

## The role for the UPE project in Australia

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### **Abstract:**

This paper will reflect on the international experience of the Urban Political Ecology (UPE) project and draw insights in particular from the Australian experience. UPE is an emerging body of work responding to the increasing need for just socio-ecological conditions in our cities. UPE to date has been strong in both Europe and the USA, being driven in particular through the work of key scholars including Swyngedouw and Heynen. The UPE project has been given little attention in Australia, despite rare exceptions such as *Vortex Cities* by McManus and *Lifeboat Cities* by Gleeson.

UPE is a strongly emerging international project which considers justice, nature and urban life. Its progressive thinking about the urban environment represents heightened concern about the consequences of the uneven distribution of wealth in all forms inherent in neoliberal urbanism. UPE is therefore a catalyst for a more thoughtful understanding of socio-ecological urbanisation. The nature of the social and environmental dimensions are given increased emphasis in the progressive politics of urban development, including concepts such as collective consumption and increased interest in environmental equity, protection and reparation.

## Introduction

After three decades, the impact of neoliberal economic globalisation is evident and is carrying us into natural default (Pelling *et al.*, 2012). New sets of systemic and visible pressure have arisen, including climate change, population growth, resource constraint and their implications for the maintenance of economic growth. At the same time, more than 50 per cent of human beings now live in cities or large urban settlements and by 2050, another 25 per cent of humanity will have moved to urban settings (UNFPA, 2007). With the human population migrating into urban environments, global urbanism is the dominant socio-economic process restructuring the global ecology (Hodson & Marvin, 2010).

The current and future planning for the reorganisation of cities and networks has a focus on the urban implications of global ecological change, resource security and thereafter anticipating disruptions in production and consumption systems (Hodson & Marvin, 2010). The focus of protection of the resource flows can be understood from differing view points, namely economic reproduction or socio-environmental reproduction (often referred to as collective planetary ecological security). The city focus point has significant consequences for the future shape of infrastructure networks, resource flows and the reproduction of cities (Hodson & Marvin, 2010).

In a time of ever-increasing need for just socio-ecological conditions in our cities, a new body of work is emerging, namely urban political ecology (UPE), an addition to the existing work of political ecology. UPE is a strongly emerging international project in consideration of justice, nature and urban life. Its progressive thinking about the urban environment represents heightened concern about the consequences of the uneven distribution of wealth in all forms inherent in neoliberal urbanism (Cook & Swyngedouw, 2012; Swyngedouw & Heynen, 2003). UPE is therefore a catalyst for a more thoughtful understanding of socio-ecological urbanisation. The nature of the social and environmental dimensions are given increased emphasis in the progressive politics of urban development, including concepts such as collective consumption and increased interest in environmental equity, protection and reparation (Jonas *et al.* 2011).

UPE contributors are concerned with ways in which the urban environment mediates socio-ecological flows in the city. Subsequently, urban political ecologists reflect how uneven power relations organise and are reproduced by the city, scrutinizing human and non-human agency in these processes (Bulkeley, 2011). UPEs seek to 'create a better informed and more sophisticated understanding of future urbanism in the context of a changing global environment' (Hodson & Marvin, 2010, p. 4). This approach aspires to overturn depoliticised understandings of environmental processes (Loftus, 2012).

UPEs to date have been strong in both Europe and the USA and have been particularly driven through the works of key scholars including Swyngedouw and Heynen (Heynen *et al.*, 2006; Swyngedouw *et al.*, 2006; Swyngedouw *et al.*, 2002; Kaika & Swyngedouw, 2000; Castro *et al.*, 2003). The UPE project has been given little attention in Australia, although exceptions include *Vortex Cities* (McManus, 2005), *Lifeboat Cities* (Gleeson, 2010) and *Towards Sustainable Cities* in Urban Policy and Research (Stillwell, 2000). This paper provides a timely review of the international experience of the UPE project and considers its potential for wider application in Australia.

## Background of UPE

Four exemplary clusters of UPE research were identified by Keil (2003). Understanding the foci of the four clusters provides insight into the UPE concepts of justice, nature and urban life.

