The Regional Science Academy

Position Paper

THE REGIONAL SCIENCE ACADEMY (TRSA) MANIFESTO

on

CLIMATE CHANGE AND THE NEW WELLBEING SOCIETY

Guidelines and Actions for COP30, Belém, from an Urban and Regional Perspective

Editors: Karima Kourtit
Peter Nijkamp

November 2025

TABLE OF CONTENTS

THE REGIONAL SCIENCE ACADEMY (TRSA) MANIFESTO ON CLIMATE CHANGE: PREFACE TO A GRAND ESTAFETTE

The Grand Estafette program on *Climate Change and the New Wellbeing Economy* is a joint initiative of *The Regional Science Academy* (TRSA) and the *Federal University of Pará* in Belém, supported by many academic institutions and experts worldwide. This initiative serves as a unique collaborative effort, uniting academic excellence, practical insights, and global perspectives to address the interconnected challenges of climate change and the transition to a wellbeing-focused economy from a regional science perspective. A series of international meetings in the year 2025 – organized as an Estafette model – aimed to bring together researchers, policymakers, practitioners, and students from across the globe to address the critical components and policy challenges of *Climate Change and the New Wellbeing Economy*. These brainstorm sessions addressed climate adaptation, environmental policies, urban development strategies, social welfare programs, and spatial-economic strategies that centered on improving individual and collective wellbeing of people and society in the context of climate change. The Grand Estafette Model served as a collaborative global platform to share knowledge, identify challenges, and propose innovative solutions and actions on one of the most challenging issues of our times, viz. climate change and sustainable wellbeing, so as to foster sustainable development, human-centered progress, and socio-economic resilience in both urban and rural contexts, at local, national, and global scales. The outcomes of this Grand Estafette Model are meant to provide a scientific input – *the voice of regional science* – for political discussions and solid decisions at the COP30 conference in Belém.

CORE TEAM	CONTRIBUTORS	EDITORS
Marcelo Bentes Diniz	Marcelo Bentes Diniz	Karima Kourtit
Martijn Burger	Martina Bosone	Peter Nijkamp
Catherine Gall	Martijn Burger	
Karima Kourtit	Guiseppe Cappochin	
Paul Krugman	Matteo Colleoni	
Carlos Moreno	Massimo Crusi	
Peter Nijkamp	Małgorzata Dobrzyńska-Dąbska	
Márcia Jucá Teixeira Diniz	Thomas Doxiadis	
Robin Wells	Saša Drezgić	
	Peter Džupka	
	Luigi Fusco Girard	
	Catherine Gall	
	Oto Hudec	
	Karlen Khachatryan	
	Ani Khalatyan	
	Jaewon Lim	
	Mohammed Makhtari	
	Dario Maradin	
	Carlos Moreno	
	Francesca Nocca	
	Mehmet Omurlu	
	Malgorzata Pacer	
	Yannis Psycharis	
	Waldemar Ratajczak	
	Aleksandra Siewert	
	Márcia Jucá Teixeira Diniz	
	Petra Adelajda Zaninović	
	Xufeng Zhu	
	Anamarija Zron	

EXECUTIVE SUMMARY

The *TRSA Manifesto on Climate Change* and *the New Wellbeing Society* brings together a global community of scientists, urban planners, economists, and policymakers to redefine the relationship between climate action, spatial development, and human wellbeing. Conceived through a *Grand Estafette Model* – a sequence of regional scientific dialogues held across continents – the Manifesto synthesizes diverse research insights into a unified framework for evidence-based, place-sensitive climate policy.

A New Paradigm: From Wealth of Nations to Wellbeing of Places

The Manifesto argues that the traditional focus on national wealth and economic growth must evolve toward *spatial wellbeing* - a concept that measures prosperity not only by GDP, but by the quality of life, environmental resilience, and social cohesion of places. Extensive economic expansion in the past decades has produced serious ecological and social externalities, including biodiversity loss, deforestation, and rising climate-related inequalities. The transition to a *New Wellbeing Society* therefore demands policies that balance growth with environmental stewardship and distributive justice. This transformation must be embedded in local contexts: regions and cities are the real laboratories of change. As the climate crisis intensifies, local action becomes the most effective path to global progress. Sustainable development must thus be '*spatial by design, human by purpose, and global by responsibility'*.

Core Scientific and Policy Principles

- *Spatial Thinking for Climate Action*: Geography matters in climate policy. Sustainable development policies must account for spatial diversity—urban, rural, coastal, and forest ecosystems - while fostering local empowerment. Regional science offers tools to integrate data, planning, and governance for climate adaptation and mitigation.
- *Beyond GDP: Measuring What Matters*: Economic output alone cannot capture social wellbeing. The Manifesto advocates for *green GDP*, *subjective wellbeing indices*, and spatial quality-of-life metrics such as *City Love*, *Human Habitat Index*, and *Urban Happiness Index*. These approaches measure how environmental quality, social trust, and cultural vitality contribute to sustainable prosperity.
- *Urban and Regional Proximity*: Novel spatial design principles, like the *15-minute city* model, exemplify a human-centered vision of sustainability. Compact, proximity-based urban design reduces emissions, strengthens social ties, and enhances access to services. Cities should become 'proximity ecosystems' where living, working, caring, and learning coexist harmoniously.
- *Climate Justice and Inclusion*: Climate impacts are unevenly distributed. Vulnerable communities – especially in the Global South – bear disproportionate environmental risks. The Manifesto calls for equitable financing, capacity building, and technology transfer to ensure that all regions benefit from the transition to a low-carbon economy. Without climate justice, there can be no lasting climate balance.
- *Resilient and Regenerative Cities*: Cities must move beyond reactive adaptation toward *prosilience* - the proactive strengthening of environmental, social, and infrastructural systems to prevent future shocks. Regenerative urban planning integrates green infrastructure, circular economy principles, biodiversity corridors, and participatory governance.
- *Empirical, Hands-On Climate Policy:* Climate action must be grounded in *evidence, not rhetoric.* The Manifesto urges the creation of regional and urban *climate data warehouses* -

empirical observatories that link spatial indicators, wellbeing surveys, and SDG progress metrics to guide local decision-making. '*Think global, act local*' must become measurable, transparent, and accountable.

- *Transformative Economy and Human Capital*: Economic transformation depends on education, innovation, and inclusivity. The Manifesto emphasizes *co-creative innovation ecosystems* where academia, industry, government, and civil society collaborate to generate climate-neutral technologies and equitable growth. Human capital - not only financial capital - is the key driver of sustainable prosperity.
- *Water and Resource Governance*: Sustainable water management, especially in semi-arid regions, is central to ecological and social stability. Integrated regional water policies, supported by local participation and transnational cooperation, are vital to resilience in the face of climate stress. The same holds true for forest resources.
- *Integrated Climate–SDG Action*: Climate and SDGs must operate as one agenda. Policy coherence, inclusive governance, and cross-sectoral innovation are necessary to accelerate progress toward a regenerative future. Environmental protection, social inclusion, and economic vitality are not competing priorities - they are mutually reinforcing imperatives.

Strategic Roadmap for COP30 and Beyond

The Manifesto's Estafette dialogues - from Las Vegas to Belém - culminate in a practical action plan aimed at COP30 decision-makers:

- *Empower regions and cities* as operational centers of climate transformation, through devolved governance and spatial innovation.
- *Institutionalize wellbeing metrics* within national and local climate policies to monitor quality-of-life outcomes alongside emission targets.
- *Invest in education and digital-green skills* to support the transformative economy and inclusive participation.
- *Advance citizen engagement* through participatory urban planning, data transparency, and co-creative 'living labs'.
- *Promote integrated financing mechanisms* - linking climate funds with SDG implementation and regenerative local economies.
- *Foster North–South cooperation* for technology transfer, water management, and social resilience.
- *Implement evidence-based monitoring frameworks* to track policy performance through climate data warehouses and wellbeing dashboards.

A Human-Centered Call to Action

The Manifesto's central message is clear: *Climate policy is human policy.* The wellbeing of people and the health of the planet are inseparable. The Estafette model - an ongoing relay of scientific collaboration - shows that climate solutions emerge through dialogue, diversity, and shared responsibility. As the world gathers at COP30 in Belém, the Manifesto – representing the collective insights of global scholars and practitioners – calls for a decisive shift from abstract promises to actionable, place-based strategies that integrate scientific knowledge, local innovation, and human empathy. *The New Wellbeing Society* envisions a world where prosperity, fairness, and sustainability coexist – where regions and cities become agents of hope and laboratories of transformation.

The 'wealth of our nations' (a term inspired by Adam Smith) is, seen from a historical perspective, almost without any limits; economic growth, technological advances, medical care, high education, cultural services, they all mirror a high-quality development of our planet. But wealth comprises - in addition to economic elements - of many constituents: physical resources, financial capital, accessible infrastructure, social networks, vulnerable ecosystems, tropical forests, environmental capital, biodiversity, soil and water quality, and historico-cultural heritage. Not all of these wealth components point at the same direction in the long history of our world; in many cases more of the one wealth constituent means less of the other. This is clearly reflected in environmental decay or climate change as a consequence of unbalanced economic and technological growth. The pathway to a robust high-quality future development is at times problematic and painful, due to the rise of many – often unanticipated – unwanted externalities at both global and local levels.

The awareness of environmental decay (air pollution, soil pollution, water pollution, loss of biodiversity, deforestation, negative health effects, etc.) and of the rapidly rising threats of climate change (extreme weather conditions, floods, storms, heatwaves, etc.) has prompted worldwide a serious concern and a broad call for action, witness also the wealth of evidence-based studies of the IPCC in the past years. The United Nations have taken a leading role in the exploration of mitigation and adjustment strategies seeking to cope with ecological vulnerabilities and to ensure a sustainable growth trajectory for nations and regions of our world. A well-known example is the Paris Agreement, adopted at the United Nations Climate Change Conference (COP21) in the year 2015. At this summit, world leaders agreed to set the goal of limiting the global temperature rise to below 2°C (ideally 1.5°C) above the reference pre-industrial levels. To achieve this reduction, there is a clear need for a worldwide carbon reduction policy, including zero-emission and climate-neutral measures. Subsequent COP conferences have emphasized the urgency of addressing all economic sectors (agriculture, manufacturing, transportation, energy, building/construction, forestry, etc.). The actual progress, however, has been rather disappointing, despite the overwhelming evidence and rising conviction that it is now urgently time for action. And therefore, the next worldwide climate summit in Belém – COP30 – faces the challenge of adopting effective and evidence-based climate actions, based on a solid and undisputed scientific knowledge.

The global COP30 conference in Belém, Brazil, scheduled mid-end November 2025, will serve as an important milestone in global discussions and actions on climate change and the environment. This conference will highlight the critical challenges facing ecosystems worldwide, particularly the interconnectedness between environmental degradation and human behaviour, including deforestation, migration, consumption, fossil fuel use, urbanization, digitalization, and so forth. Climate change and its effects – such as socio-economic disparities, changes in agricultural fertility, and water availability – are already driving large-scale movements of people, particularly from regions facing food shortages, water scarcity, and geopolitical resource conflicts. This shifting landscape has far-reaching implications, not only for the environment, but also for political and societal stability, as exemplified by migration flows to urban areas, by people in search of better living conditions or by international and intercontinental population shifts.

COP30 will follow the footsteps of previous influential global conferences which are inter alia reflected in the Kyoto Protocol or the Paris Agreement. Such international gatherings have set the tone for global climate actions that – slowly but certainly – will change the 'face of our earth' in a more positive and

sustainable future. A promising example of concrete follow-up actions is found in the 'Fit for 55' package in the EU, which seeks to realize a climate-neutral future, with a milestone to cut net greenhouse gas emissions by at least 50% in the year 2030, as a cornerstone of the European Green Deal.

It goes without saying that the road towards climate-neutrality is full of hurdles. It requires a long journey to address effectively interlinked global challenges including complex causal loops in the ever-evolving space-time system of our world. The spatial-economic sustainable development of countries and regions is increasingly determined by both human-driven adaptations and long-range environmental strategies. Deforestation, mining, industrialization, urbanization, and population growth are altering the physical and morphological structure of regions and cities. At the same time, climate-induced changes, such as declines in agricultural productivity and the threats of rising sea levels, are making some areas less viable for human habitation. This evolving situation calls for strengthening resilience and adaptive capacity to climate-related hazards and natural disasters in all countries. This complex interplay between physical conditions and socio-economic factors is driving unprecedented migration patterns, as individuals and communities seek more sustainable living conditions in more prosperous regions.

