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# Editorial: New frontiers in evaluation, management, and technologies for sustainable cities

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sustainable cities, evaluation, built environment, market dynamics, mass appraisal models

## Editorial on the Research Topic

[New frontiers in evaluation, management, and technologies for sustainable cities](#)

## 1 Introduction

In recent years, the creation of *inclusive, safe, resilient* and *sustainable* cities is one of the main challenges that the Member states of the United Nations are facing (Tajani and Morano, 2015; Morano et al., 2019; Guarini et al., 2020). This Special Issue (SI) has been aimed at investigating the wide topic, through the collection of relevant scientific contributions focalized to analyze specific aspects of the more general question related to the possibility to fill the existing gaps and/or to improve the current knowledge and the reference literature.

The main topics of the SI include the following: (i) econometric models, (ii) sustainable building management, (iii) building costs, risk management, and real estate appraisal, (iv) mass appraisal methods applied to real estate properties, (v) urban and land economics, transport economics, (vi) real estate economics and financial techniques, (vii) economic valuation of real estate investment projects and building transformations, (viii) BIM applications, (ix) ecosystem services approaches, (x) analysis of COVID-19 effects on real estate market dynamics, (xi) resilient cities assessment, (xii) sustainable public-private partnerships.

A total of five papers written by academic and scholars from Universities and research Institutes has been submitted. After a rigorous procedure of peer review, all the papers have been accepted and, then, published. With reference to the typology of the documents, four are classified as Research Article and one is a Perspective paper.

By analyzing the different countries of the authors' affiliation, the SI includes researches carried out by Authors from all over the world: Sweden, Italy and Germany in Europe and Canada in North America.

In Section 2 a more detailed description of the papers is developed and in Section 3 the conclusions related to the main themes dealt with by the documents of the Special Issue

are drawn, by outlining an overall framework of the main obtained findings in order to provide useful indications for future theoretical studies and practical policies, able to define effective urban sustainable management and governance models.

## 2 Analysis of the contents

In the five published papers, different topics relating to the main themes of the SI are addressed.

Zinkernagel and Neij analyze the process of localizing the SDGs into the spatial planning of Smörkajen, a former industrial harbor site in Malmö, Sweden. By applying the analytical framework of Institutional Capacity Building, the study explores the process of localizing the SDGs in terms of building relational and knowledge capacities and to provide mobilization capacity by the formation of a sustainability strategy. The results illustrate an inclusive approach supporting relational capacity and numerous measures to enhance knowledge capacity, bringing about the formation of a draft sustainability strategy, strongly supported by the municipal participants.

Rauf et al. create an index of SDG 11 achievements among Canadian urban areas in order to identify trade-offs in sustainable development via a comparison of aggregation methods for the collected SDG 11 indicators. Given the relative compensability of these ranking procedures (Arithmetic means allowing

perfect compensability while Condorcet ranking do not allow compensability), the differences observed between these ranking procedures highlight how the trade-off of achievement across domains of sustainability can impact sustainable development among Canadian cities.

Fregonara proposes a reasoning and an operative modality to support urban governance policies and investment decisions involving private and public subjects in the construction sector. Its integration of Global Cost and Global Benefit into the discounted cash-flow analysis extended to the life cycle of the existing buildings and assets can support urban governance policies and investment decisions involving private and public actors.

Bayode and Siegmund provide a four-decade spatio-temporal model of urban Land Use Land Cover (LULC) changes in Akure between the years 1984 and 2023 from acquired Landsat satellite imageries. The result shows more than 20% net change increase in developed LULC classes between the study years. A strong positive correlation exists between the years covered in the analyses and urban development and a strong negative relationship with the forest land use with potential debilitating impacts on residents' health, green infrastructures and the city's sustainability in the future.

Tajani et al. define a logical-evaluative model based on the application of an econometric technique (Tajani et al., 2017) for investigating the significance of the industrial sites on the residential real estate dynamics through a set of technological,

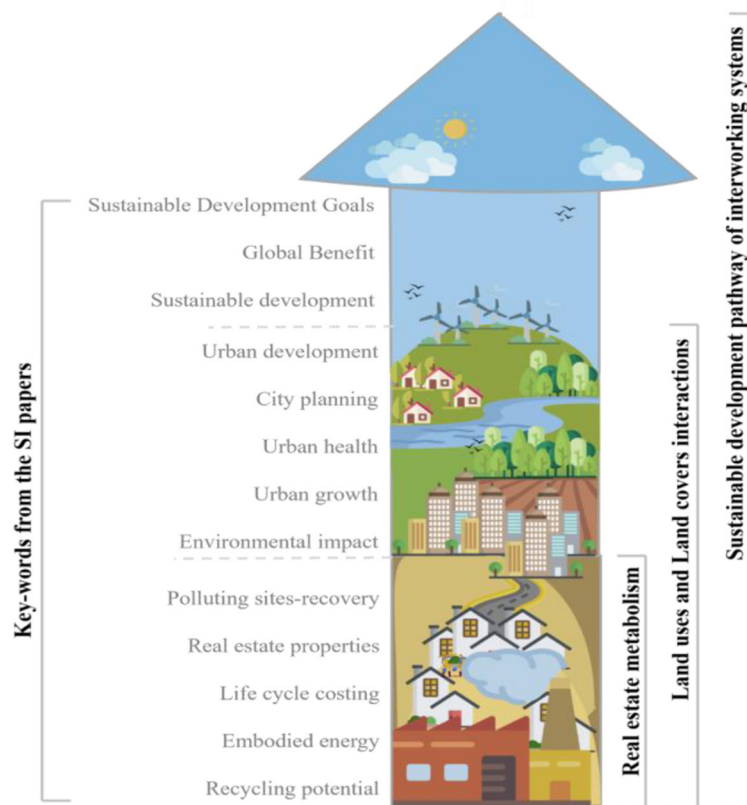


FIGURE 1  
Guidance path to interactive systems.

locational, and health variables. The obtained results show that the total surface area of the polluting sites, the activity level and the industrial plant opening date are among the most relevant variables, instead the accessibility to the industrial site does not influence the real estate market dynamics.

### 3 Conclusions

By comparing the contents of the five contributions at the core of the SI, some overarching elements, otherwise specific major aims, take proof and significance in accordance with the SI fulfillment.

Figure 1 displays the keywords used in the general overview of the SI, as well as those stated in each of the five published papers, emphasizing the relevance and consistency of the subjects in the gathered contributions toward a more worthwhile and tiered guiding path to steer.

It was given time to reflect on the need for creating a long-term plan that would enable a sustainable transition of the territory's transformative change by creating an operational and conceptual framework that would direct the decision-making processes under a stronger and more substantial direction (*Sustainable development pathway of interworking systems*). Naturally, this takes on importance and relevance when it gives a territorial and contextualized analysis priority, likely in accordance with the scholars Zinkernagel and Neij and Rauf et al..

An arena of tangible application of SDG principles inside and between the assets that make up a general region, namely the property assets, was discovered to be necessary in order to pursue a more factual and realistic sustainable route. Analysis pertaining to the transformative dynamics of the territory and the interpretation of a work's life cycle (*Land uses and Land covers interactions*), as well as the explanation of the functional relationships between the reference context's settlement characteristics and the laws of the residential market's evolution (*Real Estate metabolism*), must address the need to support a territorial metabolic development

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that aims to achieve sustainability, which is defined as the ability to realize beneficial financial and economic initiatives in respect of local productive dynamics, such as industrial ones. This view encompasses the contributions of Fregonara, Bayode and Siegmund, and Tajani et al..

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