Supplementary material

How do Cities across European Regions Monitor their Mitigation Actions? Assessment of Co-benefits and their Alignment to SDGs and NEB

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Table S1. Coding of Indicators with NEB Ambition Levels and dimensions

			SUSTAINABLE										
			NEB VALUE - SUSTAINABLE AMBITION LEVEL 1			NEB VALUE - SUSTAINABLE AMBITION LEVEL 2			NEB VALUE - SUSTAINABLE AMBITION LEVEL 3				Most relevant NEB Ambition Levels for the Sustainable Value
	Emission/Impact Domain	Indicator	Preservation	Repair, re-use & reduce	Change upgrade	Lifecycle	Waste reduction	Waste transformation	Carbon storing	Enhancing biodiversity	Restoration and expansion of natural landscapes	Paradigm shift behavioural change	
1	Public Health & Environment	Improved air quality	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	To Repurpose

2	Public Health & Environment	Reduction of noise pollution	FALSE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	**To Repurpose**
3	Public Health & Environment	Improved physical and mental wellbeing	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	**To Repurpose**
4	Public Health & Environment	Perceived change in the quality of life	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	
5	Social Inclusion, Innovation, Democracy and Cultural Impact	Improved citizen participation	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	
6	Social Inclusion, Innovation, Democracy and Cultural Impact	Improvement in skills and awareness	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	
7	Social Inclusion, Innovation,	Affordability of	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	

	Democracy and Cultural Impact	housing and energy												
8	Social Inclusion, Innovation, Democracy and Cultural Impact	Improved acceptance of digital solutions	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE		
9	Social Inclusion, Innovation, Democracy and Cultural Impact	Number of participative activities implemented per stakeholder group	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE		
10	Social Inclusion, Innovation, Democracy and Cultural Impact	Scientific publications, social campaigns etc	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE		
11	Social Inclusion, Innovation, Democracy	Number of follow-up projects or districts	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	**To Repurpose**	

	and Cultural Impact												
12	Economy	Improved investments in climate change action	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	**To Regenerate**
13	Economy	Newly created sustainable jobs	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	**To Repurpose**
14	Economy	Number of solutions suggested for implementation in local strategies	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	
15	Economy	Creation of Start-ups, accelerators or tech innovation	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	**To Repurpose**

16	Economy	Savings in working time achieved	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	
17	Economy	Revenues generated by the project	FALSE	TRUE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	**To Close the Loop**
18	Resource Efficiency	Urban waste reduction; Biowaste recovery	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	
19	Resource Efficiency	Re-use of material during construction or renovation	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	**To Close the Loop**
20	Resource Efficiency	Improved water management	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	TRUE	**To Regenerate**

21	Resource Efficiency	Improved land use management practices (e.g. urban greening)	TRUE	TRUE	TRUE	FALSE	TRUE	FALSE	FALSE	TRUE	TRUE	TRUE	**To Regenerate**
22	Biodiversity	Percentage of tree canopy within the city	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE	**To Regenerate**
23	Biodiversity	Change in the number of species of birds in built-up areas	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	**To Close the Loop**
24	Biodiversity	Structural connectivity of green spaces	TRUE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE	**To Regenerate**
			39			**12**			**22**				
			TOGETHER										

			NEB VALUE - TOGETHER AMBITION LEVEL 1			NEB VALUE - TOGETHER AMBITION LEVEL 2			NEB VALUE - TOGETHER AMBITION LEVEL 3				Most relevant NEB Ambition Levels for the Together Value Together
	Emission/Impact Domain	**Indicator**	**Equality**	**Accessibility**	**Prioritising disadvantaged people**	**Overcoming segregation**	**Representation and social stability**	**Sharing resources and opportunities**	**Fostering shared social values**	**Societal development and collective growth**	**New ways of living (together)**		
1	Public Health & Environment	Improved air quality	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE		
2	Public Health & Environment	Reduction of noise pollution	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE		
3	Public Health & Environment	Improved physical and mental wellbeing	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE		
4	Public Health & Environment	Perceived change in the quality of life	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE		**To Transform**

5	Social Inclusion, Innovation, Democracy and Cultural Impact	Improved citizen participation	TRUE	TRUE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE		**To Transform**
6	Social Inclusion, Innovation, Democracy and Cultural Impact	Improvement in skills and awareness	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE		**To Consolidate**
7	Social Inclusion, Innovation, Democracy and Cultural Impact	Affordability of housing and energy	TRUE	TRUE	FALSE	TRUE	TRUE	TRUE	FALSE	TRUE	TRUE		**To Transform**
8	Social Inclusion, Innovation, Democracy and Cultural Impact	Improved acceptance of digital solutions	FALSE	TRUE	TRUE	FALSE	FALSE	TRUE	FALSE	TRUE	TRUE		**To Transform**