In addition to environmental factors, conflictual societal challenges – such as poverty, socio-economic disparities, political stress, and conflicts – further intensify human mobility patterns. This underscores the urgent need to rethink the relationship with the natural world and adopt a more sustainable lifestyle, with the goal of protecting the environment for future generations. As economic and political turbulence disrupts communities, cross-border migration becomes an increasingly prominent response. This is especially evident in regions like Africa or Latin-America, where the confluence of environmental degradation and socio-political instability is prompting mass migration, with people seeking refuge and better opportunities in urban areas or in more stable countries.

The decay of our physical environment is not only observable at a global scale, but is also – and in particular – visible at granular geographical scales, e.g., regions, rural areas, urban agglomerations or local neighborhoods. The effects of uncontrolled or poorly managed growth are thus observable at any territorial level of our planet. Space and geography clearly matter! This raises the question whether and how, from a spatial (bottom-up) perspective, policy-relevant knowledge may be generated and disseminated that would contribute to a better – more sustainable – management of our planet, its environment, and its often-localized resources. This means a focused emphasis on all spatial factors that shape human wellbeing in a vulnerable, place-based, social and environmental ecosystem. Consequently, the scientific focus should be on the identification of X-factors that create *wellbeing for all* regions, socio-economic groups, gender groups, and less privileged populations in both the developed and the developing world.

The above expressed generic concerns have been voiced several times in the past decades. But the great opportunities to leverage regions and cities as powerful bottom-up key actors in environmental and climatological policy – in contrast to globally-driven top-down policies – are as yet underexplored. In this context, an important role may be played by regional science and related disciplines (e.g., geography, spatial economics, regional planning, urban science, or land use planning). Against this background, the concept of '*the new wellbeing society*' may be an important anchor point, in which the study of green growth, 'beyond-GDP', the geography of happiness, subjective wellbeing, spatial love, or urban life satisfaction plays a critical role in measuring and comparing global, national or regional environmental-economic outcomes.

In order to encourage a worldwide engagement in the spatial dimensions of climate change, over the year 2025 a series of brainstorm sessions – in the form of a grand Estafette model – was organized in

many places in the world by The Regional Science Academy (TRSA), so as to mobilize scientists with a spatial (regional, urban, rural, infrastructural, environmental, socio-economic) expertise, with a view to formulating operational policy and management guidelines for effective climate policy to be further developed at the COP30 conference in Belém in Brazil (*November, 2025*). The goal is to let regional science speak for a more livable planet.

These Estafette meetings were held successively in various places in different continents:
- Las Vegas (USA)
- Padua (Italy)
- Rotterdam (the Netherlands)
- Košice (Slovakia)
- Rijeka (Croatia)
- Luxembourg (Luxembourg)
- Athens (Greece)
- Paris (France)
- Naples (Italy)
- Yerevan (Armenia)
- Fez (Morocco)
- Wroclaw (Poland)
- Beijing (China)
- Belém (Brazil).

The main aim was to distil from intensive brainstorm discussions important expert messages for climate policy from a regional science perspective, with operational guidelines for: (i) effective regional and urban sustainable development policies; (ii) innovative solution trajectories for resilient wellbeing of cities; (iii) socio-economic quality enhancement in relation to climate adaptation and safeguarding vulnerable populations, and (iv) design of creative economic paradigms that balance growth with environmental sustainability and social equity in the global-local space-economy.

This Estafette model of successive expert meetings served as a dynamic platform for continuous knowledge exchange and open-minded scientific reflection on one of the most challenging issues of our times, viz. climate change and sustainable wellbeing. A succinct summary of findings from these meetings is given in the remaining part of this report, followed by a strategic summary.

Estafette 1

LEISURE, PROXIMITY AND DENSITY FOOTPRINTS

WRSA Conference, February 2025, Las Vegas

Coordinator: Jaewon Lim

1. Aims and Scope

Leisure forms an important part of daily human activities in our modern world, with a great variety of discretionary choice options which may also fluctuate over time and space. Entertainment, tourism, recreation, sports, family life, and culture make up for a significant part of the actual behaviour of people. Attractive places have become increasingly high-density visitor places, albeit often with many negative externalities involved (e.g., congestion, environmental decay, criminality risks, etc.). The spatial and temporal footprints of leisure activities are significant. Perceptions of too close physical proximity (e.g., crowding) in leisure places may also prompt geographical dispersion, e.g., from a high-density urban concentration to a low-density outdoor and out-of-city distribution of people (e.g., natural parks). The COVID-19 period has shown that a new space-time balance of visitors to leisure amenities may be feasible or necessary, based on space-time sharing behaviour. This calls for advanced operational research on the motives of leisure choices, the geographical dispersion effects and the ecological consequences, taking into account the externalities of density and proximity in a physical environment.

2. Credo

Leisure is an essential part of a wellbeing society. Leisure behaviour is shaped by discretionary human activity choices in which both individual leisure motives and collective choice behavior play a prominent role. Clearly, in addition to positive effects of our leisure society, also many types of crowding effects do arise. A sustainable and inclusive balance in visitors' leisure behaviour may be achieved through the *principle of shared multi-functional spatial choices*, in which a portfolio of strategies for interdependent space-time trade-offs may be instrumental in ensuring a fair balance in leisure amenity choices in both urban and rural areas. Scarce space has to be allocated to different functional uses from a geographical and temporal balance. In this context, reliable behavioural data, transparent policy choices or guidelines, and incentives for sustainable leisure choices and behaviour are a *sine qua non*.

3. Relevance

Leisure time (often also called non-productive time) forms a significant part of the time consumption of individuals. From the 8760 hours a year an individual has at his/her disposal every year, about 1800 hours are on average used for productive work and about 2500 hours for sleeping. This means a fixed time budget of approximately 4300 hours a year. Consequently, individuals have approximately half of their life available for leisure choices! It goes without saying that the geographical pattern of spending someone's leisure time has far-reaching environmental and climatological impacts. And therefore, leisure is an important parameter of daily discretionary activities in a society. Clearly, leisure time is also a prominent contributor to a sustainable and inclusive society. This often-forgotten component of the behaviour patterns of society has also great implications for the fulfilment of each of the 17 SDGs. The ecological and climatological consequences of leisure behaviour are significant and deserve thus thorough research and policy attention. Next to the consumption part of leisure time, it should also be noted that the leisure industry is an important component of any national or regional economy, which also calls for a careful climate-oriented view on this sector.

4. Policy Message

Leisure is often seen as an individual privilege in which public interventions should be minimized. But given the great many environmental, climatological and socio-economic externalities involved, a more

(pro-)active leisure time management seems to be necessary in light of global and local ecological footprints of human leisure behaviour. A systematic leisure impact assessment on climate change is pertinent, while recognizing that far-reaching climate change will in turn also influence leisure behaviour of individuals. The incorporation of leisure as an important determinant of climate policy seems therefore pertinent.

5. Policy Action

Climate policy without due recognition of the importance of leisure behaviour is bound to become a failure. The climate effects of leisure time (including recreation, shopping – at both local and global scale –, etc.) are significant. The following three ingredients of a balanced leisure-climate policy action agenda are necessary.

- Due attention is needed for *effective sustainable local and regional policies on tourism resources* sharing and allocation in order to (i) prevent overuse and degradation of tourism assets in both urban and rural areas, and (ii) to properly manage leisure demand more sustainably across time and space, e.g., by land use and mobility planning. Integrating leisure into climate policy is essential for a sustainable and conclusive society.

- Promotion and awareness policies on eco-tourism, green recreation and environmentally-benign leisure behaviour should not only focus on enhancing human wellbeing, but also on *protecting nature and fragile ecosystems*. Leisure, recreation and tourism impact assessment is needed so as to protect ecologically valuable or vulnerable ecosystems, with a view to the creation of resilient ecosystems that also serve the interest of future generations.

- From a marketing perspective on leisure product development, pro-active policies should *promote educational leisure activities* that support environmental protection and sustainability. This implies inter alia hands-on volunteering leisure activities, sustainable tourism, citizen-science projects, and supply opportunities for nature conservation projects. Environmental and climate concern should be a prominent factor in any leisure marketing.

Estafette 2

SPATIAL PLANNING, ARCHITECTURE AND URBAN LOVEABILITY

CNAPCC Conference, April 2025, Padua

Coordinators: Guiseppe Cappochin, Matteo Colleoni, Massimo Crusi

1. Aims and Scope

Sustainability is not a 'footloose' concept. It manifests itself physically in cities, regions and countries, as well as in waters ranging from rivers to oceans. Clearly, geography counts in policies for sustainable development of our planet. The need for balanced land – and water – use is particularly visible in initiatives addressing the 17 SDGs, which all have – directly or indirectly – a clear spatial component. Sustainable land use calls for concrete policy strategies ranging from local to global scale, as is reflected in fashionable planning notions like sustainable cities or sustainable agriculture. Since cities are the home of the majority of the world population, it is clear that a prominent focus of sustainability policy on urban areas is justified. This prompts the need for effective urban land use policy, infrastructure and mobility policy, housing market policy, industrial policy, social policy, environmental policy and circular city policy, in which quality of life plays a critical role. Sustainable cities have the potential to generate a high level of wellbeing, and therefore, a meaningful policy motto for cities is: '*happy people in sustainable cities*'. Clearly, it goes without saying that balanced urban planning and human-centered urban architecture are a *sine qua non* to achieve ambitious livability goals for citizens.

2. Credo

Cities are the 'home of humans' and not a collection of 'human particles'. A high individual and community satisfaction with a varied portfolio of urban amenities forms the foundation for an urban area where livability is regarded as a core value. In recent studies, the notion of a high quality of urban life (sometimes denoted as '*XXQ*' – the highest achievable quality of life –) is operationalized by decomposing the human satisfaction (or subjective wellbeing) for urban amenities into three components: *body* (the physical and tangible elements of a city, like housing or shopping), *soul* (the historical or cultural features of a city, like historical identity or community sense), and *community* (the social network profile of a city, like neighborhood bonds or social protection mechanisms). This tripartite perspective is in the recent literature coined as '*city lov*e'. Thus, from a human and social perspective, the *triangle of body, soul and communit*y is a key success factor for urban livability and sustainability. This credo is an operational guiding principle for sustainable urban policy.

3. Relevance

Many economic, human and social activities are taking place in urban areas, in both developed countries and in the developing world. More than half of the world population is living in urban agglomerations, while in OECD countries this share is already in the order of magnitude of 70 percent (the '*New Urban World*'). Urban policy is therefore an essential ingredient of global sustainability strategies. Cities are not only becoming the natural habitat of people. Cities – certainly in the form of metropolitan areas and mega-cities – are also the economic, cultural, social and technological heartlands of any innovative economy. Clearly, the uncontrolled rise of urban agglomerations in many developing countries is a source of major environmental concern, in particular, if cities are growing without an explicit and policy effective care for sustainable and livable places for people. Here an effective cooperation between urban planners and architects is without doubt necessary; both are the safeguards of urban wellbeing and global sustainability.

4. Policy Message

Cities are critical key players in any sustainability policy. It is therefore important that the 17 SDGs are used as anchor points or check points for urban sustainability policy. It is thus important to test the planning or realization of new areas against their contribution to the 17 SDGs. Therefore, it is pertinent from a policy perspective to operationalize these SDGs into specific city-aligned components and measurable indicators so as to support evidence-based urban policy (including urban architecture) that would provide concrete action handles for sustainable interventions at urban and neighbourhood level. Against this background, also the use of contemporaneous citizen engagement techniques and citizen participation approaches is needed. From a global angle, the city is a '*place 4 all*'. And therefore, it needs a human-centered management.

