



Peter Achterstraat AM  
NSW Productivity Commissioner  
NSW Productivity  
VIA EMAIL: [ProductivityFeedback@treasury.nsw.gov.au](mailto:ProductivityFeedback@treasury.nsw.gov.au)  
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Dear Peter,

## Re: Kickstarting the productivity conversation

Thank you for the opportunity to respond to the NSW Productivity Commission's *Kickstarting the productivity conversation* report.

### Open Cities Alliance

Open Cities Alliance is a national peak association for Circular Economy and Next-Gen infrastructure and services. We are working with our industry and government members to open our markets and modernise policy frameworks to enable more sustainable, resilient and affordable utility and mobility solutions and services for communities and businesses. Next-Gen infrastructure and services includes sustainable energy, water, waste and mobility solutions that promote sharing and reuse, such as local integrated water management (IWM), local renewable energy generation and storage, shared mobility, mobility as a service, local integrated waste reuse and recycling, and open access ICT networks, including Internet of Things (IoT).

Open Cities advocates for a transition to a Circular Economy to catalyse highly profitable and job-generative businesses. In 2015, the World Resources Forum Asia Pacific held in Sydney estimated the value of a Circular Economy to Australia could be AU\$26 billion per year by 2025. The CSIRO recently estimated a 5 percent improvement in material efficiency from a shift to a circular economy could represent a \$24 billion increase to Australia's economy.<sup>1</sup>

We also advocate for the establishment of Prosumer frameworks. Australia is leading the rapid emergence of the prosumer: turning the traditional consumer of utilities and services into a producer as well. Enabled by digital technologies and innovation, the rise of the prosumer highlights an exciting trend that is fundamentally altering the structure of our energy, mobility, water, waste and data markets. Yet there are currently no frameworks supporting prosumers.

Open Cities exists to work with Government and industry to drive these critical productivity reforms.

<sup>1</sup> <https://publications.csiro.au/rpr/download?pid=csiro:EP195506&dsid=DS4>

## Driving NSW Productivity

Open Cities welcomes Productivity Commission's efforts to kickstart this discussion about how the NSW Government can best support continued growth in the State's living standards. We believe the solution to continued growth lies in the transition to a Circular Economy and the opening up of the State's ageing and siloed utility and mobility markets to competition from Next-Gen sharing and reuse solutions and services, including recycled water, water, local renewable energy generation, and shared mobility.

Key policy reforms – outlined in *Open Cities Federal Policy Agenda* below (Appendix A) - will open our infrastructure and service markets to more innovative and sustainable services, products and solutions that are driving productivity, jobs and economic growth in cities and countries around the world. They have the ability to lower the cost of living, make housing more affordable and NSW the most appealing global destination. Leveling the infrastructure and services playing fields will also make it easier to do business in NSW.

Open Cities welcomes the opportunities identified by the NSW Productivity Commission to unlock Next-Gen infrastructure solutions that can give the people of NSW affordable, resilient and sustainable products and services, put downward pressure on living costs, and drive globally leading innovation.

Open Cities welcomes and supports the six initial draft productivity priorities:

1. building human capital for a modern and evolving economy
2. reliable, sustainable, and productive use of our water and energy
3. smart ways to better utilise our infrastructure
4. modernising our tax system to help our economy grow
5. planning for the housing we want and the jobs we need
6. forward-looking regulation to support competition and innovation.

We recommend:

- A 7<sup>th</sup> productivity priority should be added on driving a transition to a Circular Economy
- Mobility, waste and Information Communication Technology (ICT) be added to option 2
- Prosumers be added to the 6<sup>th</sup> priority.

Our submission focusses on these items that we believe should be included.

## Circular Economy

The World Business Council for Sustainable Development has identified that the global Circular Economy is equivalent to a \$4.5 trillion business opportunity. The opportunity for Australia is not just in waste reuse estimated by the CSIRO to be in the order of \$24 billion<sup>2</sup>, it also presents a significant productivity opportunity in water, energy and mobility – yet to be valued. Transitioning away from linear business models in the utility and mobility sectors is unlocking significant savings across Europe, UK and in the US<sup>3</sup>.

