

Sydney as a Sustainable, Resilient, and Just City:

Combining *Sustainable Sydney 2030* economic and environmental goals

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Introduction

Sydney, Australia is known as a Global City for its business activity, human capital, information exchange, cultural experience, and political engagement (Kearney, 2020), and has been taking significant action since the early 2000s to develop itself as a World Class City. While advancing as a Global City and World Class City, Sydney has simultaneously attempted to position itself as a Sustainable, Resilient and Just City. For Sydney, this looks like sustaining the developmental benefits of globalization while simultaneously sustaining the ecological integrity of the area for future generations (Hu, 2015). In 2017, Sydney revised and republished its *Sustainable Sydney 2030: Community Strategic Plan 2017–2021* that outlines the ten strategic directions for Sydney to be sustainable, and demonstrates the city's plan to be a green, global and connected city (City of Sydney, 2017). The strategies are numbered one through ten, but the master plan document never specifies if the strategies are in order of importance, or another guiding metric. Listed, or possibly ranked, at number one is the city's first strategy titled 'A globally competitive and innovative city,' and at number two is 'A leading environmental performer,' (City of Sydney, 2017). This paper will argue that instead of viewing the globally competitive and innovative city strategy and the leading environmental performer strategy in isolation, both should be tackled together, as interdependent. Connecting the number one and two strategies in *Sustainable Sydney 2030* will prove that Sydney cannot be positioned as a Global or World Class City in the future without also being a Sustainable, Resilient, and Just City. This is due to the fact that economic prosperity can no longer come before or without environmental consideration, in order for humans to continue living on Earth.

Sydney's Climate, Growth, and Strategy Goals

It's understood through academic discourse that global cities are the economic engines of the world economy and sites of higher energy consumption, thus places with larger ecological footprints (Hu, 2015). This duplicity presents the sustainability paradox (Hu, 2015) where the preservation of both economic benefits and the environment is important for the long-term success of a Global City, yet the economy and the environment have rarely been tackled as one to date. It is clear from Sydney's demographics and climate statistics that the city is growing at a rate that, if not managed properly, could wreck any future economic plans for the city. Sydney's climate temperatures have been rising since about 1960, and from 2020 to 2039 Sydney will see an average temperature increase of 0.7°C, and then further warming of 1.9°C between 2060 to 2079, based on 1910 to 2013 temperature levels (NSW Government, 2014). These global temperature increases are due to anthropogenic (human-induced) greenhouse gas emissions (Masson-Delmotte, 2021), and cities are responsible for 70% of such emissions (City of Sydney, 2017). Sydney has committed to the Paris Pledge for Action and plans to limit temperature rise to under 2°C (City of Sydney, 2017), but as the city's population rises from 275,370 in 2022 to 354,255 in 2041 and urban density increases (City of Sydney, 2019), limiting warming to the 2°C threshold will be difficult.

Merging the two lenses of a Global and World Class City with a Sustainable, Resilient, and Just City is difficult because both lenses see Sydney as having different priorities in order to be successful, yet the connection between economic and environmental prosperity must align to continue human life in Sydney and ensure all future plans for the city. In *Sustainable Sydney 2030*, Sydney's first strategy is to continue being a globally competitive and innovative city (City of Sydney, 2017), supported by a few goals to help conceptualize the strategy. These include

accommodating growth and change in the city centre and other key economic areas, making the city economy competitive, prosperous and inclusive, developing the economy to be resilient, and enhancing the city's global position and attractiveness as a destination for people, business and investment (City of Sydney, 2017). The City of Sydney's (2017) second strategy is to be a leading environmental performer, and the city plans to utilize this strategy by also achieving certain goals. These include reducing greenhouse gas emissions across Sydney, improving city residents, businesses, building owners, workers and visitors environmental performance, maximizing the extent and quality of urban canopy cover, landscaping and city greening, and that making the city's buildings, infrastructure, emergency services and social systems resilient to the likely impacts of climate change (City of Sydney, 2017). Although the City of Sydney (2017) has stated each of the economic and environmental goals separately within the master plan, the remainder of this paper will examine how the economic and environmental strategy goals must be tackled together, and not as separate entities to build a Sustainable, Resilient, and Just City.

Tackling Separate Strategy Goals As One

Burch et al. (2014) argue that climate plans or policies alone cannot trigger transformation, as transformation is driven by decisions and practices that are rooted in patterns of development. This holds true in Sydney's case and the city's goal to be able to accommodate growth and change in the city centre and other key economic areas (City of Sydney, 2017). To transform Sydney's centre to be accommodating, decisions and practices must include climate goals as well. This could include bringing together the city's accommodation goal with two of the city's environmental goals of ensuring the city's buildings, infrastructure, emergency services and social systems are resilient to the likely impacts of climate change and city residents,

businesses, building owners, workers and visitors improve their environmental performance (City of Sydney, 2017). By combining these three goals and not seeing the economy and the environment as mutually exclusive, Sydney becomes a low-carbon community that is ready for the impacts of climate change and is not only accommodating to growth but is lowering its impact and bettering itself for future growth that will occur as a global city. Growing community-level development transformations that could both dramatically reduce greenhouse gas emissions and significantly enhance community resilience (Burch et al., 2014) is a standard that can build a Sustainable, Resilient, and Just City.