5. Policy Action

Our world is largely an urban world. And thus, any sustainability and climate policy should address the new urban dimensions of our planet (the '*New Urban World*'). Three prominent action strategies in this context are:

- No major urban planning and architectural project should be seen and treated in isolation, but is to be *aligned with the SDGs embedding environmental sustainability* and *social inclusiveness* in the preparation and implementation process. This avoids fragmented urban development and will favour proximity-based, compact and interconnected cities that enhance climate neutrality and community wellbeing.

- The city is owned by its inhabitants and therefore, an *incentive system should be developed* for greater citizen involvement in shaping urban spaces, fostering human-centered and climate-resilient urban environments. This will favour a greater urban livability and lovability, in which the city is not only economically healthy, environmentally sustainable and socially inclusive, but also emotionally engaging, socially vibrant, and a source of community wellbeing. The city as the 'home of man' should favour social identity, local pride, and cultural engagement.

- *Effective circular city initiatives are needed* to reduce the urban environmental footprint by combining green infrastructure, resource efficiency, low-carbon mobility, closed resource loops and regenerative technical-economic environments. To that end spatial proximity should be a guiding principle for climate-oriented urban planning.

Estafette 3

GLOBALIZATION, LOCALIZATION AND SOCIAL WELLBEING

The New Wellbeing Society Symposium, May 2025, Rotterdam

Coordinator: Martijn Burger

1. Aims and Scope

Regional science spans the entire world, from global to local levels. It addresses the spatial-economic interactions among people, business firms, cities and regions. In a globalizing world, the mutual economic linkages among regions, economic sectors and techno-economic power blocks are not only mirrored in global trade patterns, but are also reflected in the dynamism of cities and regions. In other words, international trade, regional development and urban dynamics are closely connected phenomena. This holds in particular, as regions and cities are heterogeneous agents which through the existence – and exploitation – of scale advantages are able to build up a competitive position (the '*New Economic Geography*'). Urban agglomerations may thus become economic control and command centres in an open competitive and multi-faceted space-economy, supported by the design of, access to, and use of advanced technology. Clearly, trade barriers have generally a devastating impact on the efficiency-based global-to-local mechanism of the global economy. The recent movements towards trade and tariff wars have great implications, not only for economic growth prospects of urban areas, but also for the wellbeing and happiness experiences of residents. This calls for a balanced and evidence-based reflection on the triangular relationship between the global economy, local development and human/societal wellbeing. From this perspective, balanced and effective local to global environment and climate policy is an engine for enhancing human and socio-economic wellbeing.

2. Credo

Localization and globalization are two sides of the same spatial-economic coin. Their bilateral relationship in a global society dominated by technological advances (e.g., digital technology) impacts deeply on economic growth (e.g., GDP) and on social or human wellbeing ('beyond GDP'). Such wellbeing challenges embody a range of – often intangible – factors, such as livability, quality of life, human health, or safety. It is therefore pertinent to reflect on new socio-economic spatial (global-to-local) systems that guarantee a satisfactory quality-of-life condition for everyone. Distribution of wealth (including issues of socio-economic inequality and poverty) is clearly linked with environment and climate behaviour of individuals and groups. Therefore, the notion of the '*New Wellbeing Society*' is an important recipe for advocating and realizing a planet where balanced distribution and climate friendliness go hand in hand.

3. Relevance

Open systems offer many economic opportunities but may also generate vulnerable situations for less privileged populations, as we have seen during the financial crisis and the COVID-19 pandemic. Balanced openness – with a fair share of the distribution of welfare for all citizens – is thus a prerequisite, which needs dedicated public policy, for instance, in education or in the healthcare system. Trade policy and urban policy need bilateral handles on two sides to arrive at equilibrating outcomes serving maximum happiness for people. In this case, tariff wars have a negative impact on both climatological stability and wealth distribution. Trade wars are usually economic mercantilistic power games, and by no means influenced by sustainability care and climatological concerns. At the same time, they aggravate socio-economic inequality among nations, regions or population groups, with the obvious consequence that climate and environmental care for future generations is under-snowed. Rather than violating commonly agreed WTO rules of game for international trade, it is desirable to give environmental and climatological arguments a convincing and justified prominent place in international

trade agreements. In general, socio-economic disparities, regional and urban growth, and a high-quality environment are all parameters in a sustainable global society.

4. Policy Message

A balanced wellbeing situation – at local and global level – needs a dedicated multi-faceted policy effort. This is not a mono-disciplinary action field, but a focused and integrative policy at the edge of commodity trade and transport, regional development (including attention for less privileged areas), urban welfare and social policy (including labour market conditions and poverty situations), and sustainability strategies enhancing livability of people. Since climate change and environmental quality are two mutually linked phenomena, it is needed that urban wellbeing policy is also based on SDG initiatives and global trade mechanisms. Trade policy, climate policy and urban policy form a triangle which ought to be strengthened, at both local and global scales. This triangular perspective has also great implications for the operationalization of SDGs. Finally, it is also noteworthy that higher levels of socio-economic wellbeing tend to support both urban prosperity and sustainable economic decisions.

5. Policy Action

The journey towards a climate-neutral future is a long one, as it touches on the established interests of many actors, at both local and global level. Nevertheless, there is clear scope for effective common policy actions, as exemplified in the following three key policy messages.

- To avoid setbacks from tariff and trade conflicts, *binding climate and environmental provisions* - with a clear geographical dimension - have to be included in international trade agreements. Climate threats caused by unbalanced trade compromise and undermined sound economic integration and environmental sustainability, while they also create risks of urban leakage and unsustainable production mocks.

- Dedicated efforts are to be made to *mitigate spatial-economic disparities* caused by trade, as this will jeopardize both a balanced climate-neutral policy objective and an equitable economic development process in countries with a relatively weak economy. Wellbeing, economic interactions and environmental quality are closely intertwined.

- *Balanced global trade has to be supported by stakeholder platforms* that allow regions, countries and communities to access and share low-carbon technologies. Fostering equitable knowledge transfer, accelerating the adoption of climate-friendly solutions, and enabling local actors to global sustainability and climate-neutrality initiatives are some of the necessary tools.

Estafette 4

X-FACTOR FOR SPATIAL RESILIENCE AND SUSTAINABLE CITIES

Ulysses Bootcamp, June 2025, Košice

Coordinators: Peter Džupka, Oto Hudec

1. Aims and Scope

Cities – or urban agglomerations – are not only the geographical habitat of the majority of the world population (articulated in expressions like: '*the urban century*', 'the *New Urban World'*, etc.), but they also form dynamic human, socio-economic and institutional ecosystems. Urban areas evolve over time as a result of economic, technological or demographic developments, while in various cases they are subjected to abrupt perturbations, shocks or disasters. Clearly, in the long urban history we observe both gradual evolutions and unexpected catastrophes (both human-made – like wars, geopolitical conflicts and trade wars –, and natural – like earthquakes, floods, storms, etc.). The major challenge of urban governance is to create a balanced development trajectory for cities and to seek for effective and efficient recovery strategies in case of unforeseen shocks. This holds true in particular for climate shocks (e.g., in case of floods). This urban challenge holds for urban areas in both the developed and the developing parts of our world. In this context, the quality of both natural environments and human-made environments needs to be supported and enhanced. Consequently, resilience strategies are at the heart of contemporaneous urban sustainability policies.

2. Credo

Cities are the most prominent human settlement configurations and should serve the long-range sustainability of our planet, in particular by developing strategies that take care of both present and future generations. In our modern transformative global *and* local economy, cities have the task to integrate economic, cultural, technological, social or environmental goals from a resilience perspective. This calls for pro-active governance initiatives from all stakeholders involved. Consequently, sustainable cities do not only play a role as 'firemen' in case of disruptions or shocks ('abatement strategies'), but also as safeguards preventing the occurrence of shocks. Such prevention policies contain more than recovery measures; they call for calculated prevention measures to avoid major catastrophes. Such strategies are nowadays called '*prosilience*' strategies. In other words, cities all over the world need pro-active policy, so as to cope with climate change.

3. Relevance

A pro-active position of urban agglomerations in the present age of high political and economic uncertainty also calls for the need to diversify risks, and to invest in environmentally-benign and climate-neutral investments with a view to the wellbeing of future generations. A sine qua non for such effective, pro-active and preventive policy is the creation of seedbeds for innovative research and development initiatives (e.g., regarding infrastructure protecting vulnerable ecosystems, or programs for reducing fossil fuel use). It should be noted that the effectuation of such ambitious environment-climate achievements needs an institutional constellation based on joint responsibilities and actions of three Triple Helix stakeholders: *Governments*, *Industry* and *Academia*, while in a specific urban context also citizens (or communities) play an essential role. This is also clearly mirrored in the present citizen participation and citizen engagement approaches. Advances in citizen science has brought to light that cities may act as promising climate-neutral experimental hubs, where environment-conscious talents can pave new roads to sustainability of our planet.

4. Policy Message

Cities are conglomerates of people seeking for both welfare and wellbeing. Despite these laudable intentions, the bitter reality in many cities reflects a different and disappointing image: cities are sometimes containers of waste ('pollution havens'), sources of high CO2 emissions, depressive human environments, and hubs of low human health or mental wellbeing. A glaring example is the contemporaneous and world-wide shared concern on urban heat islands. The average temperature in many cities has risen between 2-5 degrees over the past decades, partly as an indirect consequence of global temperature rise. In addition, we observe more and more extreme weather events, causing not only floods but also drought. And therefore, local policy action is essential for both adaptation and prevention ('prosilience'). Useful examples are nowadays provided by local green and blue initiatives, local biodiversity plans, solar energy panels, and pedestrianization of central streets. Related activities are urban cooling projects (e.g., green roofs or walls of buildings), water retention methods, and circular economy initiatives (including recycling policies). Clearly, there is a need for empirically underpinned and evidence-based knowledge systems – at a fine granular level – in order to develop user-oriented urban climate actions (such as smart sensors, decentralized urban quality dashboards). Finally, the clear policy message is that urban agglomerations are not necessarily the sources of environmental or climate evil, but on the contrary the promising sources of prosilient climate wellbeing.

5. Policy Action

The city is a multi-agent constellation. It has a great potential to offer a drastic contribution to the realization of all 17 UN SDGs. To realize that ambitious goal, several policy actions are needed.

- Residents should have a *guaranteed access* to daily needs (including education, healthcare, green spaces). Uncontrolled urban sprawl has to be avoided. Urban planning and design should be based on quantitative *proximity principles* (e.g., in a 15-minute context), so that daily needs can be met within a limited amount of time. This will give more room for green spaces and safer mobility, thus making the city a livable and loveable place, in which proximity poverty is eliminated.

- *Nature and green* are main principles of urban forms. Cities are the natural habitat of people, and therefore, a *high quality of the environment* is necessary. Regenerative policy and circular economy initiatives are essential for a flourishing city life, addressing not only leisure amenities (like shops), but also blue-green ecosystems. Neighbourhood biodiversity sanctuaries and small-scale local 'wilderness' plans are examples of nature-based solutions for the city.

- *Streets* are civic arenas. *Public spaces in cities* are the user space of all inhabitants. Monopolizing streets for car drivers creates an imbalance in a healthy and environmentally-benign city; children and elderly have equal rights. Clear user rules with equal rights are pertinent.

Estafette 5

CLIMATE CHANGE: FAR AWAY AND CLOSE BY

Young Generation Workshop, July 2025, Rijeka

Coordinators: Sasa Drezgić, Petra Zaninovic, Dario Maradin, Anamarija Zron

1. Aims and Scope

Climate change is often seen as a global externality that is far from our daily life, both in terms of direct vicinity and immediate effect. Clearly, climate change is a phenomenon that leaves no regions or groups unaffected, neither now nor in the future. It affects both the OECD part of the world and the Global South. Most discussions take place on global externalities (like rise in temperature or rise in sea levels), while nowadays many impacts are already taking place at local or regional scale levels, witness the rise in forest fires, or local floods affecting cities. Therefore, a more comprehensive and inclusive view on climate change – and related environmental decay – is warranted. Climate change does not only need an evidence-based view on global transformative actions, but also on local transformative plans. From this perspective, it is increasingly recognized that climate change disproportionately affects vulnerable communities and urban neighbourhoods, often people in the Global South, indigenous people in peripheral areas or low-income populations. Every region and every person is affected by climate change, but not everyone to the same extent; climate change has clearly unequal distributional implications; hence the popular term '*climate justice*'. Seen from that perspective, there is a rising interest in a collective public fund to mitigate or balance serious distributional problems of vulnerable groups or areas.