The first cluster of UPE research focused on the political ecology of the Los Angeles/Southern Californian region (e.g. Walker, 2007; Wolch *et al.*, 2002; Gottlieb, 2001; Davis, 1998). Such authors have offered in-depth accounts of the history and geography of LA's socio-natural environments, and re-imagined the South Californian urban landscape.

The second cluster of work is led by Erik Swyngedouw (now at the University of Manchester), who has two primary interests in the UPE project. Swyngedouw, firstly, appears to be responding to the challenge posed by the geographers Neil Smith and David Harvey (the latter of whom supervised Swyngedouw during his PhD). Smith introduced persuasive theories about the reasons for, and impact of, gentrification in cities. Harvey, one of the most influential social thinkers of his generation, has made a significant contribution to Marxian theory by arguing that capitalism annihilates space to ensure its own reproduction, and is both amoral and lawless. A strong body of theory of UPE has emerged with the recent

collaborations of Swyngedouw with Esteban Castro, Nik Heynen and Maria Kaika (Heynen *et al.*, 2006; Swyngedouw *et al.*, 2006; Swyngedouw *et al.*, 2002; Kaika & Swyngedouw, 2000; Castro *et al.*, 2003).

Swyngedouw's second body of work is on the political ecology of urban water. The focus of this work is how, through water in the urban environment, nature and society are integrated into the production of a socio-spatial fabric that privileges some and excludes many (Swyngedouw, 1997).

*Work in the latter field – now marked by its geographical breath, covering cities of the global south as well as north – includes Swyngedouw (1997a; 1997b) on hydrological modernisation in Guayaquil, Ecuador; Bond (2002) on water resource management in Johannesburg and residual apartheid ecologies; Gandy (2008) in the particularities of capitalist urbanisation and state formation in India, which have given rise to Mumbai's current water infrastructure crisis; and Castro (2004), Bakker (2007) and Loftus (2007) on the consequences for Mexico City, Jakarta and Durban respectively of neoliberal policies, based on the commoditisation of water resources, for exacerbating existing conflicts and inequalities (Bickerstaff *et al.*, 2009, p. 592).*

The third cluster of research has its origins predominately in the British school of UPE and is centred on critical engagement with urban and regional environmental and economic policy. Scholars such as Andy Jonas and David Gibbs have drawn upon urban regime and regulation theory, creating a body of work on the urban, suburban and regional environments (e.g. Gibbs & Jonas, 2000). This approach is more centred on local sustainability, and applies a critical ecological modernisation approach to create an important theoretical discussion on the political complexities of "local sustainability" (Keil, 2002, p. 732).

The final cluster group comprises scholars with a focus on environmental justice. This group is predominately based in the United Kingdom and United States and led by scholars such as Agyeman, Bullard, Evans, and Sze (see Agyeman *et al.*, 2003; Agyeman, 2005; Sze, 2007). This work conceptualises numerous strains of analysis within UPE's advocacy of sustainability, justice and the discourse on rights and democracy.

## **The dominant urban conversation**

During the development of UPE there has been a simultaneous rise in popular urban literature, termed "new urbanology" by Gleeson (2012), following that of the 1960s and 1970s. This literature is becoming increasingly influential and is optimistic about the prospects for the human urban age. The texts of new urbanology include: *The Triumph of the City* (Glaeser, 2011); *Welcome to the Urban Revolution* (Brugmann, 2009); *Arrival City* (Saunders, 2010); *The Next Hundred Million: America in 2050* (Kotkin, 2010); *The Great Reset* (Florida, 2011); and *Aerotropolis: The Way We'll Live Next* (Kasarda & Lindsay, 2011). The authors of this new urbanology are predominantly from North America, and, in the main, are journalists (e.g. Lindsay and Saunders), consultants (e.g. Brugmann and Kotkin) or media-savvy academics in business and management (e.g. Kasarda and Florida) and economic schools (e.g. Glaeser). Urbanologists have, furthermore, made significant inroads into popular Western discourse and Western consciousness. Their books are generally favourably reviewed in media which are normal void of interest in urban scholarship, including *The New York Review of Books*, *The New York Times*, *Publisher's Weekly* and, in the UK, *The Independent*, *The Economist*, *The Evening Standard*, *The Financial Times* and *The Guardian*.