The Circular Economy is emerging as one of the few viable economic pathways out of our global consumption-climate-biodiversity crisis. Backed by Europe, China, Canada and Japan – it is a leading economic framework that decouples economic growth from virgin resource use by keeping resources in use for longer to extract the maximum value in the market. The Circular Economy is already gaining momentum around the world - creating jobs and driving productivity.

NSW families, businesses and communities are already experiencing the impacts of this consumption climate biodiversity crisis across the country, with declining liveability, including:

- Water scarcity, extreme heat, fires, air pollution, biodiversity loss, the collapse of fish stocks
- Heat island effect – rising temperatures and associated negative health impacts
- NSW share of Australia's 67 million tonnes of general waste produced annually of which only half is recycled and the 7.3 million tonnes of food waste thrown away annually

**The efficiency and the effectiveness of Australia's utility and mobility infrastructure will be critical to the productivity and resilience of our communities and the natural environment. It will also be critical to liveability of our cities, and the productivity of our national economy.**

Circular Economy is the pathway to transition Australia's aging utility and mobility sectors to a sustainable future. The economic opportunity of the circular economy is significant. Circular utility and mobility businesses and solutions are driving the new circular economy in Europe, Japan, Canada and China. It is driving critical efficiencies that we're just not seeing in our existing siloed utility and mobility markets.

Circular Economy is importantly enabling economies to tackle outrageous waste: For example, Sydney flushes out to sea enough wastewater to fill the harbour 1.8 times every single year. That's 1000 Olympic swimming pools of water every day we could be using for: environmental flows; greening to improve air quality and property value, enhanced liveability, and to mitigate heat island effect; and drought proofing communities. Circular Economy infrastructure can also enable Australia to capture the \$20 billion dollars in food waste thrown away every year.

<sup>2</sup> Ibid

<sup>3</sup>[https://www.ellenmacarthurfoundation.org/assets/downloads/publications/ElleMacArthurFoundation\\_Intelligent\\_Assets\\_080216-AUDIO-E.pdf](https://www.ellenmacarthurfoundation.org/assets/downloads/publications/ElleMacArthurFoundation_Intelligent_Assets_080216-AUDIO-E.pdf)

## Next-Gen solutions

Open Cities wants to see the right infrastructure and services on the ground to realise these economic opportunities and give families, businesses and communities services that will provide for future generations in a climate-changed Australia.

We believe NSW already has much of the infrastructure and service innovations to deliver Circular Economy gains. However, this infrastructure cannot scale-up due to outdated policy, legislation, regulation and tariff structures that do not promote sharing and reuse and fail to value externalities such as preserving drinking water through recycling, reusing waste, reducing vehicle emissions through shared mobility. We would welcome further work by the Productivity Commission to identify these barriers.

Current planning and infrastructure policy, and market settings support a centralised, last-century approach. Transitioning to 21st-century energy, mobility, waste and water businesses and services is now urgent. Competition is essential to facilitate innovation and the efficient, sustainable, and productive delivery of all products and services.

Across NSW, most existing planning and regulatory frameworks preference standard monopolistic centralised services. Investment in alternative, more innovative solutions is limited. Siloed institutional arrangements fail to allocate responsibility for broader investment outcomes and also reflect an institutional aversion to risk.

NSW needs a new utility model that is local and sustainable. This model would democratise infrastructure ownership to enable citizens and businesses to reap the financial benefits and actively participate, with collective ownership and responsibility. Citizens want a more significant say in their utility and mobility future.

For markets to respond to new technologies and opportunities in areas such as recycled water and waste, renewable energy generation, sustainable supply, open data networks, and shared mobility solutions - action is required. Removing outdated regulatory barriers will create a level playing field and support the procurement and delivery of Next-Gen infrastructure and services.

Planning for and investing in Next-Gen infrastructure that integrates with centralised networks will create new solutions to today's challenges. Next-Gen infrastructure solutions are already anticipating and adapting to change, managing risk, and delivering services that meet the future needs of people and businesses. They are unlocking future growth and development while improving the quality of life and productivity beyond the status quo. However, these benefits need to be scaled across NSW to ensure communities are future-proofed and that solutions keep pace with community aspirations and demands.

The lack of competition and the resulting decline in innovation, is impacting negatively on the health, productivity and efficiency of our communities who would be better served with more efficient management solutions at the household and precinct-scale. Open Cities is calling on governments to fully leverage the potential of Next-Gen utilities/mobility and services through the development of State Infrastructure Plans. Also, understanding the real lifecycle costs and values of infrastructure and services in NSW is critical to measuring the productivity of Next-Gen infrastructure.