2. Credo

Climate change covers the entire world, as well as all human settlements and natural habitats. It is both a challenge and an opportunity to redefine our relationship with the planet. To cope with this novel junctures, climate technologies and measures must be scalable, accessible and balanced. For example, decentralized renewable energy systems and open-science climate information systems or platforms are crucial to empower communities. In the same vein, small-scale solar power grids can electrify rural communities in the Amazon, while urban centres might adopt smart environmentally-benign infrastructure. At local levels, it may be worthwhile to experiment with climate innovation labs. A similar plan may be envisaged for the design of biodiversity labs in tropical forests. All such ideas will only come into reality, if the rhetoric of ecosystem protection is coupled with nature-based solutions, in both natural and urban areas, while financial support mechanisms are a necessary condition. Climate action is only successful, if implementation is prioritized: critical empowerment of citizens is one, generously financing climate initiatives for building a sustainable and resilient future is another one.

3. Relevance

Climate-neutral policy has a global orientation, but needs local action. The locality is the actionable place where citizens are directly involved. It offers the world as a whole, but also vulnerable communities, indigenous people and low-income populations. And therefore, climate-neutral local planning is of great importance: green parks, clear waters, prohibition of excessive plastics use, healthy active mobility, clean water, safe playgrounds for children, and many more examples. Against this background, the popular notion of a 15-minute city (developed by Carlos Moreno) is an extremely important novel planning concept. It has demonstrated its viability, not only in the traditional bike-friendly Danish or Dutch cities, but also in other cities like Paris, Brussels or Milano. Such a 15-minute city model would not only contribute to a high-quality urban environment, but also to a healthy lifestyle,

while contributing also significantly to climate change adjustment. And finally, it also contribute to an enhanced wellbeing. Consequently, global effectiveness of climate change policy may find its success in micro- or local initiatives. Clearly, individualized models of transport – ranging from bicycles to cars – have to be complemented with user-oriented public transport (or shared transport means). The main goals of sustainable spaces would have to be: efficient density, satisfactory proximity, healthy spatial interaction, and accessible transport in urban agglomerations. The notion of *multi-functional compact and sustainable urban spaces* is therefore relevant for climate-neutral urban planning.

4. Policy Message

The earth has a multi-scalar constellation; it is essentially a system of cities (or regions) organized in a hierarchical form, where each city (or region) is again a new system. Such a multi-scalar perspective – with many interdependent feedback loops – is difficult to manage from a single global sustainability perspective. It seems therefore relevant to impose the '*minimum requirements*' principle on global and local climate policy, which have to be respected by all entities involved. There is indeed 'only one *earth'*, but there are many governments and many conflicting interests. Climate policy is a task. To avoid a devastating '*tragedy of the commons*', effective action is needed. Given the direct local effects, it makes therefore sense to start with dedicated local actions serving the wellbeing of people and next to expect that global decisions will back visible small-scale local climate action. This would also be in agreement with 'no regret' principles: smart actions at local scale will serve local interest, even if the global benefits would be modest. This is in agreement with the motto '*think global act local*'.

5. Policy Action

The world of climate action is complex, but not hopeless. Seen from the above-mentioned message on the significance of local actions for global climate-neutrality, three anchor points can be envisaged.

- *Establish publicly funded 'climate innovation labs'* in cities and rural areas to pilot nature-based and community-led solutions. They would connect local stakeholders, i.e., citizens, governments and SMEs to implement small-scale renewable, biodiversity and adaptation projects. Such labs would unite partners to share ideas and create solutions that promote sustainability and care for the planet and its future generations.

- *Promote climate neutrality through the 15-minute city model*, ensuring all residents have access to green spaces, services, and jobs within short distances. This compact, sustainable urban design fosters active mobility, social cohesion, and reduced emissions. Proximity-driven urban planning is key to building resilient, inclusive communities amid evolving environmental and societal challenges.

- *Create inclusive funding platform*s to support local climate initiatives, ensuring accessible financing for vulnerable communities and local governments that often face barriers to climate adaptation and mitigation. By fostering sustainable financial instruments, such as green bonds and green loans, these platforms can empower stakeholders, enhance resilience, and promote sustainable development tailored to local environmental and socio-economic contexts.

Estafette 6

CLIMATE CHANGE POLICY: BEYOND GDP

ISQOLS Conference, July 2025, Luxembourg
Coordinator: Martijn Burger

1. Aims and Scope

Climate change is to some extent caused by industrial production and people's consumption and behavioural patterns. Clearly, economic growth is beneficial for our world and its population. The continuous growth in GDP per capita in most countries over the past decades illustrates that the majority of the world's population enjoys the benefits of continued economic growth. However, the rise in economic welfare – usually measured in GDP rise – has its costs, in particular in regard to quality of the environment and the high risks of climate change. Such costs are reflected in damage costs, abatement costs and prevention costs. Ideally, such costs would have to be deducted from GDP to arrive at a reliable measure of welfare growth. This has led to various new definitions of economic growth, reflected inter alia in such concepts as green GDP, which are all be summarized under the heading of the '*beyond GDP*' (or 'sustainable GDP') conceptualization of economic welfare growth. However, there are also several aspects that shape welfare satisfaction which cannot easily be quantified in monetary terms or be brought consistently together in the traditional welfare measurement schemes. The modern concepts of social wellbeing or sustainable wellbeing exemplify that a consistent and adjusted measurement of environment – or climate-oriented welfare – is fraught with many analytical and evidence-based problems. This can easily be seen in several efforts to assess the Human Development Index (HDI), the Happy Planet Index (HPI) or in recent progress in estimating human or social wellbeing in relation to the SDGs. This is a research challenge that is critical for broad support to welfare measurement adjustments.

2. Credo

People enjoy the quality of their physical environment, like many other goods. This enjoyment may be seen as welfare benefits, provided all social, environmental and climatological costs – individual and collective – are incorporated in their choices and related costs. If such external costs cannot be properly estimated in monetary terms, alternative welfare measurement schemes have to be developed, such as the HDI. In this context, a new wave of scientific and policy interest has emerged in recent years, viz. *subjective wellbeing* (SWB). The notion seeks to assess the satisfaction of people – individually or collectively – with their quality of life, both social and environmental. This broad welfare perspective has gained much popularity, thanks to the use of digital survey techniques and social media information. SWB allows us to take into consideration ecological sustainability, inclusive prosperity, climate vulnerability, and other external factors like natural disaster risks. It is therefore pertinent to further develop SWB – and related concepts like spatial happiness and city love – as a solid empirical foundation for future-oriented climate policy.

3. Relevance

The societal assessment of climate change needs clearly the development of alternative welfare anchor points or signposts like green GDP (e.g., a low-carbon, resource-efficient and low ecological footprint economy), but it also needs a socially inclusive and healthy living environment (the 'doughnut economics' idea). But more is needed, viz. the operational design of actionable wellbeing indicators comprising of livability, environmental safety, socio-psychological wellbeing, social equity and healthy lifestyles. At the level of urban environments, the notion of '*city love*' has recently been developed to incorporate both objective quality-of-life indicators and subjective perceptions of the living

environment. This notion captures physical-functional use dimensions as well as emotional-social dimensions, which characterize and quantify tangible and intangible aspects of urban life. City love is inspired by previous quantitative assessments like HDI, the Human Habitat Index (HHI), the Subjective Feelgood Index (SFI), the Urban Happiness Index (UHI), the Better Life Index (BLI), and the Quality-of-Life Index (QoLI). It goes without saying that the quantification of one or more of such wellbeing indices presupposes the development and usage of solid statistical databases. Absence of citizen-oriented, neighbourhood-based or evidence-supported databases on a structural multi-annual basis frustrates effective climate initiatives. Climate change policy – both globally and locally – has to be supported by relevant and actionable information, for both long-term strategic action and short-term contingency action.

4. Policy Message

Environmental and climate policy takes place in a broad policy arena, in which social capital (e.g., education, healthcare, sports facilities), economic capital (e.g., jobs, entrepreneurship), cultural capital (e.g., urban ambiance, historical heritage), infrastructural capital (e.g., transportation, housing), and green capital (e.g., air and water quality, safe environment) all compete in a struggle for scarce resources in a society characterized by a pluriform population, with many different goals.

5. Policy Action

The modern wellbeing approach – based on bottom-up perceptions and convictions of people – is not a bottleneck for effective climate policy, but offers great possibilities for evidence-based solutions. A citizen-oriented climate strategy offers many opportunities to increase both welfare (in GDP) and wellbeing (in non-GDP terms). To effectuate a successful climate policy, several actions are to be undertaken.

- The *design and operationalization of alternative evidence-based wellbeing indicators* (e.g., green GDP, SWB indicators) is a necessity for convincing climate policy, since these new measurement schemes are able to factor in environmental, economic, social and climate costs. Such a more holistic framework captures in principle also (ecosystem and human) health, social inclusion, and resilience to climate change risks, shifting the focus from short-term to long-term sustainability.

- For effective climate policy a *regular system of climate and wellbeing surveys at different governance levels* is necessary to support evidence-based policy making, while discovering and monitoring trends in community resilience, perceptions of climate fairness, and emerging vulnerabilities. Such surveys should integrate environmental indicators, social dimensions and subjective wellbeing indicators in order to create a knowledge base for adaptive planning and public accountability, especially at local or regional level.

- *Public climate spending has to be transparent* linking expenditures to wellbeing outcomes regarding climate goals, so that fairness discussions can be organized on the basis of empirical facts. In this context, there is an important role for citizen science linking research and citizen engagement.

Estafette 7

LIVABLE PLACES FOR HUMAN WELLBEING

ERSA Conference, August 2025, Athens

Coordinators: Thomas Doxiadis, Yannis Psycharis

1. Aims and Scope

With the majority of people on our planet living and working in urbanized areas, a wide range of knowledge and policy challenges emerges, not only inside urban or metropolitan areas, but also in regional or more peripheral parts of our world. Climate change is everywhere, ranging from heatwave effects in densely populated cities to agricultural practice conditions. Our world has undoubtedly a great potential to cope with many far-reaching climate change effects, but paradoxically not a great progress has been made in coping with the adverse effects of climate change on human settlements quality. Even though already more than 60 years ago scientific signals have been launched on the necessity of effective and concrete quality-of-life policy (in particular by the Ekistics movement started by one of the most visionary architects of the last century, Constantinos A. Doxiades), many countries are still groping in the dark. Fortunately, we also observe several signals of promising sustainable settlement policy anchor points (e.g., the *15-minute city* concept, the *city love* planning signposts, the *climate-neutral* notion, the *circular economy* paradigm, etc.).

2. Credo

Our planet is full of diverse settlement systems where goods, services, technology, culture and new ideas are generated and exchanged in and between many places. The mega-trend towards geographical proximity leading to human and socio-economic clusters stimulates not only prosperity and innovation, but also the rise of a new problematic global geographic force field where many quality-of-life and livability challenges arise. To some extent, our planet is a pluriform public space to be wisely governed by governments, industries and people. This *space for all* may turn into violent change if this is not managed in a responsible and balanced manner. Unlimited freedom in the earth' vulnerable space needs to be replaced by actionable and effective governance of the planetary space serving the wellbeing for all, including climate adaptation and social inclusiveness.

3. Relevance

Our world is a globally interconnected geographical system that is in permanent motion, where the most dynamic developments take place in large urban areas, witness the great urbanization trends in countries like China and India. Urban densities and spatial proximities are not necessarily an evil, but call for effective control and intervention measures to safeguard quality of life and livability for millions of people. The pressure on human settlements is not self-correcting, and needs an actionable strategy with concrete planning concepts (e.g., zero-emission spaces, circular techno-economic spaces, car-free (or pedestrianized) spaces, green spaces, etc.). New spatial concepts have to be judged on the basis of convincing reality-checks against generational targets for the new wellbeing society, in particular on the basis of the UN SDGs (or measurable HDIs). Clearly, such ambitions do not only pertain to urban areas, but to the wider regional or national territory. It should be added that there may be serious distributional issues involved with an ambitious climate policy, not only inside urban areas, but also between cities, regions and nations. The notion of '*one earth*' calls therefore, also for serious policy measures seeking to mitigate unequal climate conditions on the earth as a whole. The challenges are indeed formidable and transcend the competence of individual cities, regions and nations. Thus, a collective action is pertinent and imminent.

