TeMA

Journal of Land Use, Mobility and Environment

Cities need to modify and/or adapt their urban form, the distribution and location of services and learn how to handle the increasing complexity to face the most pressing challenges of this century. The scientific community is working in order to minimise negative effects on the environment, social and economic issues and people's health. The three issues of the 14th volume will collect articles concerning the topics addressed in 2020 and also the effects on the urban areas related to the spread Covid-19 pandemic.

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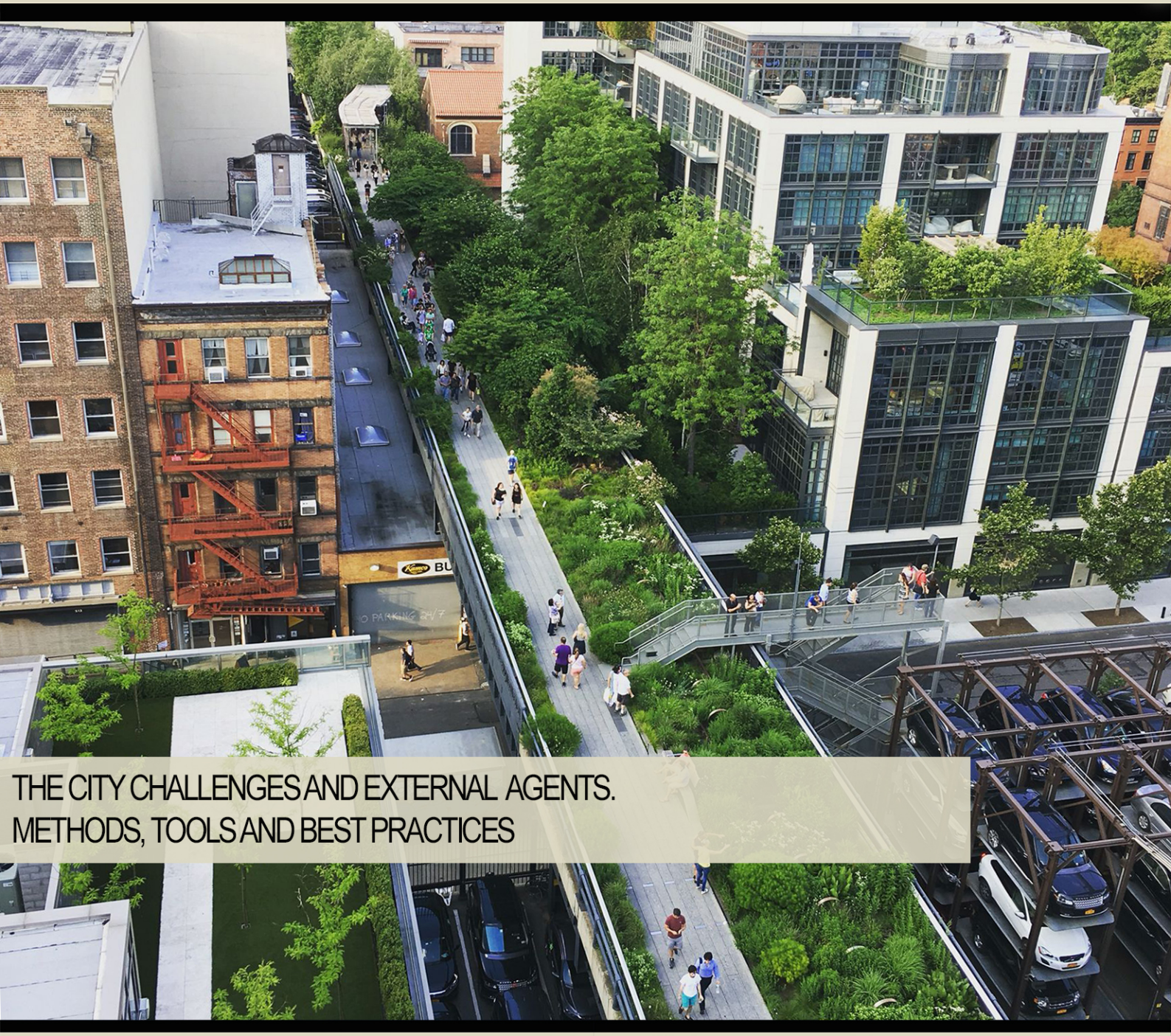

THE CITY CHALLENGES AND EXTERNAL AGENTS. METHODS, TOOLS AND BEST PRACTICES

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REVIEW NOTES – Urban planning literature review

Ecological transition: which transactions?