9	Social Inclusion, Innovation, Democracy and Cultural Impact	Number of participative activities implemented per stakeholder group	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	FALSE		**To Transform**
10	Social Inclusion, Innovation, Democracy and Cultural Impact	Scientific publications, social campaigns etc	FALSE	TRUE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE		**To Consolidate**
11	Social Inclusion, Innovation, Democracy and Cultural Impact	Number of follow-up projects or districts	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE		
12	Economy	Improved investments in climate change action	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE		**To Transform**

13	Economy	Newly created sustainable jobs	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE		**To Consolidate**
14	Economy	Number of solutions suggested for implementation in local strategies	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE		**To Consolidate**
15	Economy	Creation of Start-ups, accelerators or tech innovation	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE		**To Consolidate**
16	Economy	Savings in working time achieved	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	TRUE	TRUE		**To Transform**
17	Economy	Revenues generated by the project	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE		

18	Resource Efficiency	Urban waste reduction; Biowaste recovery	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE		
19	Resource Efficiency	Re-use of material during construction or renovation	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE		
20	Resource Efficiency	Improved water management	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE		**To Consolidate**
21	Resource Efficiency	Improved land use management practices (e.g. urban greening)	TRUE	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE		**To Transform**
22	Biodiversity	Percentage of tree canopy	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	TRUE		**To Transform**

		within the city											
23	Biodiversity	Change in the number of species of birds in built-up areas	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE		
24	Biodiversity	Structural connectivity of green spaces	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE	FALSE		
			15			**26**			**34**				
			BEAUTIFUL										**Most relevant NEB Ambition Levels for the Beautiful Value** **Beautiful**
			NEB VALUE - BEAUTIFUL AMBITION LEVEL 1			**NEB VALUE - BEAUTIFUL AMBITION LEVEL 2**			**NEB VALUE - BEAUTIFUL AMBITION LEVEL 3**				
	Emission/Impact Domain	**Indicator**	**Context re-activation**	**Sensory or emotional experience**	**Aesthetics**	**Connection across contexts**	**Collective experience**	**Sense of belonging**	**Enabling creation**	**Restructuring of values**	**Long-lasting movement**		

1	Public Health & Environment	Improved air quality	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE		
2	Public Health & Environment	Reduction of noise pollution	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE		
3	Public Health & Environment	Improved physical and mental wellbeing	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE		
4	Public Health & Environment	Perceived change in the quality of life	FALSE	TRUE	TRUE	FALSE	TRUE	TRUE	FALSE	TRUE	TRUE		**To Integrate**
5	Social Inclusion, Innovation, Democracy and Cultural Impact	Improved citizen participation	TRUE	FALSE	FALSE	TRUE	FALSE	TRUE	TRUE	FALSE	FALSE		**To Connect**
6	Social Inclusion, Innovation, Democracy	Improvement in skills and awareness	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE		

	and Cultural Impact												
7	Social Inclusion, Innovation, Democracy and Cultural Impact	Affordability of housing and energy	TRUE	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE		**To Connect**
8	Social Inclusion, Innovation, Democracy and Cultural Impact	Improved acceptance of digital solutions	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE		**To Integrate**
9	Social Inclusion, Innovation, Democracy and Cultural Impact	Number of participative activities implemented per stakeholder group	TRUE	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE		**To Integrate**
10	Social Inclusion, Innovation, Democracy	Scientific publications, social	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	TRUE		**To Integrate**

	and Cultural Impact	campaigns etc											
11	Social Inclusion, Innovation, Democracy and Cultural Impact	Number of follow-up projects or districts	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	TRUE		**To Integrate**
12	Economy	Improved investments in climate change action	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	TRUE		**To Integrate**
13	Economy	Newly created sustainable jobs	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	TRUE		**To Integrate**
14	Economy	Number of solutions suggested for implementation in local strategies	TRUE	FALSE	FALSE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE		**To Activate**

15	Economy	Creation of Start-ups, accelerators or tech innovation	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE	TRUE		**To Integrate**
16	Economy	Savings in working time achieved	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	TRUE	TRUE	TRUE		**To Integrate**
17	Economy	Revenues generated by the project	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	TRUE		**To Integrate**
18	Resource Efficiency	Urban waste reduction; Biowaste recovery	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE		**To Integrate**
19	Resource Efficiency	Re-use of material during construction or renovation	TRUE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE		**To Integrate**

20	Resource Efficiency	Improved water management	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE		**To Integrate**
21	Resource Efficiency	Improved land use management practices (e.g. urban greening)	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE		**To Integrate**
22	Biodiversity	Percentage of tree canopy within the city	TRUE	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE		**To Connect**
23	Biodiversity	Change in the number of species of birds in built-up areas	TRUE	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE	TRUE		**To Connect**
24	Biodiversity	Structural connectivity of green spaces	TRUE	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE	FALSE	TRUE		**To Connect**

			13	30	38			