4. Policy Message

The global space-economy is not a stable system; it is affected by turbulences of all kind: financial-economic crises, pandemics and epidemics, geo-political conflicts, wars and genocides, unprecedented technological advances, natural and vulnerabilities disasters, etc. The world has become an interconnected network in which peace and conflict are present at the same time and where the distribution of political, economic and technological power is unequally distributed. A balanced global policy in tandem with sustainable local policy seems therefore a necessary condition for both sustainable development of our earth, and a prevention of escalating geo-political conflicts which would be devastating for the fragile ecosystem of our earth. Such a balanced global policy orientation would have to encompass all constituents of the local-to-global ecosystem, such as water, energy, rainforest, air quality, soil, cultural space, tranquility, and geographical identity. It seems therefore pertinent that a coordinated multi-scalar climate-environment governance system be developed that is aligned with both local-global sustainability and a fair distribution of all human and ecological resources.

5. Policy Action

The pathway to a locally-globally sustainable world is fraught with many difficulties, as outlined above. Following the well-known Maslow pyramid of basic human needs, it is necessary that – as a minimum condition for sustainable human wellbeing – several concrete policy anchor points for effective long-range policy are formulated and operationalized.

- Local and regional authorities have to set *unambiguous and transparent long-term intergenerational goals* for creating climate-neutral, inclusive and resilient settlements in agreement with the SDGs. Urban land use, infrastructure, environmentally-benign and efficient energy systems have to be co-developed from the perspective of long-range climate adaptation, both locally and regionally.

- Local and regional livability has to be based on *wellbeing-centered perspectives*, through zero-emission districts, pedestrianization, circular economy programs, and regenerative practices. This will increase quality of life in a visible way: cleaner, healthier, safer, more attractive and more economically vibrant urban environments.

- Climate concern is a common livability concern, and therefore climate governance should *respect equal burden principles in financing and in resource allocation* for climate mitigation and adaptation. Small-scale renewable energy systems – supported by adequate climate financing funds – are needed to support in particular vulnerable population groups and less privileged communities. Without *climate justice* there is no scope for a broad support for effective climate policy.

Estafette 8

URBAN PROXIMITY AS A SUSTAINABILITY FORCE

Global Conference on Sustainable Urban Proximity, September 2025, Paris

Coordinators: Catherine Gall, Carlos Moreno

1. Aims and Scope

Urban agglomerations reflect in general a high degree of density of activities and proximity of people. In recent years – particularly in the context of the *15-minute city* model – much attention has been paid to *proximity* as a leading urban planning concept. The urban proximity model is based on ensuring that residents can meet essential needs – such as work, care, food and recreation - within a short walk or bike ride from their home. It is often presented as a pathway toward spatial justice, sustainability, and community wellbeing. Rooted in the principle of proximity-based development, it calls for integrated spatial planning that re-distributes spatial opportunities and reinforces human-oriented and climate-resilient communities. In the face of climate change, economic inequality, social exclusion, and a global housing crisis, there is at present an urgent need for effective wellbeing-oriented sustainability policy in urban areas. Proximity is then a powerful design principle for resilient, connected and inclusive urban environments.

2. Credo

In light of the global shortage of decent local housing (2.8 billion people worldwide lack adequate shelter), it is pertinent for authorities - ranging from local to global – to ensure equal opportunities in healthcare, educational opportunities, sound environments and access to basic resources. In this context, the concept of urban proximity offers a transformative and sustainable pathway forward. It is a paradigm shift that reimagines cities as places where people can live, work, learn and thrive within their own neighbourhoods. It integrates housing, services, mobility and governance into a cohesive, people-centered urban fabric. At local level of climate adaptation policy proximity-based planning is to be recognized as a strategic lever for climate action, social justice, and sustainable urban development. Proximity places people at the heart of urban design, ensuring equitable access to essential functions – living, working, caring, learning and governing. Urban proximity offers a sustainable model to address environmental crises, as well as socio-spatial inequalities.

3. Relevance

Proximity-based cities are functionally-based interconnected urban areas characterized by a range of socio-economic features that are part of an explicit wellbeing-centered and environment-benign city landscape and surroundings. Such cities have to meet the aspirations of their inhabitants by: (i) providing affordable housing and sanitation; (ii) supporting environmental quality through solid waste management, biodiversity, access to clean water, or presence of green areas; (iii) safe and accessible transport systems based on reliable public transit and micro-mobility amenities (cycle pathways, sidewalks, etc.); (iv) socio-economic community neighbourhoods (including public space, cultural amenities, sports and recreational facilities); (v) solid economic conditions and prospects (e.g., employment, healthcare access); (vi) access to advanced technology such as broadband or e-governance tools; and last but not least (vii) recognition of the severity of the current climate crisis through awareness and information campaigns. Clearly, recognition of the relevance of the climate issue calls for a broad public marketing effort.

4. Policy Message

Information on concrete and promising climate mitigation and adaptation strategies is a sine qua non. The recently established *Global Observatory of Sustainable Proximities* is a great example of pro-active scientific and policy efforts, as it combines conceptual advancement, global capacity building and policy evaluation/monitoring of concrete action plans. There is definitely a need for focused policy measures covering both local and global aspects of the climate challenge. But it ought to be recognized that climate change is manifesting itself quite visibly at local levels, witness the risk of heat island effects, water shortages, storms, floods and the like. And therefore, climate policy action also has to be realized at local level, e.g., through bioclimate local or urban plans, safe and accessible bicycle routes, and healthy pedestrian areas.

5. Policy Action

Local climate policy presupposes a multi-faceted perspective on the daily living space of millions of people. A wide variety of initiatives and actions has to be envisaged.

- *Cities have to be made much greener*. And therefore, a greening policy (including a richer vegetation) is a meaning in the spirit of Howard's '*garden city*' concept more than a century ago. Local climate action from a green perspective is critical in our world.

- *Cities have to be the attractive living places for inhabitants*, with a sound mix of residential, work and leisure purposes. Clearly, environmental quality in cities has to be drastically improved, as here human health is at stake. Attractivity of cities means a multifunctional development in a compact space.

- A final task for urban planning and design is to *ensure the fulfillment of the proximity principle*, through which housing, employment, mobility, leisure and responsible governance is brought together. Proximity-based planning is one of the great climate policy challenges in the years to come, as it has to find a balance between grassroot initiatives and top-down rationality.

Estafette 9

DESIGN OF TRANSFORMATIVE URBAN SYSTEMS

CNR Symposium, October 2025, Naples

Coordinators: Luigi Fusco Girard, Francesca Nocca, Martina Bosone

1. Aims and Scope

The earth is ultimately a fragile, interconnected ecosystem that is subjected to both gradual climatological changes, and more abrupt climate disruptions and climate-induced risks. Climate change is co-determined by human actions and decisions, and therefore human activities including land use and urbanization should take care of their impacts on the environmental and climatological system. In our urbanized world, there is a need to reflect on geographical, human and cultural dimensions of sustainable development of cities, as climate change is not only a remote global challenge, but also deeply rooted in everyday life of citizens. Reconnecting climate and environmental science with the daily experience habits and lifestyles of people – including the young generation – is essential for both fostering collective awareness and systemic ways of thinking in regard to sustainable quality of life and providing seedbed conditions for. individual and their community wellbeing.

2. Credo

Climate change does not imply that the economic system of our earth – and in all cities, regions or nations – should come to a standstill. On the contrary, intensified efforts should be pursued to cope with the negative externalities associated with climate change. Effective climate policy does not mean a halt to economic and technological growth, but a redirection of growth based on sustainability principles as advocated in the UN SDGs. This selective growth also calls for novel research efforts, new technologies, and new lifestyles and consumption patterns. This also holds for the spatial development of our urbanized world. Urbanization is not necessarily an evil, but calls for balanced and wellbeing-centered urban planning, in which greening of cities, enhancement of environmental quality (air, water, soil) and protection of natural-historical-cultural heritage assume a prominent place. There is an urgent need for focusing on the highest urban happiness performance including (mental) health, community sense, cultural engagement and socio-economic satisfaction.

3. Relevance

Effective urban climate policy (e.g., regenerative programs, circular economy initiatives, awareness and education programs) are not only a cost factor, but favour the broader wellbeing perceptions of citizens. In the context of 'beyond GDP' perspectives, local climate adaptation may even have a '*double dividend*' character. 'Good cities' serve both the people and their multiple interactions, while leaving nobody behind; they create symbiosis and call for community-centered development strategies. Against this background, sustainable urban land-use planning is critical, as land use (both surface and subterranean) shapes the long-term evolution of cities. And therefore, circular economy initiatives at local and regional scale are essential for effective climate policy strategies, including initiatives for managing quality of water and soil, thus requiring a symbiotic climate policy.

4. Policy Message

Local planning aiming at achieving the highest possible quality of life in human settlement is key to a successful climate policy. It calls for an interdisciplinary action plan in which economic and technological aspirations are geared towards the highest quality of life, both individually and for humankind. Such policies should be based on a symbiosis of ecological, socio-economic, social cultural-architectural and wellbeing goals. The anchor points of such a balanced and symbiotic SDG-oriented

approach would thus be: Nature, Humankind, Society, Culture, Community and Built Environment, all serving individual and collective wellbeing at local level. Carbon footprint reduction is one of the mechanisms to achieve this ambition, but numerous other choices (reduction of plastics, recycling initiatives, spatial proximity, etc.) are equally important. Clearly, effective eco-system policy has to be based on a multidisciplinary knowledge base and related planning activities. From a spatial planning perspective, circular urban economies are to be based on a symbiosis between city and territory, between city and village, between city and industry, and between city and nature. This holds for both monocentric and polycentric urban systems.

5. Policy Action

The road to transformative urban systems that meet the UN SDGs is not easy and full of hurdles. Novel and effective policy initiatives for a re-generative economy and re-design of urban systems are needed. We mention here various promising urban planning perspectives.

- A *global experimental system* for testing and implementing the symbiotic circular model – designed in many industrial eco-parks ('industrial symbiosis') - should be set up, from the perspective of both greenhouse gas emissions, and resource and energy reduction. In this framework also proper multidimensional evaluation systems have to be designed and applied.

- The *circular city model* needs *much broader applications*, in symbiosis with the industrial system, transportation hubs and infrastructure, and the knowledge and? R&D systems. Such models are not only relevant from a mono-centric angle, but may also be fruitful from a systemic (e.g., polycentric) perspective. Circular economies in urban areas are to be designed from both a sustainability and wellbeing perspective.

- A *high land use quality* is critical, not only from a functional perspective (e.g., economic, cultural, green), but also from a (human and ecosystem's) health perspective. This also holds for the quality of soil and water. A community-centered policy strategy is needed in all urban areas. A systemic collection of documented good practices from different places in the world is needed for informed planning experiments.

Estafette 10

THE TRANSFORMATIVE ECONOMY – HUMAN CAPITAL, CO-CREATIVE INNOVATION AND INCLUSIVE GROWTH

YSU International Economic Conference, October 2025, Yerevan

Coordinators: Karlen Khachatryan, Ani Khalatyan

1. Aims and Scope

The notion of a '*transformative economy*' emphasizes the decisive role of human capital development and co-creative innovation in realizing sustainable and inclusive growth. A modern economy is no longer shaped exclusively by capital accumulation or technological progress, but by the creative interaction of people, knowledge institutions, business firms, governments, and civil society. This interconnected system generates new pathways for addressing climate challenges, digital transitions, and social equity. It is essential to shed light on how human capital strategies – from education and training to lifelong learning – can be aligned with innovative economic practices to secure both resilience and prosperity in the current age of climate change. Thereby, societies can foster a workforce that is adaptive, future-oriented, and empowered to co-create solutions, ensuring that economic progress is not only competitive, but also equitable and environmentally sustainable. All citizens need to engage in this transformation, with policymakers setting supportive frameworks, businesses adopting responsible practices, educational institutions nurturing critical and creative skills, and citizens actively contributing to a culture of innovation and sustainability.