In Australia, Brugmann, Glaeser, Kotkin have all been invited to discuss their books on ABC radio, with the following headlines: Brugman in 2009, 'He's full of ideas and fresh viewpoints on how cities work best and what happens when they fail'; Kotkin in 2012, 'In this interview with Mark Colvin, he discusses his book, *The Next Hundred Million: America In 2050*, which advances the idea that as the US population grows to 400 million the country will regain its nerve and retain its economic supremacy'; and Glaeser in 2012, 'Ed Glaeser is one of the important voices in that global discussion. He sees the city as a place for innovation and transformation through the bumping up together of people and skills'.

Glaeser has been favourable reviewed by *The Sydney Morning Herald's* urban critic, Elizabeth Farrelly (Muscat, 2012):

*The Sydney Morning Herald's* urban critic, Elizabeth Farrelly, claimed the book "instantly became flavour of the month amongst the cognoscenti". Proceeding to deliver another full-throated hymn in praise of density, she abridged Glaeser's argument in typically hyperbolic terms. If only we

lived in “dense urban centres”, miracles would abound: cheaper housing, better transport, protected wildernesses, no climate change, decent coffee and “a choice of walk-to tapas”.

Ross Gittins, the paper’s economics editor, was equally impressed (Muscat, 2012):

“Glaeser’s observations seem of obvious relevance to Sydney”, he wrote. “Our sky-high house and unit prices are partly the product of ... excessive government restrictions on development”, wrote Gittins, before adding, without a hint of irony, “there are limits to how far Sydney can be allowed to sprawl”. He resolves this contradiction with the phrase “Sydney needs to go up”, echoing a warning of Glaeser’s which serves as the new slogan of green urbanism: “If cities can’t build up, then they will build out”.

Critic Elizabeth Farrelly (2011) claimed that former Prime Minister Paul Keating and conservative leader at the time, Malcolm Turnbull, had each been seen in Sydney admiring a copy of Glaeser’s *Triumph of the City*. Glaeser was in fact hosted by the NSW Department of Infrastructure and Planning in its first Urban Conversations public forum (20 June 2012).

On 20 June 2012 the department held its first Urban Conversations public forum. Titled *Triumph of the City*, the event brought Sydney’s thought leaders in urban planning together to discuss fresh approaches to meeting Sydney’s biggest challenge now and into the future - planning for a population that is expected to increase from 4.2 million to more than 5.6 million by 2031. Recognised as the world’s leading urban economist, Harvard University’s Professor Edward Glaeser promoted his view that cities are the healthiest, greenest and richest places to live.

Kotkin was a keynote at the leaders of our country’s property and real estate industries at Propertyoz in Perth (September 2011).

He discusses sustainable cities and the importance of families for cities. He touches on US sustainability initiative - telecommuting, working from home, simply because the decreased number of people commuting to and from work will reduce carbon. In addition, he says, it’s an attractive alternative for young families and increases the importance of the home.

Prominent within this popular new urbanology is the idea that an entrepreneurial city is a sustainable city. New urbanologists favour economic efficiency and cost effectiveness in the built environment and its services. They argue that the denser the built environment, the more likely it is to achieve human innovation and economic efficiency, such as productive capacities and economies of scale (Brugmann, 2009). The application of advanced or overstated beliefs in technology is explicit: the city is the airport, ‘aerotropolis’ (see Kasarda & Lindsay, 2011), and the revitalisation of suburbia with an emphasis on telecommuting (see Kotkin, 2010, for example). Any inclusion of natural systems is motivated by the focus on efficiency, profit and productivity that reflects the dominance of the urban economic governance framework (see Glaeser, 2011; Kasarda & Lindsay, 2011; Brugmann, 2009).

New and current urban conversations are well entrenched in neoliberal urbanism (Hodson & Marvin, 2010). In the neoliberal commentary of urban sustainability, the relationship between urban political interests and the narrow debating space of sustainability politics is restricted. The narrow space in which sustainability is debated is due to most environmental issues are located in a politics of living spaces, consumption. This space is isolated from the politics of production (Jonas & While, 2007). This dual economic and ecological modernisation is seen to improve the city’s livability and attractiveness in terms of economic development and financial viability. Positioning the problem within this theoretical space limits the environmental and social sustainability outcome as it disregards political economy and the crisis of overproduction (Gleeson, 2010).