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Abstract
Starting from the relationship between urban planning and mobility management, TeMA has gradually expanded the view of the covered topics, always remaining in the groove of rigorous scientific in-depth analysis. This section of the Journal, Review Notes, is the expression of a continuous updating of emerging topics concerning relationships between urban planning, mobility and environment, through a collection of short scientific papers written by young researchers. The Review Notes are made of four parts. Each section examines a specific aspect of the broader information storage within the main interests of TeMA Journal.
In particular, the Urban planning literature review section aims at presenting recent books and journals, within global scientific panorama, on selected topics and issues.
This contribution aims at defining the definition and intervention domain of ecological transition. The outbreak of a novel coronavirus and consequent health, economic and social crisis is leading to a new era: significant financial resources, plenty room for economic manoeuvres may turn the ongoing pandemic into an opportunity, for the next years, to build more sustainable societies and environments. Within this scenario, urban areas play an essential role, as proved in the second paragraph with the support of interesting scientific publications, which are reviewed in the contribution.

Keywords
Ecological Transition; Urban planning; Strategies.

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1. Introduction

Climate and economy are the bases of desired sustainable development for near future, mingling with one another and with social politics, new technologies and cooperation. The promises of ecological transition find their place within these issues, which are the main challenges for our Planet, still struggling for the wounds due to the ongoing Covid-19 pandemic. In fact, the outbreak of a novel coronavirus, and consequent health, social and economic crises, opened a new season for the world economy: national and international indebtedness plans, wide scope for state actions and planning, massive investments and – partially – balance of health and job rights. These purposes can be met in the two-fold European recovery program, funded by the resourses of Next Generation EU and multi-annual financial framework, thanks to a generalized common debt. Climate change, pollution, energy depletion, soil destruction, erosion and impoverishment are presented as sources of increasing uncertainty concerning the future, to which Covid-19 consequences need to be added. In order to face such heterogeneous challenges, a broad and comprehensive approach is needed. Governments are struggling to design wide-ranging financial maneuvers which, in short period, may limit and hopefully prevent irreversible socioeconomic crises. At the same time, these complex financial operations would provide opportunities for digital, ecological and sustainable transformations (Bennett, 2017), in the medium and long run.

Repair and Prepare, Recovery and Resilience and Next Generation EU are the proposals made by the European Commission on 27th May 2020 to resolve the current crisis. More specifically, these are only some of the proposals, as over 28 texts have been presented. This capacity to respond to the challenge at hand is as impressive as the amounts put on the table: hundreds of billions of euros. Equally impressive is the fact that a number of dogmas, including the one on public debt, have crumbled.

The purpose at the basis of these movements has been recently proven by the creation, in Italy, of a new Ministry of Ecological Transition by the newly designed premier Mario Draghi and his government, to ensure a transition to green energy which will potentially drive recovery and make full use of European Union funds. Climate policies have been central to the Brussels agenda for years (Gargiulo, & Russo, 2017), as it wants to reach net zero emissions by 2050. Hence, some countries have already set up separate ministries, including France, Spain, Portugal and Austria to help deliver the goal. Although the establishment of ad hoc ministry may be understood as marketing promotion of more sustainable economic systems, its aim is not only to provide multidisciplinary solutions to promote ecological, social and economic transition. It aims at raising awareness and, consequently, responsibility. What we need is a shift in public opinion, a movement that empowers individuals to make better choices, with more options, and a more equitable world, where resources (and money) are shared (not wasted) among the people that produce goods and services.

An ecological transition is one (to borrow from sustainability lexicon) in which society progresses toward a structure that enables us to live in a way that does not impact the ability of our future generations to meet their own needs. This definition is not new: it has its roots in Brundtland report (1987). Since then, the planet and societies from all over the world experienced several crises, of different nature. Now, thanks to a drastic shakeup of economies, severely injured by Covid-19 outbreak and its infection, policymakers, citizens and stakeholders have the opportunity of a new and promising era to work hard and implement European strategies with ambitious energy and climate targets. These goals represent the keystones to transform Covid-19 crises into more resilient and responsible societies.

In this scenario, cities play an essential role: given that urban area exhaust a substantial share of the world's resources and correspondingly contribute to an equal amount of carbon emissions, urban regeneration (Bianconi et al., 2018), physical, functional and infrastructural, will be essential in the "ecological transition" process (Bottero et al., 2017).

This contribution aims at investigating about the sectors and disciplines involved in this wide project: circular economy, mobility, renewable resources but also agriculture and biodiversity (Levin, 2004). The following

paragraph wants to prove that urban areas will be beating hearts of the ecological transition process, defining the domain range for its development and implementation.

