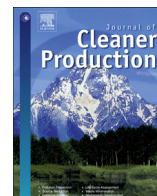




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## Transitions to sustainable consumption and production in cities

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## ABSTRACT

This Special Volume focuses on Sustainable Production and Consumption, and especially on transformation processes in the Built Environment. More than 50% and rising of the world population is now living in cities that are both centers of technological and social innovations in sustainable life styles; and carriers of unsustainable lifestyles. In this Special Volume contributions can be found on Grassroots Innovations; Sharing; Food, Energy and Waste systems associated with cities; The role of corporations in realizing transitions towards sustainable living; Consumer Activism, Behavioral Change and Consumer Values in driving change; and on Governance and Indicators for measuring all such transformations. Many of the papers were presented at the second conference of the Global Research Forum on Sustainable Production and Consumption (GRF-SPaC) in Shanghai in June 2014; and thus a substantial number of them report on research on Sustainable Production and Consumption in Cities in China. The authorship also reflects growing collaboration between researchers from developing and industrialized countries. The great diversity of contributions on the topic reflects the wealth of insights generated on the topic in recent years, but also the need for a better understanding of change processes at the intersection of social and physical systems and at multiple levels of action.

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## 1. Introduction and context

In September 2015, the UN General Assembly adopted the new UN “Sustainable Development Goals”. They feature, amongst others, the goal to “Ensure Sustainable Production and Consumption Patterns” and to “Make cities and human settlements inclusive, safe, resilient, and sustainable (Sustainable Development Goals, 2015). At that same summit, Pope Francis decried the global ‘culture of waste,’ and urged action to end it. In his encyclical letter “Laudato Si” Pope Francis called on the Church and the world to acknowledge the urgency of our environmental challenges and to join him in embarking on a new path (Laudato Si, 2015). Shortly after, in December 2015, the UNFCCC reached a historic global

agreement on the reduction of greenhouse gas emissions, not only by technological innovations, but also by addressing unsustainable production and consumption patterns (UNFCCC, 2015). Aligned with increasingly strong social movements like “Occupy Wall Street” in the United States and similar movements elsewhere in the world, these initiatives have created a rising awareness of the urgent need to increase equity of income and wealth and to transition towards more sustainable patterns of production and consumption.

Calls for more sustainable production and consumption patterns are far from new. Already, in 1992 the authors of Agenda 21 highlighted that “the major cause of the continued deterioration of the global environment is the unsustainable pattern of consumption and production, particularly in industrialized countries, which is a matter of grave concern, aggravating poverty and imbalances” (UN, 1993:19). In addition, both the World Summit on Sustainable Development 2002 in Johannesburg and the Rio + 20 ‘UN Conference on Sustainable Development’ in 2012 confirmed the goal of a shift towards Sustainable Consumption and Production (SCP). To help implement these goals, the Marrakesh Process was initiated in

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2003, which led to the establishment of the “10 Year Framework of Programs on Sustainable Production and Consumption” (10YFP) in 2012 (UNEP, 2012).

Alongside these policy developments, we find a burgeoning SCP research community shedding light on various forms of unsustainable production and consumption and painting paths towards more sustainable futures. In short, the SCP agenda has been around for a while, strategic goals have been formulated, and systemic factors, including a widespread consumer culture along with the prevailing economic growth paradigm have been identified as some of the main culprits; but apparently to little avail. Where changes in technology have made efficiency reductions in emissions and the use of materials, water and energy possible, those gains have largely been offset by growing production and consumption volumes. Ironically, even though emerging countries could draw lessons from the environmental, social and economic failures of the ‘developed’ ones, many if not most have chosen to embark on the same unsustainable developmental path. The appearance of expensive cars, marble hall shopping malls and luxurious villas out of town is all too prevalent in the cities of Shanghai, Delhi and Rio de Janeiro facilitating widespread environmental destruction and rapidly rising inequality. The continuing focus on more, bigger, higher, faster and more materialistic production and consumption constantly grows the global ecological footprint with increasingly severe impacts for humanity. Undertaking action to promote SCP has therefore only become more imperative.