The dominance of neoliberal and liberal discourse within the new urbanology literature elevates threats to sustainability, endangers ecological integrity and is indifferent to ideas of social justice. UPEs are increasingly concerned that nature is progressively treated as a commodity, and ‘reified as an exchange value, so much that this becomes the prevailing ideology of nature’ (Prudham & Heynen, 2011, p. 227). New urbanologists do consider the environment outside the capitalist dynamics of production, circulation and exchange, within which it is considered as a resource. UPEs are concerned that we are witnessing another attempt to resolve capitalism with environmentalism through the continual application of market mechanisms such as the carbon tax, green entrepreneurialism and the ‘enterprising up of conservation initiatives as and for profit-making purposes’ (Prudham & Heynen, 2011, p. 227). Scholars have long argued for a political economy that incorporates a scope of environmental change and environmental

politics (Dryzek, 1996). Smith (1984, 2011) and O'Conner (1994) concur and state that a contemporary political economy must deal with the 'misadventures of capitalist nature', as termed by O'Conner (1994).

### **Leading global governance agencies**

Major transnational global governance agencies have attributed greater significance to cities and their challenges within their work. The neoliberal urbanism that permeates the new urbanology is also evident in the urban conversation being promoted by OECE and World Bank. The UN Habitat provides, to some extent, a point of departure from the neoliberal urbanism and new urbanology. Recent key reports from the OECD, World Bank and the UN Habitat are reviewed below to provide insight into their dominant urban conversation.

### **OECD: *Competitive Cities and Climate Change (2009)***

At the forefront of OECD best practice in the delivery of competitive cities, in the context of climate change, is the implementation of the concept of green growth. Green growth is understood as a 'growth strategy that accounts for increases in public and private investments and consumption leading to sustainable resource use, lower greenhouse gas emissions, and reduced vulnerability to climate change' (Kamai-Chaoui *et al.*, 2009, p. 138).

A green growth strategy is suggested to be implemented by 'a smart mix of policy instruments' (Kamai-Chaoui *et al.*, 2009, p. 11). A smart mix seeks 'policy complementarities' described as promoting growth and achieving climate goals, for example:

Land-use zoning policies that allow for higher densities and greater mixing of residential and commercial uses can enhance transportation climate goals by reducing trip distances and frequency while strategic mass transit linkages can attract development and thus promote compact growth (Kamai-Chaoui *et al.*, 2009, p. 12).

Compact growth (a feature of an eco-compact city) is supported by the OECD. The concept emphasises density in the built environment, and a strong role for technology in the delivery of a sustainable city. It is assumed that 'Increasing density could significantly reduce energy consumption in urban areas' (Kamai-Chaoui *et al.*, 2009, p. 9).

The compatibility of economic growth and climate goals is articulated in the OECD policy document:

The traditional trade-off between economic growth and environmental objectives observed at a macroeconomic level, referred to as abatement costs for climate change policies, can be alleviated when urban policies such as densification or congestion charges are introduced. This is the result of a general equilibrium model that incorporates an urban module. Under a baseline global scenario with Kyoto emissions reduction objectives, the overall economic costs can be reduced over time thanks to additional actions taken at the local level. This is due to complementarities with other objectives, such as lower local pollution and the enhancement of city attractiveness and competitiveness through local production (Kamai-Chaoui *et al.*, 2009, p. 18)

The OECD advocates for market based mechanisms as the key policy instruments in national government climate change policies. Instruments such as carbon taxes, congestion charges and emissions trading, also incorporating an international goal to build a global carbon market, are encouraged.

In summary, the OECD report presents an economic development governance framework for urban sustainability. The organisation is a supporter of the competitive city construct delivered through an effective green growth and compact city strategy, i.e. the application of new technologies that increase connectivity and reduce resource use. The smart mix of 'policy complementarities' provides further support for the political economy of the status quo. The implementation of the supported concepts requires only minor adjustments to existing capitalist structures and processes and is articulated in the language of conventional present-day economics (Jacobs, 2011).