2. Credo

Human capital is the engine of transformation. An economy without skilled, creative, and engaged people cannot respond to the environmental, social and technological disruptions of our age. At the same time, innovation must be understood as a co-creative process, where value emerges through cooperation between universities, industries, policy-makers, and citizens. Inclusive growth requires that opportunities for participation, creativity, and wellbeing be equitably available to all members of society. In this view, the transformative economy is about empowering people as co-creators of sustainable futures believing that progress is measured not only by economic output but by the resilience of communities, the health of ecosystems, and the inclusiveness of opportunities that shape our collective destiny in a locally-globally connected earth.

3. Relevance

Many countries, and in particular transitional economies, face the dual challenge of securing competitiveness in a globalized, digitalizing world, while safeguarding social cohesion and environmental resilience. Brain drains, skill mismatches, and uneven regional development show the need for renewed human capital strategies. At the same time, the urgent agenda of climate change and ecological degradation demands innovative and inclusive responses. The transformative economy perspective links human capital development, innovation ecosystems, and inclusive growth models to the broader objectives of the UN SDGs and climate-neutral development. This may call for comprehensive policy frameworks that integrate education reform, digital and green skill-building, and place-based innovation strategies, while fostering partnerships between government, business, academia, and civil society to ensure that the benefits of transformation are widely shared and sustainable.

4. Policy Message

A transformative economy requires an explicit alignment of education, innovation and sustainability. It recognizes that GDP growth alone is insufficient, and that equity, social cohesion, and ecological responsibility are equally essential. Policies must build the institutional capacity to nurture talent, stimulate co-creation, and support innovations that contribute to both prosperity and wellbeing. Processing this requires integrated strategies that bridge sectors and scales: reshaping education systems to enhance employability and adaptability; reforming curricula to cultivate future-ready skills; creating innovation ecosystems that connect research institutions, enterprises, NGOs, and communities; and embedding environmental and social considerations into all economic activities. Only through such holistic approaches can societies develop resilient, inclusive, and sustainable pathways that respond effectively to the challenges of climate change, technological disruption, and social inequality.

5. Policy Action

Based on the previously highlighted importance of human capital development and co-creative innovation in realizing sustainable and inclusive growth, a range of ambitious actions is essential for realizing a transformative economy, in both the developed world, the developing world, and in emerging economies.

- *Human capital foundations should be strengthened* by investing in education, lifelong learning, and re-skilling, with a focus on green, digital, and entrepreneurial competencies accessible to all societal groups. Including targeted programs to ensure equitable access and participation in the transformative economy can ensure that these initiatives are inclusive, responsive to labor market needs, and aligned with broader sustainability and innovation goals.

- *A rigorous regional program is needed for co-creative innovation ecosystems*, which can be realized by stimulating collaboration between government, business, academia, and civil society to generate climate-neutral, socially inclusive, and practice-oriented innovations. Such ecosystems can foster climate-neutral, socially inclusive, and practice-oriented innovations, providing a foundation for resilient economic growth, knowledge-driven solutions, and broad participation in shaping sustainable futures.

- *A decisive initiative has to be launched to advance inclusive growth pathways*: embed circular economy principles, social equity, and regional cohesion in national and regional development strategies, ensuring that prosperity and sustainability go hand in hand. This approach will support regional development by reducing disparities, fostering local innovation, and enhancing the resilience and competitiveness of communities across all areas.

Estafette 11

WATER RESOURCE MANAGEMENT IN ECOLOGICALLY VALUABLE AREAS

Brainstorm Workshop Sidi Mohammed Ben Abdellah University, October 2025, Fez

Coordinator: Mohammed Makhtari

1. Aims and Scope

Climate change and resource use are two individually intertwined phenomena. Resources often used in this context are fossil fuels, water and minerals. And of course, exploration of such resources will have a far-reaching impact on climate stability, and it is evident from recent studies and debates that strict measures are to be undertaken to avoid a further deterioration of the climate landscape on our planet. Drastic interventions are needed at both global and local scales, at the triple helix interface of industries, governments and research/education. This action agenda has already extensively been discussed in the varied contributions from previous Estafette meetings. There is, however, another important causal linkage, viz. the influence of climate change conditions on the availability of resources for human use, in particular water and foodstuff. Clearly, the supply of foodstuff is critically dependent on water availability. Water is an essential resource input for human consumption and industrial production. And scarcity of water hampers dramatically the development potential of regions and cities, in particular in arid areas (e.g., Sub-Saharan Africa). Water shortage does not only affect economic growth, but also leads to significant wellbeing decay (e.g., poverty, poor health conditions, starvation, structural inequality). Consequently, sustainable water management is a prominent development factor in many nations, regions and cities.

2. Credo

Climate change and water availability – for both human consumption and agricultural production – mirror the same background, viz. the dramatic long-term change in the physical geography of our earth affecting everybody's wellbeing, and the resilience and sustainability capacity of our economics. Water shortage is not only a local physical problem; it also prompts changes in agri-cultural practices and it induces mass migration of poor people in search for a better fortune for their lives. Climate impact evaluation in regard to water – at both regional and global scales – is a first priority in getting the empirics right. Management of water supply – from the perspective of a common goods interpretation – presupposes also new regulatory and institutional frameworks based on joint stakeholders' interests at a supra-regional scale. And finally, the indirect consequences of water scarcity for both human migration and urbanization deserve further empirical research and policy inputs and initiatives. Clearly, changes in water supply will transform the physical landscape of our world.

3. Relevance

Water management remains a critical nexus for sustainable development, climate resilience, and *wellbeing*, particularly in semi-arid regions such as Morocco and across Africa, where increasing climate variability, population growth, and competing water demands place immense pressure on available resources. Science-based governance of water resources is essential to safeguard livelihoods, support *social wellbeing*, maintain ecosystem services, and foster economic development under conditions of climate stress. Effective water management requires integrated approaches that bridge hydrological, socio-economic, and policy dimensions to inform actionable strategies at local, regional, and global scales.

4. Policy Message

Water has a global and local dimension. There is a need to amplify regional voices and successful experiences in the global climate dialogue and to promote sustainable water management practices that are both scientifically robust and locally relevant. Knowledge exchange on effective and successful water management practices fosters critical capacity building, positioning key leaders in solid practices in climate-resilient water management and in offering a replicable policy model for sustainable water practices. Success stories are often found in cases with integrated water management with a combination of legal frameworks, research initiatives, and public awareness programs, showing that multi-level governance can foster sustainable water use and social wellbeing. In this way, scientific knowledge should be translated into actionable recommendations on resilient and durable water supply in periods of drought.

5. Policy Action

Resource scarcity as a result of climate change – in particular, water scarcity – has devastating consequences for the wellbeing on our planet. Several important policy actions may be foreseen.

- *Concrete and actionable solutions* have to be envisaged for safeguarding water resources, inter alia by integrating African and global perspectives on water governance, focusing on wellbeing and social issues, and ensuring local voices are heard in the global climate conversation.

- *Water challenges* in semi-arid and vulnerable regions have to be coped with, focusing on practical solutions that help communities adapt, build resilience, and thrive in the face of climate change, with an emphasis on sustainable water management.

- *Equal access to water resources* has to be ensured to all population groups – in both urban and rural areas – by a smart mix of quota systems and price systems to realize a cost-effective water supply and distribution in case of water shortage. Water management technologies – and in general climate technologies – should be scalable and accessible for all countries involved.

Estafette 12

CLIMATE POLICY IS HANDS-ON EMPIRICAL POLICY

WSKZ Session, October 2025, Wroclaw

Coordinators: Aleksandra Siewert, Mehmet Omurlu, Malgorzata Pacer, Waldemar Ratajczak, Małgorzata Dobrzyńska-Dąbska

1. Aims and Scope

Climate change discussions have already a long history, and cover a period of more than two decades. In fact, the climate debate is a follow-up of the world-service sustainability discussion which started with the publication of the Brundtland Report in 1987. A significant part of the climate discussion has centered on conceptual and definitional clarifications, and evidence-based case studies demonstrating the validity of climate change issues, awareness campaigns and political support programs at global levels (e.g., on maximum temperature rise or on de-carbonization programs). This first phase of global climate policy was indeed necessary and has turned out to be rather effective and successful. A major caveat in the global climate debate, however, has been the rather abstract level of climate policy measures and debates; global climate policy does not directly resonate in the mind of the people whose interest lies much more in the direct local quality of life. In recent years, we observe a closer resonation with the global and local components of climate change: '*think global, act local*'. A major challenge is of course the logical and empirical connection between globally observed trends and locally undertaken action impacts. Thus, there is a need for linking concrete local actions to global climate changes.

2. Credo

Climate is not a philosophical construct; it is observable at both global and local levels. And therefore, climate action is a hands-on activity, with concrete and observable intervention handles that are also visible to the people at large. Ultimately, the climate change problem is 'owned' by us all. Consequently, climate policy is a real-world concrete intervention activity with tangible and observable outcomes that are empirically measurable and fit in the generic SDGs. This presupposes the design and operationalization of '*climate change data warehouses*' following scalable principles for different regions or cities of the world. Such a data warehouse forms the conceptual and evidence-based data architecture for concrete climate action.

3. Relevance

A data-driven warehouse framework is a useful policy-relevant tool for outcome-oriented climate action. Such a toolbox comprises of various data analysis elements for applied policy action: (i) *spatial climate impact modules* containing inter alia local/regional climate risk indicators (e.g., prevention costs, climate-related subsidy schemes), dedicated urban/regional infrastructure adjustments (e.g., flood protection, green investments); (ii) *community-centric smart solutions* geared towards resilient transformations including climate safety and quality-of-life improvements, containing inter alia stakeholder and partnership analysis (based on a Triple Helix constellation), citizen participation and engagement analysis with a view to support the broader public (e.g., living labs, social sentiment analysis, focus groups), and social wellbeing analysis (e.g., happiness surveys, digital mood analysis, urban feelgood methods); (iii) *design of a statistical monitoring toolbox* including inter alia: SWOT analysis of actual or foreseen local climate actions (with a differentiation according to groups and places), dashboard design (with a specification of critical threshold and achievement levels), or digitalization (with a 3D visualization of actual or foreseeable trends on the basis of e.g. digital tools), human safety and health data (e.g., on the basis of safety and health hubs or clusters, emergency response

time, health risk zones, etc.). Clearly, climate policy presupposes that the underlying databases for policy implementation are in place.

4. Policy Message

Climate policy seeks to serve general wellbeing interests in a complex society that is subjected to climate disruption, including risk on local turbulence. Empirical data on past trends is obviously needed (e.g., on contingencies, policy response time), but foresight data on future events and actions are even more needed (e.g., on disaster probabilities, crisis management, safety hotspots, health risks, safety amenities and apps), GIS maps on vulnerable areas, digital risk maps based on local climate scenarios, financial assessment metrics, etc.). It goes without saying that such extensive and systematically collected databases – in the form of a synthesis data warehouse – are a *sine qua non* for effective and tangible policy strategies on quality of life, wellbeing and resilience various spatial levels.

5. Policy Action

Policy plans call for implementation, both globally and locally. In a local context, climate plans should serve the wellbeing of citizens, while mitigating or removing the negative externalities of climate change. Important anchor points of a balanced citizen-oriented policy are the following principles.

- *Local climate plans should be developed in the context of climate assessment analysis*, including employment, housing, social cohesion and quality of life, with an empirical orientation based on a coherent climate data warehouse for the area concerned. It is critical to pay particular attention to areas at risk by producing risk maps, which might be a supporting tool for decentralized local policy (e.g., heat contours, flood risks maps).

- *A range of validated statistical tools underlying local climate policy should be designed*, ranging from qualitative mind mapping exercises or balance score card analysis to geo-design methods or digital twins. In this context, early warning systems are particularly relevant, especially when they are part of a wake-up call in a data-oriented policy dashboard.

- *A range of relevant SDGs has to be translated into practical and visible outcomes*, for instance, through scorecards (e.g., degree of green access, proportion of affordable housing, safe wellbeing index, pre-specified areal safety risks) or testable urban plans (e.g., degree of green shading, share of cool roofs, use intensity of solar panels on dwellings, public transit use, degree of circular economy operations in the city, etc.).