To address this imperative, we find more and more organizations connecting researchers and practitioners to collectively attempt to find ways towards more sustainable production and consumption. In 2007, for example, SCORAI, the Sustainable Consumption Research and Action Initiative (SCORAI, 2016) emerged in North America, which organized a series of workshops and conferences, books and special volumes, and branched out into Europe, Israel and China. Other examples in the wider field include the International Society for Ecological Economics (ISEE, 2016), the International Society for Industrial Ecology (IS4IE, 2016); the European and Asia–Pacific Roundtables on Sustainable Production and Consumption (ERSCP, 2016; APRSCP, 2016), the International Sustainable Development Research Society (ISDRS, 2016), the New Economy Coalition (NEC, 2016), and the Degrowth conferences (DeGrowth, 2016). Earlier Special Volumes of the Journal of Cleaner Production have presented outcomes from a great number of these initiatives. Most recently, November 1–4, 2015 saw an 800-participant conference in Barcelona aiming to accelerate ‘the transition to equitable, sustainable, post-fossil carbon societies.’

This Special Volume (SV) brings together papers presented at the 2nd international conference of the Global Research Forum on Sustainable Production and Consumption, – an initiative that was formed in 2011 to strengthen the global community of researchers and practitioners engaged in research on the worldwide transition to sustainable production and consumption patterns (GRF 2012). GRF-SPaC organized its first conference under the title “Global and Regional Research on Sustainable Consumption & Production: Achievements, Challenges, and Dialogues” in Rio de Janeiro in 2012, which resulted in the publication of a special Journal of Cleaner Production Issue on “Sustainable Production, Consumption and Livelihoods: Global and Regional Research Perspectives” (Vergragt et al., 2014).

The second conference under the theme “Global Transitions to Sustainable Production and Consumption Systems,” was held from 8 to 11 June 2014 in Shanghai, People’s Republic of China, in collaboration with the Fudan Tyndall Centre for Climate Change Research. It was attended by more than 100 scholars and practitioners, representing 23 countries from all five continents, to

consider the latest research in the field. During the conference, a focus on SCP in the *urban environment* emerged, prompting the theme for this Special Volume. To gather additional insights, the editors published a special Call for Papers in January 2015 in the Journal of Cleaner Production (Vergragt et al., 2015).

Beyond the conference, the focus on the urban environment was motivated by growing scholarly and policy attention to the topic. The WHO (undated) has asserted that in 2014 54% of the world population will live in cities. With this figure bound to rise further in the coming decades, especially in the developing countries where rural life is normally equated with poverty, cities have moved to the centre of attention of the global sustainability research community. Cities are said to be responsible for 67% of the total global energy consumption and more than 70% of greenhouse gas emissions (UNU-IAS, 2006). Much of that larger ecological footprint is due to higher incomes (Weber and Matthews, 2008). This has led many to the painful conclusion that cities cannot possibly be sustainable yet are essential to realize sustainability. Interestingly, Rees and Wackernagel (1996) made the exact same assertion 20 years ago: urbanites tend to have a decidedly larger ecological footprint than people living in the countryside, but since urbanization is an unstoppable process the key to reducing that same footprint should still be sought in cities.

On a more positive note, we also find claims that ecological footprints in urban cores are lower than in suburbs or urbanizing rural areas around cities. Higher construction density is commonly associated with lower levels of energy use, more favourable mobility patterns and higher economies of scale and scope, which can lead to higher levels of (hopefully green and clean) technological and cultural innovation. In this vision, cities are not considered as problems to be eliminated but rather as hotbeds of the type of transitions necessary to move beyond unsustainable lifestyles and consumption and production patterns. If newly emerging cities are the cradles of tomorrow’s lifestyles, why not develop them as “ecological cities” or cradles of the “sharing economy” to effectively become environmentally sustainable and socially equitable “sharing cities” (Agyeman, 2013; Agyeman et al., 2013)? As this Special Volume documents, many countries have already taken initiative to move into this direction.

The objective of this Special Volume is to present a variety of such initiatives across the world and their scientific evaluation within the global community. As can be seen in the contributions introduced in the following paragraphs, the research field at this point is both conceptually rich and variegated. In that sense, it can only be considered a first step in the desired direction of developing more mature and unified ways of conceptualizing SCP at the urban level. These steps are badly needed for discussion and necessary for life-long learning and practice. As we all know, since we learned this from the Chinese who inherit one of the oldest cultures on this planet, any long journey begins with the first step.

## 2. Themes in this special volume

For this Special Volume the editorial team selected 40 papers (and peer-reviewed a larger amount with help of a large number of anonymous external reviewers) and grouped them into ten different themes: Conceptual Explorations; Sustainable Cities and Governance; Sharing, Grassroots Innovations and Consumer Activism; Behavioral Change; Consumer Values; Food; Energy; Waste; Corporations and Production; and Indicators. We will briefly characterize the relevance of each of these themes, and then introduce the relevant papers belonging to that category. The

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