### **World Bank: *Cities and Climate Change: An Urgent Agenda (2010)***

In 2010 the World Bank released a report titled: *Cities and Climate Change: An Urgent Agenda*. The report:

focuses on three broad issues pertaining to cities and climate change. How cities contribute to and are affected by climate change. How policy makers can use cities to change human behaviour and improve technology related to climate change. How cities should use climate

change as an opportunity to raise their profile, reinforce sensible policies, and move toward a more sustainable community and planet (World Bank, 2010b, p. 1)

The World Bank's solutions on the agenda for cities include: increasing urban density; improving urban design to avoid sprawl; improving city public transit; changing building practices; and changing sources of energy (World Bank, 2010b)

The bank supports a response to climate change as a positive thing:

Climate change policies lead to lower energy costs, ensure a higher quality of life (for example, improved air quality, increased walkability with density, more parks and fewer cars, attracting more human capital and private investment (such cities as Vancouver, New York, and Barcelona) (World Bank, 2010b, p. 2).

Again the link between a competitive city and a 'climate-smart city' is further reinforced:

Low-carbon emissions and low pollution levels are essential components of the quality of life in cities. Competitive cities that are eager to attract human and financial capital to promote jobs and prosperity need to curb air pollution and ensure a healthy environment (World Bank, 2010b, p. 33).

In support of this view, the World Bank released a report titled *Inclusive Green Growth: The Pathway to Sustainable Development* in 2012. The use of the phrase *greening growth* echoes the language of the OECD.

Greening growth is necessary, efficient, and affordable. It is critical to achieving sustainable development and mostly amounts to good growth policies. (World Bank, 2012, p.1).

The World Bank notes that 'growth has come largely at the expense of the environment ... which is why green growth aims to ensure that economic and environmental sustainability are compatible' (World Bank, 2012, p. 2). The characterisation of green growth involves the efficient use of natural resources, the minimisation of pollution and environmental impacts, and the successful management of environmental to ensure complementary outcome to growth.

In summary, the World Bank, like the OECD, concurs with the implementation of green growth to deliver sustainability. The justification for the concept is well entrenched in an economic development urban governance framework: efficient and cost effective. Solutions for urban sustainability focus on: urban density; urban public transit; building practices; and sources of energy. Both the OECD and the World Bank situate their discussion and solutions outside the space of the urban politics of production and do not challenge the management of resources in cities. The solutions do not challenge contemporary ideas of the production and consumption of energy in the city (Hodson & Marvin, 2010).

#### **UN Habitat: *Planning Sustainable Cities: Global Report on Human (2009)***

The most recent international documentation of emerging themes of urban sustainability is from UN Habitat. Eight key trends are identified in the integration of natural systems with the human systems and other metabolisms that make a city work (UN Habitat, 2009, p. 116):

- developing renewable energy
- striving for carbon-neutral cities
- developing locally distributed power and water systems
- increasing photosynthetic spaces as part of green infrastructure
- improving eco-efficiency (with an emphasis on energy and resource metabolisms)
- increasing sense of place (with an emphasis on local economic development and place-based social capital)
- developing sustainable transport
- developing cities without slums.

Hodsen and Marvin (2010) state that powerful social interests are pursuing particular technical fixes, socio-technical configurations, and selected trajectories of urban development. These fixes, configurations, and trajectories are becoming normalised, routine, rolled out and widely replicated across many urban contexts. Of concern is the limited questioning of this new conventional wisdom, and particularly the form in which it is emerging.

The new conventional wisdom incorporated within the eight identified emerging themes for urban sustainability include carbon-neutral cities, reducing fossil fuel energy use, energy efficiency, increased urban density, integration with sustainable transport and developing a carbon offset market. Critical social

scientists have repeatedly contested the technocratic fixes, market mechanisms, and other attempts to increase productivity through the use of the environment (Jonas *et al.*, 2011; Gleeson, 2012b, 2010). This new conventional wisdom is nevertheless becoming evident in city strategic planning.