Estafette 13

ACCELERATING SUSTAINABLE DEVELOPMENT THROUGH INTEGRATED CLIMATE AND SDG ACTIONS: PATHWAYS FOR INCLUSIVE AND REGENERATIVE FUTURES

Tsinghua Sustainability Workshop, October 2025, Beijing

Coordinator: Xufeng Zhu

1. Aims and Scope

Climate action and the Sustainable Development Goals (SDGs) are inherently interconnected dimensions of global development. Addressing climate change cannot be separated from the broader pursuit of public policy management and sustainable development. The alignment of climate strategies with the SDG framework provides opportunities to design development pathways that are not only environmentally sustainable but also socially inclusive and economically resilient. The notion of inclusivity emphasizes the importance of engaging marginalized populations, vulnerable regions, and future generations, while the concept of regeneration highlights the need to restore ecosystems, enhance natural capital, and advance circular and nature-based solutions. The challenge is therefore to identify actionable knowledge, governance models, and place-based practices that create synergies across multiple goals. The integration of climate policy with the SDGs is a necessary step toward building a more equitable and regenerative future.

2. Credo

Climate action and sustainable development are not parallel agendas but mutually reinforcing imperatives. Effective responses to the climate crisis must advance social equity, economic opportunity, and ecological resilience at the same time. Inclusivity ensures that vulnerable groups, marginalized regions, and future generations are not left behind in the necessary transition of our economies. Regeneration demands that environmental strategies move beyond damage control toward restoring ecosystems, strengthening natural capital, and embedding circular and nature-based practices in development. The synergy of climate policy and the SDGs provides a transformative framework to align human wellbeing with planetary boundaries. A sustainable future can only be achieved if climate ambition and development justice are pursued as two sides of the same endeavor.

3. Relevance

The global sustainability agenda faces the dual challenge of mitigating climate change and achieving the SDGs. These agendas are deeply intertwined: climate impacts intensify poverty, inequality, and food insecurity, while progress on inclusive development strengthens adaptive capacity and resilience. Ignoring this interdependence risks fragmented efforts that fail to deliver meaningful transformation. At the same time, rising vulnerabilities in developing regions, persistent socio-economic disparities, and the degradation of ecosystems highlight the urgency of integrated solutions. Recognizing climate action as a driver of inclusive and regenerative development allows for policy approaches that deliver co-benefits across environmental, social, and economic dimensions (‘double dividend’). The relevance of this perspective lies in its ability to transform climate policy from a narrow mitigation focus into a holistic development strategy that addresses human wellbeing, planetary boundaries, and intergenerational justice simultaneously.

4. Policy Message

Climate and development cannot be treated as separate domains of policy. Efforts that focus solely on carbon reduction without addressing social inclusion risk deepening disparities and undermining long-

term resilience. Conversely, development strategies that neglect environmental and climate imperatives may accelerate ecological degradation and compromise future prosperity. A coherent approach is therefore essential: climate action must be framed as a catalyst for achieving multiple SDGs, while SDG progress must reinforce climate ambition. This integration requires policies that simultaneously advance mitigation, adaptation, equity, and regeneration. The central message is clear: only by linking climate goals with inclusive development pathways can global and local actors generate sustainable, just, and transformative outcomes.

5. Policy Action

Climate policy without integration with the SDGs is bound to remain fragmented and ineffective. The following three ingredients of a balanced climate–SDG action agenda that will stimulate high-quality development of cities, regions and nations seem to be necessary.

- *Foster South–South and international cooperation* by building platforms for 'strategic conversation' that link climate action with SDG implementation, ensuring that developing countries share knowledge, technologies, and financial mechanisms for a just transition.

- *Strengthen inclusive governance and youth participation* by embedding citizen engagement, education, and innovation programs into climate–SDG strategies, with universities and research institutes serving as key knowledge brokers.

- *Advance regenerative development pathways* by promoting ecosystem restoration, circular economy models, and nature-based solutions, supported by accessible and advanced digital governance tools and cross-sectoral policy integration.

Estafette 14

SUSTAINABLE SPACE-ECONOMY, NATURE AND ACTIONABLE CLIMATE INITIATIVES

FUP Climate COP30 Workshop, October 2025, Belem

Coordinators: Márcia Jucá Teixeira Diniz, Marcelo Bentes Diniz

1. Aims and Scope

The world is a connected world, in which climate and nature systems are not isolated islands, but form a mutually linked archipelago system. Climate change produces cross-setting spatial transformative disruptions for society and nature with both local and global appearances and effects. The notion of '*one earth*' demonstrates the interwoven nature of major changes in the climate system of our earth. But of course, such changes do not manifest themselves everywhere on our planet to the same extent, nor is the human-made contribution to climate change equally distributed over the globe. A particular case of regions that deserve special attention from a climate perspective can be found in tropical areas with an abundance of fragile eco-systems and rich tropical forests (e.g., the Amazon area). Such areas do only have a local significance, but have a critical position in the stability of global eco-system. And therefore, they need a preferential treatment in global carbon policies.

2. Credo

Climate (adaptation) policy is more than a physical policy intervention in the earth' (local and global) ecosystems. It seeks to achieve higher and more equitable levels of wellbeing for the inhabitants of our planet ('high-quality (HQ) development'). Nations and regions on our planet should behave like good neighbours, who need now and then friendly but committing conversations on mutual duties and benefits, so as to reap the fruits of good neighbourship. Climate negotiation is not a one-shot talk, but is based on respectful and sustainability-oriented communication, agreement and commitment. If the external circumstances change, new communication and negotiation frameworks can be proposed to prioritize wellbeing for all. It would be desirable to create economic development models that balance economic growth with social equity and environmental sustainability, at different scale levels.

3. Relevance

Climate adaptation policy is often hampered by conflicting economic goals, by differences in institutional response and by discrepancies in institutional quality. The question whether the achievement of climate objectives need different institutional management models (e.g., a New Economic Order) has as yet remained unanswered, but deserves certainly careful future attention in light of the effective quality of the prevailing international institutional heterogeneity. In addition, the 'banal' question on 'who pays the climate bill?' is an intriguing one that may frustrate climate responsibility. Major industrial regions (USA, India, China, Western Europe) produce a disproportional share of carbon emissions, and hence they are the first to take action. A good example can be found in the Green Deal of the EU, and in the high environmental ambitions of China. It goes without saying that an effective climate action of the major players calls for a harmonization of scalable economic, social, technological and environmental strategies towards carbon-neutral outcomes at both global and local levels, which is clearly a major institutional and technological innovation challenge with a cascadic structure, at both global and local levels. Clearly, climate policy needs effectiveness and efficiency, but also spatial fairness and international inclusiveness. Climate negotiations tend to suffer also from a NIMBY syndrome, as it is seemingly easier to ask the highest sacrifices from the neighbours. It seems therefore wise to let climate outcomes co-determine by rational and mutually committing 'conversations among good neighbours'. Although the UNFCCC acknowledges common but differentiated responsibilities

between developed and developing countries, where more vulnerable ecosystems located in developing countries, like the Amazon (PanAmazon), should receive a privileged treatment regarding receiving compensation for their ecosystem services, or financial support to reduce the social costs of climate impacts, in order to improve economic-ecologic research and to adopt and spread adaptative social-environment technologies developed by own citizens.

4. Policy Message

Wealthier and more industrialized nations have in general a disproportionally high share in global carbon emissions. And therefore, it makes economically sense that these countries cover a significant part of the financial burden of global climate policy, this is a logical stage in a global economy with a collective climate responsibility. Nevertheless, the financial bill is significant. According to the UN FCCC, it is foreseen that in the longer run the financial costs involved for the developing countries may account to at least $ 1.3 trillion annually. Clearly, climate action calls for an international climate alliance at different governance levels. A most effective institutional level to start with is the regional or local level where nature-based solutions (NBS) are gaining much popularity. Greening initiatives are increasingly seen as important elements of climate change mitigation and adaptation approaches (e.g., mangrove restoration). The advantage of NBS is their visibility and – in case of urban greening actions – their direct cooling effect in case of heatwaves. Finally, we note that NBS climate strategies tend to have also a positive wellbeing effect.

5. Policy Action

Nature is a common resource that can be found in urban areas (e.g., parks, water) and in large, isolated regions in all continents. There function in the local and global eco-system is invaluable. Their fragile biodiversity system needs specific care, and therefore, effective action – including preventive strategies – is needed. The following action agenda is to be envisaged.

- Local and regional development plans (e.g., in agriculture, infrastructure provisions, industrialization) needed *systemic and comprehensive evidence-based environmental and climate assessment* (including spatial spillover effects), in which all relevant costs and benefits are systematically recorded. In the same spirit, in procurement procedures for local and regional plans such relevant assessment conditions should be specified.

- *A global climate fund should address in particular ecologically vulnerable areas* that have insufficient financial resources to pay the climate bill, with a particular view to the presence of climate spillover effects. From an institutional and policy perspective would be facilitated by a nature pact, not only at global levels but also – and perhaps more effectively – at regional and local level.

- Promote the development of alternatives for a bioeconomy that integrate bioecological and bioresource perspectives, leveraging local solutions and expertise, but also allowing their integration into global markets. In this respect, nature – both locally and globally – has a limited carrying capacity; *capacity ceilings and thresholds have to be quantified to the maximum extent possible*. Such carrying capacity information has to be linked to empirical information on spatial ecological footprints.

Climate Change and the New Wellbeing Society - A Regional Science Perspective

The TRSA Manifesto articulates a collective scientific message: climate change is not only an environmental threat, but a profound socio-economic and spatial transformation challenge that must in particular be understood, measured, and governed through the lens of regional science as an integrating discipline for spatial sustainable design and planning. The Estafette model, through 14 international sessions across continents, demonstrates that spatial, human, and ecological systems are inseparable and that the pathway to sustainable wellbeing requires a territorial, people-centred, and evidence-based approach. At its core, the Manifesto reframes the climate debate: from mitigation and adaptation as isolated goals toward a broader paradigm - *the New Wellbeing Society* - in which human happiness, livability, inclusiveness, and planetary resilience are co-determinants of prosperity. The scientific essence is the recognition that wellbeing and sustainability emerge from spatial proximity, circularity, and cooperation - the principles that link cities, regions, and ecosystems into one living system.

Knowledge Integration and the Spatial Shift

The Estafette findings converge on one essential point: geography matters. Climate change manifests in specific places - cities, regions, landscapes - where people live and act. Therefore, effective policy must move beyond global declarations and rely on explicit spatial knowledge. Regional and urban systems serve as laboratories for testing sustainability transitions, translating abstract global targets into measurable, place-based outcomes. Spatial planning, architecture, and design are no longer technical activities, but scientific drivers of wellbeing. The Manifesto calls for *human-centred, loveable, and circular cities* that merge body (physical quality), soul (cultural identity), and community (social bonds). This framework provides the empirical architecture for achieving the UN SDGs at local level. Proximity - the ability to meet human needs within short spatial and temporal distances - is identified as a key sustainability force that reduces emissions, enhances equity, and strengthens cohesion. This spatial and human-centred orientation was also strongly reflected in the discussions across the 14 Estafette sessions, where experts emphasized the territorial scale of action as the decisive arena for change.

The visual content cloud analysis of the Estafette sessions confirms this orientation, as is witnessed in Figure 1. The most frequent terms – urban, local, action, wellbeing, sustainable, economy, water, green, inclusive, and systems – clearly reflect the concrete outcomes of the Estafette discussions.

Figure 1. Content Cloud of the Estafette Sessions

They emphasize how the sessions converged on cities and regions as key laboratories of sustainability, where local initiatives, effective actions, and integrated planning connect global environmental challenges with human wellbeing. These outcomes show that environmental and climate sustainability, as discussed throughout the Estafette program, is both spatial and systemic. Building on this spatial perspective, the Estafette results also questioned the adequacy of existing economic indicators to capture real human and environmental progress, leading to a redefinition of prosperity itself.