2. Cities as key actors in ecological transitions

The Covid-19 pandemic is forcing cities worldwide to re-shape their model and re-think their priorities if they want to make cities and human settlements inclusive, safe, resilient and sustainable. Moreover, climate change is arguably challenging urban settlements, with Covid-19 further highlighting the need for a sustainable future (Guida, 2020). Despite the pandemic, urbanization is not slowing globally. To fight climate change effectively, we ought to design more environmentally sustainable urban systems. 2021 may be a crucial year, and Italy plays a fundamental role as Chair of the G20 and Co-Chair of COP26, while the EU is trying hard to do its part with the economic and financial operations mentioned above.

Twenty years ago, the United Nations (UN) approved the so-called "Millennium Development Goals" (MDGs) initiative, which set eight ambitious targets to improve the world and make it healthier, and more ecological and equal. Thus, the word "city" was not included in the Agenda: urban systems were neither considered as important actors within that global challenge, nor as crucial elements for the success of the plan.

In 2015 a New Agenda was defined: 17 "Sustainable Development Goals" (SDGs) to build a more peaceful and prosperous planet by 2030. This time cities gained a relevant position, since 11th Goal states: "Make cities and human settlements inclusive, safe, resilient and sustainable". One year later, in Quito, Ecuador, a "New Urban Agenda" was established, involving 167 States, 40 UN's Agencies and more than 1,100 NGOs and social actors in the preceding public negotiate. This plan was based on a simple observation: it is impossible to achieve any of these global Goals without the contribution of cities. Covering just 3% of the Earth's surface, metropolitan systems are currently home to 55% of human beings and are expected to increase dramatically over the next 20 years. Cities are also responsible for about 60% of greenhouse gas emissions and 70% of solid waste, while absorbing around 70% of global energy.

In the same year (2016), European nations managed to approve the "European Urban Agenda", a comprehensive program that ranges from poverty reduction to mobility, from housing to circular economies, from climate change to the integration of immigrants. It is worth underlining that – mostly because of their long history and gradual dimensional growth – European cities are in general more sustainable, green and just than those in other continents which urbanized more recently. At the beginning of 2020, Europe has been strongly hit by the novel coronavirus and the subsequent social and economic crises. The debate on the future of cities is useful in order to analyze the necessary changes of perspective and to set the priorities in next years (Coppola, & De Fabiis, 2020; Gargiulo et al., 2020). Now that cities are fully and formally engaged in decision making processes and represent the final link from national and international financial plans to citizens and city-users, they will lead ecological transition practices, potentially turning the ongoing crisis into an opportunity to live in a more sustainable society. The following schemes describe interesting scientific products which provide a preliminary framework for the multidisciplinary interventions planned for the development and implementation of ecological transition.

Bioeconomy for Beginners

Author/Editor: Joachim Pietzsch
Publisher: Springer
Publication year: 2020
ISBN code: 978-3-662-60390-1

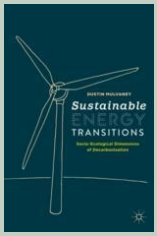
Bioeconomy is not a new concept: "for thousands of years, mankind covered its needs for food, materials, consumer goods and energy through renewable raw materials and renewable sources". The muscle power of humans and farm

animals, eventually reinforced by mechanical aids, formed the basis of their economic activity, the primary fuel of which was wood. In addition, there was wind and water for the mills, wind for the sailing ships and, above all, the rays of the sun. Almost all of the energy available on earth comes from these. Even if plants absorb only a part of it and less than 1% is used in the process of photosynthesis, solar energy generates many billions of tons of biomass in the sea and on land every year. Less than a tenth of these plants are eaten by animals, which, in turn, provide a small part of the food for carnivores and people who draw their energy from them. This energy and the heat generated by burning wood, peat and other biomass drove the economies of pre-industrial times: Until about 1780, all societies on this earth were bio-economies. But even then, humankind changed the landscape and adapted it to its needs. It created a cultural landscape that, to the furthest extent possible, no longer resembled the natural landscape as it would have developed without human intervention. Even then, humankind "overused" natural resources – with relevant consequences, such as permanent erosion and overgrazing and disasters such as famines. Even then, the use of natural resources alone did not guarantee sustainability.

