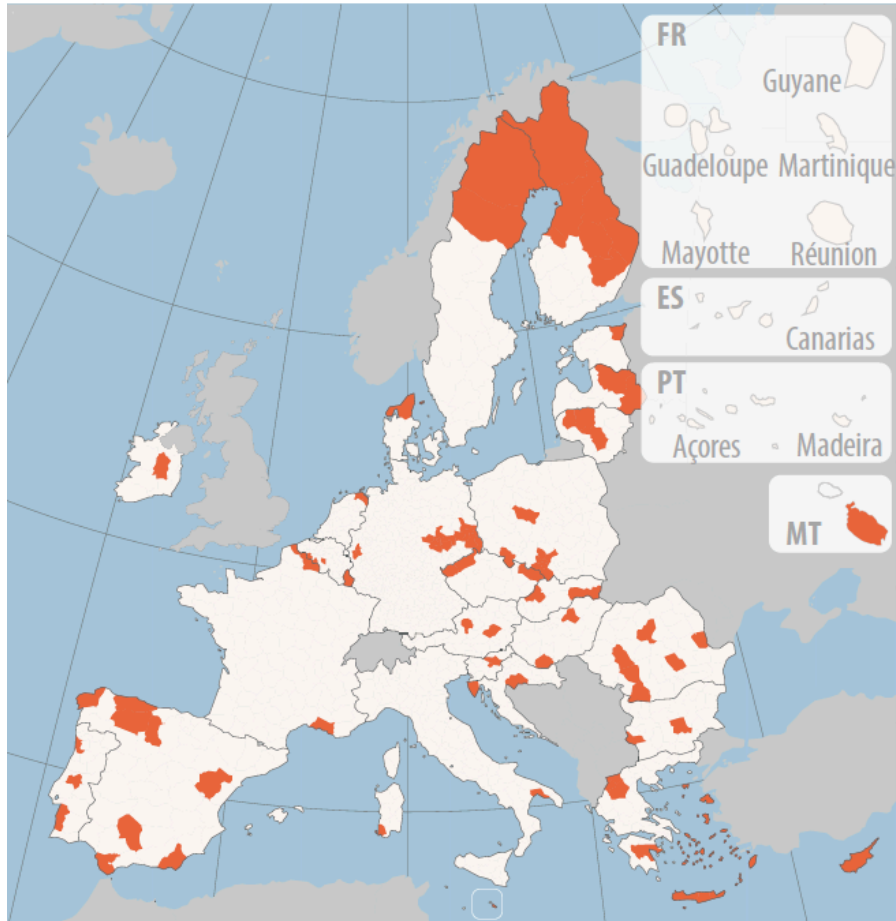
- a) Structurality of shrinkage related issues
- b) Preconditions towards the specific policy addressed: JTF

4. Exposure of shrinking cities to the JTF



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Territorial eligibility of the JTF, October 2020.



Exposure of shrinking cities (TIA concept) *Based on NUTS 3 location of municipalities*

- 16,3 % of EU shrinking cities will benefit from the Just Transition Fund.
- 780 shrinking cities on a total of 4783 in the EU27.
- The criteria for allocation is based on: I) industrial greenhouse gas emissions (GHC) II) employment in mining, and industries with high carbon intensity. *Criteria seems to be biased towards coal and lignite only.*

5.Sensitivity to the Just Transition Fund



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Shrinkage profiles

Shrinkage profile: is shrinkage too firmly rooted on demographic and structural decline? I will look into the following variables to assess whether shrinkage is too structural of an issue, and if the JTF could actually be an opportunity of refuelling a different path.

- Migration
- Ageing of the population
- Long term unemployment
- Economic: Gross value added (GVA)
- Poverty and social exclusion

JTF good preconditions/seeds of opportunity

- **Industrial predisposition to resilience:** is the existing industrial fabric diversified or too reliant on coal mining ?
- **Skills endowment:** is there a level of skills needed to steer such a profound transition?
- **Business dynamicity and innovation:** is the business environment innovative and flexible to offer a fertile ground for transitions?
- **Green economy potential:** is there attitude and familiarity with green and circular economy?

5. Shrinkage profiles



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Shrinkage profile				
Variable	Spatial Unit	Year	Source	Notes
Crude rate of net migration	NUTS 3	AVG('09/'18)	Eurostat	
Ageing index	NUTS 3	2018	Eurostat	* tot population > 60 / tot population < 19
GVA per inhabitant	NUTS 3	2018	Eurostat	
Long term unemployment	NUTS 2	2018	Eurostat	*12 months or more
People at risk of poverty and social exclusion	NUTS 2	2018	Eurostat/ESPON	

How is the value compared to the EU average?

Each variable →

HIGH	2
MEDIUM	1
LOW	0



Composite indicator for each shrinking city



How severe are shrinkage conditions?