The New Metrics of Progress: Beyond GDP

Traditional measures of prosperity, such as GDP, fail to capture the social and ecological costs of growth. The scientific consensus from the Estafette discussions is that wellbeing must be measured through integrative indicators - green GDP, subjective wellbeing (SWB), and spatial happiness - linking economic performance to environmental health and social justice. The 'beyond-GDP' framework emphasizes that sustainable progress depends on both material and immaterial assets: natural capital, human capability, and social trust. Empirical data, citizen-based surveys, and digital observation tools should be used to monitor wellbeing outcomes and to ground climate policy in real-world evidence. The Manifesto therefore advocates for *hands-on, data-driven climate policy*, supported by spatial data warehouses, early-warning systems, and local dashboards that connect global climate models to daily realities.

Resilience, Prosilience, and Transformative Capacity

Resilience is the capacity to recover; *prosilience* is the ability to anticipate, to recover from, and to prevent shocks. The scientific message is clear: cities and regions must evolve from reactive to proactive systems. Urban resilience cannot be achieved through technology alone but through the integration of governance, community engagement, and innovation. The 14 Estafette contributions also stress the

centrality of the Triple Helix – government, academia, and industry – complemented by a *fourth helix*: the citizen. Together they form the cooperative architecture of transformation. Urban prosilience requires investing in green-blue infrastructures, adaptive architecture, circular economies, and inclusive participation. This transformation depends on human capital - the creative, educated, and empowered citizens who drive co-creation and innovation. Thus, the *transformative economy* is human-centred, knowledge-driven, and inclusive, connecting education, innovation, and sustainability into one adaptive system.

Local Action, Global Relevance

A unifying finding of all Estafette sessions is that effective climate policy starts locally. '*Think global, act local*' is operationalized through compact, proximity-based urban forms, nature-based solutions, and citizen engagement in climate labs and living labs. The Manifesto identifies micro-level interventions - renewable energy systems, green mobility, biodiversity sanctuaries, and circular production models - as building blocks of macro-level sustainability. For example, water management, particularly in ecologically fragile areas, exemplifies the spatial dependency of climate action. Scientific collaboration, transboundary governance, and equitable access to water are vital for both human wellbeing and ecological stability. Such regional experiences must feed upward into global frameworks like COP30, ensuring that global agreements are informed by grounded, local evidence.

Science for Policy and Policy for Science

The Manifesto asserts that climate governance must be science-based, and science must be actionable. The Estafette model demonstrates that interdisciplinary research - combining regional science, economics, architecture, ecology, and data analytics - can provide concrete policy handles. Evidence must inform governance, and governance must enable experimentation. This reciprocal flow transforms science from an observer into a co-creator of sustainable futures. Integrated climate and SDG action is the pathway forward. Aligning both agendas ensures that environmental progress reinforces social justice and that regenerative development replaces extractive growth. The ultimate scientific conclusion is that *climate change and wellbeing are two sides of the same coin*: without wellbeing, climate policy lacks legitimacy; without climate stability, wellbeing cannot be sustained.

The Road Ahead - From Knowledge to Implementation

The TRSA Manifesto provides a scientific roadmap for COP30:

- *Adopt spatially grounded, evidence-based policies* that translate global targets into local action.
- *Redefine prosperity* through multidimensional wellbeing indicators that integrate economic, social, and ecological dimensions.
- *Empower local actors* - cities, regions, and citizens - as laboratories of innovation and guardians of the climate commons.
- *Foster co-creative governance* connecting research, policy, and society through the Triple/Quadruple Helix.
- *Develop institutional learning mechanisms* – climate data warehouses, wellbeing observatories, and living labs - to bridge science and practice.

The scientific message is unambiguous: sustainability is spatial, wellbeing is measurable, and transformation is collaborative. Only by embedding scientific knowledge into local realities can humanity build a climate-neutral and inclusive future. The Estafette process has shown that the power of regional science lies not only in analysis, but in *actionable synthesis* - turning data into wisdom, and wisdom into policy for a livable planet.

THE ROAD TO IMPLEMENTATION

The policy actions emerging from the 14 Estafette sessions form a coherent and practical roadmap toward the New Wellbeing Society. Together, they present a balanced synthesis of behavioural change, governance reform, and evidence-based tools that connect people, place, and policy. These actions demonstrate that achieving climate neutrality and inclusive wellbeing is not a matter of isolated projects, but of coordinated transformations across human behaviour, institutional systems, and digital–empirical infrastructures.

People and Behaviours

The foundation of climate transformation lies in *people* - their values, lifestyles, and choices. Across the 14 Estafette sessions, a shared insight emerged: behavioural change is as vital as technological innovation. Policies must activate citizens not only as consumers or voters, but as co-creators of sustainable futures. Leisure and wellbeing play a defining role. Sustainable tourism, eco-recreation, and educational leisure activities transform everyday habits into climate-friendly practices that strengthen community identity and environmental awareness. Urban design, architecture, and proximity principles reinforce this behavioural dimension by shaping spaces that invite active mobility, social interaction, and emotional attachment - the '*loveable city*' as a driver of wellbeing. Education and inclusion are central behavioural levers. Strengthening human capital through lifelong learning, green skills, and entrepreneurship fosters a prosilient society capable of co-creation and innovation. Behavioural engagement extends beyond education into societal participation: citizens must be empowered to contribute to data collection, monitoring, and local decision-making. Citizen science and participatory climate observatories convert awareness into agency, linking subjective wellbeing with measurable progress. Equity and justice anchor the behavioural agenda. Inclusive access to green amenities, safe public spaces, and sustainable mobility ensures that behavioural change benefits all social groups, not just the privileged. From climate-conscious leisure to shared water responsibility, the message is clear: collective behaviour determines collective resilience. People are not passive recipients of policy but the primary force behind a climate-neutral and wellbeing-oriented society.

Local–Global Policy

The second pillar is *policy coherence across scales* - from neighbourhoods to global systems. The Estafette sessions underline that the path to COP30 requires both local empowerment and international coordination. At the *local level*, integrated urban and regional planning is essential. Cities are the laboratories of sustainability where green infrastructure, circular economies, and regenerative practices are implemented. Local governments must set transparent, long-term goals aligned with the SDGs, emphasizing zero-emission districts, compact urban forms, and equitable access to housing, mobility, and public spaces. Proximity-based planning connects everyday life with climate responsibility. At the *national and global level*, economic and institutional coordination is crucial. Balanced globalization demands fair trade agreements embedding environmental and social standards. Climate integration into trade and development policies prevents the relocation of pollution and promotes equitable technology transfer. The international community must strengthen financial solidarity through instruments like the global climate fund, ensuring that vulnerable regions can adapt and thrive. Water management exemplifies the need for multi-level governance: local solutions must operate within global frameworks of resource fairness and ecological thresholds. Similarly, the integration of SDG and climate agendas calls for policy alignment across ministries, sectors, and regions. Universities, cities, and civil society must act as bridges between research and regulation, promoting mutual learning and South–South cooperation. Fundamentally, local–global policy coherence requires a shift from fragmented projects to *systemic governance*. Cities, nations, and international institutions must share one operational principle: evidence-based climate justice.

Supporting Tools and Information

Implementation depends on *knowledge, data, and digital tools*. The exploratory Estafette sessions revealed that effective policy requires robust information systems - transparent, accessible, and empirically grounded. Local climate data warehouses, geo-design platforms, and early warning systems translate complexity into actionable intelligence. They enable local authorities to visualize risks, track emissions, and design adaptive responses. Quantitative indicators, such as green GDP, subjective wellbeing (SWB), and resilience indices, complement economic data with social and environmental dimensions. This shift from static measurement to dynamic monitoring ensures accountability and learning. Integrated toolsets must link climate and SDG performance. Scorecards and dashboards can report tangible results: green space per capita, energy efficiency, access to public transport, or wellbeing perception scores. Open-source digital twins and spatial modelling help simulate future scenarios and test policy alternatives before implementation. Information tools also facilitate *transparency and participation*. Public climate spending should be traceable to wellbeing outcomes, empowering citizens to evaluate fairness and progress. Data-sharing platforms support inclusive governance and build trust between policy, research, and society. Moreover, climate observatories and living labs provide physical and digital environments for experimentation, where researchers, citizens, and policymakers collaborate on adaptive solutions. In essence, information is not only technical infrastructure but democratic infrastructure - the medium through which evidence becomes policy and knowledge becomes empowerment.

Taken together, these three dimensions - human behaviour, institutional systems, and digital–empirical infrastructures - form a comprehensive framework for action, translating insights from the Estafette sessions into tangible, implementable strategies.

Table 1. Coordinated transformations for climate and wellbeing implementation

Transformation Category	Explanation/ Focus	Key Actions (Examples)
Human Behaviour	Changing lifestyles, values, and practices toward climate-conscious and wellbeing-oriented choices. Empowers citizens as active co-creators of sustainability through education, inclusion, and participation.	- Promote sustainable leisure, eco-tourism, and green recreation. - Foster lifelong learning, green skills, and inclusive participation. - Encourage citizen science and participatory monitoring of wellbeing and climate outcomes. - Design loveable, proximity-based urban environments that inspire sustainable habits.
Institutional Systems (Local–Global Policy)	Aligning governance structures across scales — from cities to international networks — ensuring policy coherence and justice in climate and wellbeing transitions.	- Integrate SDG and climate goals into local and regional planning. - Embed environmental standards and social equity in global trade frameworks. - Strengthen cooperation and financial solidarity through climate funds and cross-regional partnerships. - Institutionalize proximity-based urban governance and circular economy programs.
Digital and Empirical Infrastructures	Building the data, tools, and monitoring systems necessary for transparent, adaptive, and evidence-based policymaking.	- Develop climate data warehouses, geo-design tools, and early warning systems. - Implement wellbeing and resilience indicators (green GDP, SWB) for evaluation. - Use digital twins and dashboards to simulate and track urban sustainability performance. - Promote open-access knowledge-sharing and digital governance for climate–SDG integration.

Table 1 summarizes the core transformation categories, illustrating how each dimension drives climate-neutral and wellbeing-oriented outcomes. It highlights the focus of each category and provides concrete examples of key actions, showing how behavioural change, policy coherence, and evidence-based tools combine to create a practical roadmap for implementation.

From Vision to Collective Action

The policy actions present a single, coherent scientific message: *climate transformation is human*, *local*, and *evidence-driven*. People's behaviour anchors the change; policy coherence connects scales; and supporting tools ensure that decisions rest on verified knowledge. Implementation thus requires synchronization across three dimensions:

- *Empowered people* - informed, educated, and motivated to act sustainably.
- *Aligned policies* - linking local action with global justice and systemic governance.
- *Transparent information systems* - translating data into wisdom and guiding continuous adaptation.

The Estafette model demonstrates that science and policy are most effective when they move together - when data, design, and human dignity form a single framework of transformation. The road after COP30 and far beyond must therefore prioritize the practical integration of (14x3=)42 actions into national and local agendas. The scientific message is unmistakable: the path to a resilient planet begins with human behaviour, thrives through collaborative governance, and endures through knowledge. The Estafette roadmap transforms abstract climate ambitions into actionable strategies - a living agenda for a sustainable, inclusive, and wellbeing-oriented future.

KNOWLEDGE IN CLIMATE ACTION FOR HUMAN WELLBEING

The Global Manifesto of the Estafette Program on Climate Change and the New Wellbeing Society

Prepared by
***The Regional Science Academy* (TRSA)** and Federal University of Pará

in collaboration with
Global Estafette Partners and Regional Coordinators

Date: October 28-29, 2025
Location: Belém, Brazil – on the Road to COP30

***The Regional Science Academy* (TRSA)**[1] is a strategic spatial knowledge catalyst: it acts as a global intellectual powerhouse for new knowledge network initiatives and scholarly views on regions and cities as vital centerpieces of interconnected spatial systems.

Contact information

International contact person: Karima Kourtit, **k_kourtit@hotmail.com**

Brazil contact person: Marcelo Diniz**, mbdiniz2007@gmail.com**

[1] Kourtit, K., Nijkamp, P. et al., (2016). Towards A Regional Science Academy: A Manifesto, *REGION*. Vienna, Austria, 3(1), pp. R1-R16. https://doi.org/10.18335/region.v3i1.120.