It is promising, however, that the UN Habitat has identified that some emerging themes will require a transformation of practice, and institutional and governance structures. This includes re-thinking the way power and water are distributed, with an emphasis on small-scale and neighbourhood-based systems within cities. Similarly, green infrastructure and self-sufficiency within a local economy and supporting local distributions for growing energy and providing food and materials, represent a more transformative understanding of sustainability. Developing cities without slums requires a focus on social justice and equity in the city.

### **The need for a UPE approach**

The dominant urban commentary espoused by new urbanology and key international organisations such as World Bank and OECD, supports a sustainability construct that is heavily infused with liberalism that disappointingly underestimates the challenges and opportunities inherent in the sustainability ideal (Gleeson, 2012a). These contemporary discussions organise the environment in a way in which it can be positioned for the benefit of promoters of economic development. This is reflected in rising national and international enthusiasm for formal city strategies and urban policy intervention, such as the smart-growth movement, and ideas of the compact city (Jonas & While, 2007; Jonas *et al.*, 2011).

Moreover, scholars have noted to date a current neglect of critical inquiry into environmentalism as it relates to the built environment, thus hindering discussion, debate, understanding and action (Bickerstaff *et al.*, 2009; Schweitzer & Stephenson, 2007). Both climate change and urban environmentalism raise the importance of a confident, outwardly aware social science that seeks engagement with issues fundamental to human flourishing (Sayer, 2009).

The UPE focus is on connecting the specific analysis of urban environmental problems to larger socioecological solutions (Keil, 2003). This entails an awareness and wider acknowledgement of nature-society metabolisms, environmental justice and ecological politics (Jonas *et al.*, 2011; Heynen, 2006; Swyngedouw, 1997). The aim of UPE 'is to enhance the democratic content of socio-environmental construction by means of identifying the strategies through which a more equitable distribution of social power and a more inclusive mode of environmental production can be achieved' (Swyngedouw *et al.*, 2002, p. 125).

Within UPE the key environmental questions deviate from the separation of the economy and environment inherent in neoliberalism urbanism, to depict an understanding of the important interrelationships between global urbanism and global ecological change. The re-direction of focus on the urban environment and global ecology expands the theoretical space allowing consideration of new strategies 'through which a more equitable distribution of social power and a more inclusive mode of environmental production can be achieved' (Swyngedouw *et al.*, 2002, p. 125). An example of key research questions that can be considered within this theoretical space include: 'to what extent are visions of future urbanism socially progressive and concerned with building collective planetary ecological security?' (Hodsen & Marvin, 2010, p. 2).

This approach will seek to overturn the post-political city (Swyngedouw, 2009) and politicise the understandings of the environmental processes. The 'urban challenge' is ultimately a political one. The political regulation of our relationships with nature in cities is a question of democracy, governance, and politics of city life (Swyngedouw, 2010, 2007; Keil, 2003; Stren *et al.*, 1992; Keil, 1995; Keil & Desfor, 2003).

### **UPE project in Australia**

Increasing interest in environmental issues in the social sciences from the 1980s saw the rise of urban political ecology of which a strand is influenced by the political economy tradition (e.g. Keil, 2003; Swyngedouw *et al.*, 2006). However, in Australia there has been little development of UPE (e.g. Stilwell, 2000; McManus, 2005; Gleeson, 2010).

Moreover, following international trends, Australian urban publications situated in the political economic approach had diminished considerably by the 1990s (Gleeson, 2013). This decline of Australian urban political economy publications is in contrast to the 1970s and 1980s, an era which witnessed the rise of radical urban geography. Internationally, the notable publication of the key text *Social Justice in the City*

(Harvey, 1973) reorientated urban geographical analysis onto a resolutely critical path (McGuirk, 2011). In Australia during this period, 'urban political economy had become perhaps the strongest strand in the urban studies courses growing up in many of the metropolitan universities and colleges of advanced education and to a lesser extent, in departments of geography and schools of town planning' (Davison & Fincher, 1998, p. 187). Among notable, influential texts of this time that contributed to the development of Australian Urban Studies was Hugh Stretton's *Ideas for Australian Cities* (1970), followed by *Capitalism, Socialism and the Environment* (1976). In the 1970s the most predominant focus to emerge in the political economy literature was on the implications for equity inherent in planning decisions (such as Stretton, 1970; Sandercock, 1975; Troy, 1978, 1981; Neutze, 1978). The inclusion of environmentalism in the problems of the city came later (such as Troy 2000; Low *et al.*, 2005; Gleeson, 2012).