This book provides an interdisciplinary and comprehensible introduction to bioeconomy. It also provides basic knowledge for understanding a transformation process that will shape the 21st century and requires the integration of many disciplines and industries that have had little to do with each other up to now. We are talking about the gradual and necessary transition from the age of fossil fuels, which began around 200 years ago, to a global economy based on renewable raw materials (and renewable energies). The success of this transition is key to coping with the challenge of climate change. This book conceives the realization of bioeconomy as a threefold task – a scientific, an economic and an ecological one. The first question that it seeks to answer is:where does the biomass come from that we need primarily for feeding the growing world population but also for future energy and material use? How can it be processed in biorefineries and what role does biotechnology play in this regard? Which aspects of innovation economics need to be considered, which economic aspects of value creation, competitiveness and customer acceptance are important? What conditions must a bioeconomy fulfil in order to enable a sustainable development of life on earth? May it be regarded as a key to further economic growth, or shouldn't it rather orient itself towards the ideal of sufficiency?

By dealing with these questions from the not necessarily consistent perspectives of proven experts, this book provides an interdisciplinary overview of a dynamic field of research and practice that raises more questions than answers and thus may nurture the motivation of many more people to seriously engage for the realization of a bioeconomy.

Sustainable Energy Transitions. Socio-Ecological Dimensions of Decarbonization



Authors/Editors: Dustin Mulvaney
Publisher: Springer
Publication year: 2020
ISBN code: 978-3-030-48912-0

Systems that produce, deliver, and consume energy all around us are undergoing a transition. This is a textbook that reaches people interested in learning about the socio-ecological dimensions of energy system transitions from multiple disciplinary perspectives, including ideas and concepts from engineering, economics, and lifecycle assessment to sociology, political science, anthropology, policy studies, the humanities, arts, and some interdisciplinary thinkers that defy categories. One prominent voice in current debates about energy transitions are argued to act on decarbonizing energy systems to mitigate climate impacts from carbon pollution from energy supplies. But other socio-ecological systems will be transformed and may benefit from shifts in energy use and production patterns. In 2020, 80% of global energy is still supplied from fossil fuels. Many places have taken great strides toward decarbonizing some aspects of life in 2020, but there are many miles to go to make a sustainable future. The adjective "socio-ecological" refers to the set of human and non- human systems interweaving the biophysical world and its ecologies with the metabolism of human civilization. Socio-ecological systems tied to our energy use are complex and often across great geographical distances, so the book aims to draw case studies from around the world to bring into perspective the various ways that human ingenuity is working to provide renewable and clean energy and tackling its side effects.

The multiple disciplines presented in this textbook aim to build bridges across the social and natural sciences and humanities to introduce readers to the development of energy and efforts and prospects of an energy transition. The author integrated case studies, figures and tables, exercise problem sets, pictures and diagrams of different energy systems, and links to further resources for further exploration of energy questions. This textbook introduces the key concepts that underpin sustainable energy transitions. Starting with the basic biophysical principles, current sources and environmental consequences of existing energy resource use, the book takes readers through the key questions and topics needed to understand, prescribe, and advocate just and sustainable energy solutions. The interdisciplinary nature of the book aims to build bridges across the social and natural sciences and humanities, bringing together perspectives, ideas and concepts from engineering, economics, and life cycle assessment to sociology, political science, anthropology, policy studies, the humanities, arts, and some interdisciplinary thinkers that defy categories. This accessible approach

fills the gap for a textbook that integrates sustainability science and engineering studies with strong empirical social science and it will be a useful tool to anyone interested in the socio-ecological dimensions of energy system transitions.

What Next for Sustainable Development? Our Common Future at Thirty

Authors/Editors: James Meadowcroft, David Banister, Erling Holden, Oluf Langhelle, Kristin Linnerud, Geoffrey Gilpin
Publisher: Edward Elgard
Publication year: 2019
ISBN code: 978-1-78897-519-3

Sustainable development brings together a series of normative themes related to negotiating environmental limits, to addressing equity, needs and development, and to the process of transformation and transition. To mark the thirtieth anniversary of Our Common Future (1987), that first placed sustainable development on the global agenda, the editors have brought together a group of international scholars from a range of social science backgrounds. They have discussed these same themes – looking backwards in terms of what has been achieved, assessing the current situation with respect to sustainable development, and looking forwards to identify the key elements of the future agenda. This book presents a series of critical reflections on these enduring themes. The overriding concern is with the present and with the future as the editors seek to explore the question: What next for sustainable development? This book examines the international experience with sustainable development since the concept was brought to world-wide attention in Our Common Future, the 1987 report of the World Commission on Environment and Development. Scholars from a variety of disciplinary backgrounds engage with three critical themes: negotiating environmental limits; equity, environment and development; and transitions and transformations. In light of the 2030 Sustainable Development Goals recently adopted by the United Nations General Assembly, they ask what lies ahead for sustainable development.

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