Another goal of Sydney's in an attempt to be a globally competitive and innovative city is to build a city economy that is resilient (City of Sydney, 2017). Urban resilience is referred to as an urban system's ability, including socio-ecological and socio-technical networks, to maintain or quickly return to its desired functions in the wake of a disturbance, and its ability to adapt to change or rapidly transform systems that limit future adaptive capacity (Fitzgibbons & Mitchel, 2019). Although popular in current academic discourse, physical sciences, and ecological studies as a descriptive word or concept, many social science researchers have become curious about the meaning of 'resilience' as it grows more popular in global and local policy narratives (Fitzgibbons & Mitchel, 2019) that governments spend a lot of time and energy talking about. For Sydney, the city wants an economy that can withstand shocks and stresses and adapt to change, businesses that contribute to the resilience of the city and its people, an economy that is adaptable and can take advantage of new developments, infrastructure and governments in place to respond to challenges and opportunities, and an economy that underpins sustainable and inclusive growth (City of Sydney, 2017). To help achieve these goals, environmental resilience strategies must be placed alongside economic resilience strategies to ensure the ecological

preservation of the environment that Sydney's economy thrives in. In *Sustainable Sydney 2030* the city set a goal to make sure buildings, infrastructure, emergency services and social systems are resilient to the likely impacts of climate change (City of Sydney, 2017). This goal could be achieved by making sure climate change impacts are factored into infrastructure development and services, vulnerable community groups can access City services and seek refuge or reside in City facilities during extreme weather, and by making sure communities come together and support each other while responding to extreme weather events (City of Sydney, 2017). By ensuring these resilience strategies that Sydney has committed to are in place, the city should be able to respond economically, environmentally, and socially to the impacts of climate change as a Sustainable, Resilient and Just City, yet there are limitations to any resiliency plan. Fitzgibbons and Mitchel (2019) considered the trade-offs, or limitations, of urban resilience plans using the “5 W’s”: whose resilience is prioritized, against what shocks or stresses, when, where, and why. This framework for analyzing resilience strategies is powerful because it can make light of inequalities or unjust resilience planning and the urban systems or communities it could have negative effects on. The negative impacts on resilience strategies is that they often promote or support the status quo, and are frequently thought of as a plan to ‘bounce back’ (Peyroux, 2015) to the way urban systems were, instead of ‘bouncing forward’ and addressing such inequalities. Sydney’s current stance as a Sustainable, Resilient, and Just City is largely in favour of those predominant within the city’s economy, those who live in wealthy areas, and those who have the resources, social status, and available income to be resilient. It is important to recognize resiliency and sustainability must be done without limitation to certain individuals within Sydney’s society. Marginalized groups and individuals must be strongly supported and protected

within Sydney's sustainability plan in order for Sydney to be justified as a Sustainable, Resilient, and Just city.

The last two globally competitive and innovative city strategy goals for Sydney are to make the city economy competitive, prosperous and inclusive, and to enhance Sydney's global position and attractiveness as a destination for people, business and investment (City of Sydney, 2017). These two goals often go hand in hand, as a competitive, prosperous and inclusive economy are often the drivers that attract many to a destination. Yet, Sydney's future climate could pose a threat to the attractiveness of the city. The concept referred to as the Urban Heat Island (UHI) effect is when higher temperatures are experienced in dense urban zones compared to the surrounding suburban areas, due to the structural parameters of the city, the thermal quality of materials used in the city, the amount of anthropogenic heat released, and the number of heat sources and sinks in the cities (Santamouris et al., 2017). Due to Sydney's density, structural qualities, and anthropogenic emissions, the city experiences a significant UHI effect, and as Sydney sees a 2.9°C increase in warming by 2100 and the population grows (Hoegh-Guldberg & Hughes, 2021), the city will have to increase the number of carbon sinks within the city. A climate positive and natural way to increase carbon sinks, which Sydney proposed as one of its goals for being a leading environmental performer, is to maximize the extent and quality of urban canopy cover, landscaping and city greening (City of Sydney, 2017). Sydney's goal of improving its global position and attractiveness as a destination for people, business and investment would be improved by increasing urban canopy cover, landscaping and city greening within the city as it would increase access to outdoor recreation, improve health, improve Sydney's livability, and lower the Urban Heat Island effect (Li et al., 2005). This would also tackle a part of Sydney's other economic goal of making the economy competitive, prosperous

and inclusive. This is ensured by increasing greenery that cools the city so future businesses could still operate and invest within the city, and citizens would be able to live and work within the area and not be pushed out by unbearable temperatures, making Sydney more prosperous and attractive to all city participants. Without it, the city would be unlivable by 2100 (due to water shortages, sea-level rise, and extreme temperatures) (Hoegh-Guldberg & Hughes, 2021), let alone economically prosperous. Greening a city often comes with limitations similar to the limitations of resiliency plans. Using Fitzgibbons and Mitchel's (2019) "5 W's" to evaluate whose greening is prioritized, what neighbourhoods or areas receive carbon sinks, when or how quickly, where greenery can be accessed, and why, is important when evaluating the equity of tackling climate change within a Global City. If Sydney can understand the limitations of the Sustainable, Resilient, and Just City framework while still acting against climate change within the city's economy, the city can be a Global, World Class, and Sustainable, Resilient, and Just City.

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