By no means is critical urban thinking absent (see Harvey, 2012), but it struggles to make inroads into the dominance of neoliberalism and the new wave of urban literature, urbanology. New urbanology, for example, although with origins in North America, has a strong presence in Australia reflected by its considerable profile in both radio and print media, and sponsored public lecturers from State Australian Governments.

Moreover, Davidson and Arman (2013) reviewed Australian metropolitan planning strategies and Australia's national urban policy to ascertain the extent of inclusion of the eight key themes of urban sustainability identified by UN Habitat. The review identified that all metropolitan plans included the new conventional wisdom, referred to by Davidson and Arman as mainstream sustainability strategies, while the more transformative urban sustainability themes received only minor attention. The strategies strongly incorporate themes of sustainable transport and water distribution networks, and to a lesser extent, the themes of renewable energy, carbon neutral cities, eco-efficiency and sense of place. There is limited consideration of the themes of green infrastructure, power distribution networks and a city without slums. The later themes of urban sustainability challenge our conventional understanding of urban resource flows and require a change in conventional thinking for their implementation.

Global ecological change is in turn changing the relationship between cities and their resource flows including energy, water, waste and food. The reconfiguration of cities, socio-technical networks and resource flows are now undoubtedly becoming increasingly strategic to cities (Hodson & Marvin, 2010). Technological fixes will not deliver sustainable environments since they depend on the continued removal of resources from the environment and consider ecological degradation as a situation that can be 'fixed' through market forces (Harvey, 1997). There are no simple spatial fixes for evolutionary dilemmas. The underlying causes of ecological threat in market based societies and the tendency for uneven social development and overproduction inevitably flow from the 'growth fetish' of contemporary, neoliberalism, political economy (Gleeson, 2010).

## **Conclusion**

The urban conversation is dominated by profound and dangerous contradictions arising from capitalist growth. The dominant urban conversation as espoused by the new urbanologists, OECD and the World Bank offer little toward the development of a new vision for the future of our cities, but an affirmation of the current neoliberal image of a market-based utopia. Following international trends, the case for a rise of urban political ecology in Australia is compelling, particularly with the rising interest in environmental matters and the urgent need for an alternative political economy that has a focus on equitable distribution of social power and a more inclusive mode of environmental production.

To move towards sustainable management of energy, water and food requires a transformation in our new and established social-technical practices that shape behaviour and decision making. UPE scholars, Hodson and Marvin (2010) have developed the term urban ecological security in response to the move towards sustainable management of resources. They defined the term as 'the selective incorporation of ecological issues into wider strategic debates about the approaches and responses required by cities in order to attempt to ensure their continued social, economic, and material reproduction in the context of global ecological change' (Hodson & Marvin, 2010, p. 131). The pursuit of this concept has helped to increase understanding of 'how the complex dynamics of three interrelated sets of issues – economic reproduction, resource constraint and climate change concerns – becomes manifest and is translated into a dominant agenda' (Hodson & Marvin, 2010, p. 134).

Naturally, the UPE conversation in Australia would have to be unique to Australian urbanism and respond to the particular characteristics of Australian urbanism (e.g. cultural preference for suburbanism; very high rates of urbanisation; widening socio-spatial inequality; large distances between cities; water scarcity;

expanding cities spilling onto scarce productive lands). UPE does however provide an avenue to develop strategies with the aim of achieving a more equitable distribution of social power and a more inclusive mode of environmental production. Ecological reproduction needs to be strategically incorporated within Australian metropolitan planning strategies particular if the threats from climate change are to be adequately addressed. The development of UPE in Australia would contribute to a stronger voice of an alternative vision for the futures of our cities, and importantly dampen the rise of urbanology as the dominant paradigm in urban planning in Australia.

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