Structural
Medium
Non structural

5.JTF good preconditions



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Industrial diversification vs reliance on mining

Variable	Spatial Unit	Year	Source	Notes
Ratio of dependency of the industrial fabric on phasing out sector	NUTS 2	2018	Eurostat	Ratio of employment in 1 st , 2 nd and 3 rd industrial activity sector over employment in mining

Skills endowment that can drive the transition

Persons with tertiary education (ISCED) and/or employed in science and technology	NUTS 2	2018	Eurostat	
Accessibility to universities	NUTS 3	2014	DG regio	Percentage of population in a NUTS-2 region who can access a university main campus within 45' drive

Business environment: dynamism and innovation

SMEs innovating in-house	NUTS 2	2019	Regional Innovation Scoreboard	SMEs with in house innovation activities, have introduced a new product or new process either in-house or in combination with other firms.
R&D total intramural expenditure (% of GDP)	NUTS 2	2019	Eurostat	
Taxonomy of 4.0 innovation regions	NUTS 2	2010-2015	ESPON	I) Low tech regions II) technology falling behind regions; III) new islands of innovation IV) technology leader regions

Green economy potential

Index of green economy theoretical potentials	NUTS 2	2013	ESPON	
Employment in circular economy	NUTS 2	2018	ATLAS TA2030	
Number of greentech clusters per million inhabitants	NUTS 2	2013	ESPON	

5.JTF Good preconditions



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How is the value compared to the EU average?

How good are the pre-conditions to benefit the JTF for each sub-topic?

1. Each variable →

LOW	0
MEDIUM	1
HIGH	2

2. One indicator for each topic →

Industry		Skills		Innovation		Green economy	
Low	0	Low	0	Low	0	Low	0
Medium	1	Medium	1	Medium	1	Medium	1
High	2	High	2	High	2	High	2

Is there potential to benefit from the JTF instrument?

High potential
Medium potential
Low potential

3. Composite indicator for each shrinking city ←

6.JTF combined sensitivity measure



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JTF preconditions



High potential	High green potential but structural shrinkage	High green potential with medium shrinkage	High green potential and non- structural shrinkage
Medium potential	Medium green potential but structural shrinkage	Medium green potential with medium shrinkage	Medium green potential and non- structural shrinkage
Low potential	Low green potential and structural shrinkage	Low green potential with medium shrinkage	Low green potential and non- structural shrinkage
	Structural	Medium	Not structural

Shrinkage profile

6.JTF combined sensitivity overview

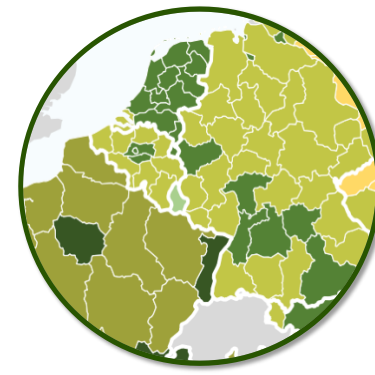


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JTF a game changer?

High potential (220 cities)	102 cities	36 Cities	82 cities
Medium potential (221 cities)	95 cities	60 cities	66 cities
Low potential (339 cities)	153 cities	133 cities	53 cities
	Structural (350 cities)	Medium (229 cities)	Not structural (201 cities)

Solidarity?

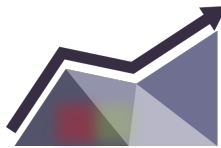


7. Next steps

- **Territorial patterns:** analyse geographical patterns of sensitivity across EU Member States and regions
- **Thematic patterns:** analyse indicators by theme across EU Member States and regions
- **JTF benefitters vs other shrinking cities:** do they have the similar shrinkage profile? And preconditions?
- **Future trajectories and JTF sensitivity:** on which trajectory to 2050 are the cities with best/worst potential ?



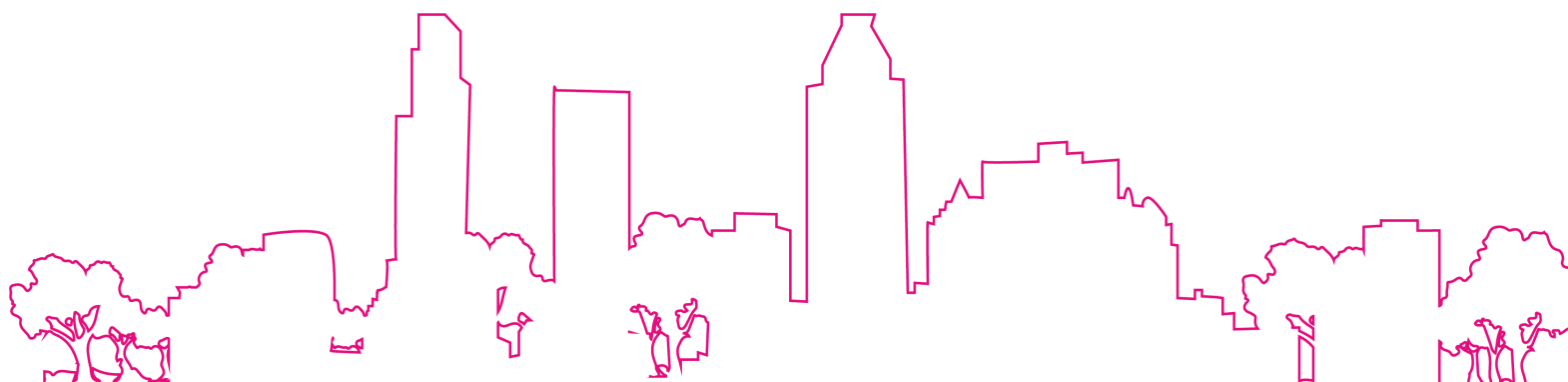
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Many thanks for your attention



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