Open Cities believes Lifecycle Assessment (LCAs) should be included in Productivity Commission terms of reference, along with KPIs and methodologies to ensure consumers are aware of the exact costs and benefits of traditional infrastructure approaches versus sustainable precinct-scale utility/mobility approaches. We believe these cost and benefits should also be considered by State/federal Infrastructure agencies as they provide research and advice to governments, industry and the community on the infrastructure investments and reforms that benefit Australians.

### Downward pressure on living costs

Critical downward pressure on household expenses/ housing costs cannot be realised into the future if Government does not enable level playing fields for Next-Gen infrastructure including, recycled water and waste providers, shared mobility providers, competitors to the NBN, micro-grid and embedded network providers, virtual power plants and solar/battery providers.

Gold plated last-century centralised infrastructure solutions are duping customers. For example, in NSW people pay an additional \$100/year to keep the desalination plant closed. Yet Government is now considering building another – despite the fact local water recycling will: harness the 1,000 Olympic swimming pools of water resource currently flushed away daily in Sydney alone; reduce the cost of augmentation; keep water locally for greening, cooling, and amenity; provide a cheap, reliable, restriction-free water supply for communities. As infrastructure and technology gets smaller and smaller, people will reach for these solutions and bypass the network in the same way they are in energy now, by installing solar and batteries. Open Cities member Hydraloop has a box the size of a small refrigerator that recycles 85 percent of water in the home. Technologies like these are coming and will make it possible for homes to have zero usage bills.

Similarly, in mobility, more and more people are not buying cars, choosing instead to share their mobility. Young people, people living close to public transport can now use a car share service for about \$2,000 a year, versus the \$8,000 alone spent maintaining and operating a vehicle (petrol, registration, maintenance). And in ICT, new open access networks are surpassing the NBN with Next-Gen networks that will be accessible into the future for a wide range of emerging technologies. Yet these ICT innovators are subsidising the NBN and competing in unlevel playing fields.

Sustained downward pressure on living costs can only be achieved through competitive markets and access to innovations – currently shut out of our siloed markets.

### The Rise of the Prosumer

Australia is leading the rapid emergence of the prosumer: turning the traditional consumer of utilities and services into a producer as well. Prosumers want more control over their infrastructure and services, they want better access to innovations and to plug and play in the networks – whether that be energy with their solar and batteries, or water with recycling systems, or mobility by sharing their mobility and charging electric vehicles.

The rise of prosumers has been enabled by digital technologies and innovation. It highlights an exciting trend, that is fundamentally altering the structure of our energy, mobility, water and

waste and data markets, products, and services. Despite this, federal policies, infrastructure markets, and consumer frameworks do not reflect prosumer rights in any way.

Understandably, people want and are demanding direct participation and control over decisions and services that affect their life and their community. They are exercising their ability to participate in the market and want a fair share and fair pricing for electricity or water they may generate and sell back to a grid.

Technological advancements are reducing the size and cost of utility and mobility infrastructure, while services are expanding choice. These fundamental changes in the utility/mobility markets are helping and enabling people to share assets - their cars, houses, solar, water, and skills.

It is also leading to the democratisation of infrastructure as households and businesses become micro-utilities. Australian retirees are driving the conversion of rooftop solar, joining two million-plus households around Australia already with solar.

The products and services provided by prosumers have perhaps the greatest potential to change the way our communities function: by helping drive economic development, protecting the environment, reducing carbon emissions, and putting downward pressure on pricing. Next-Gen infrastructure is driving new market competition, and with it, new choices for consumers to generate energy and trade it, produce water and sell it, and share mobility instead of owning a car.

## Open Cities Next-Gen Reforms

Open Cities is including our federal policy agenda in our submission to the Productivity Commission. It recommends key changes by the federal Productivity Commission, Infrastructure Australia, and the federal government to open up infrastructure and service markets to the future. *See Appendix A.* These also apply to the NSW government.

These changes are driving productivity improvements, helping deliver new efficiencies in markets, and improving the resilience of existing markets. They are also providing a more sustainable built environment. If adopted these changes will:

- Promote the development of a circular economy that will create jobs and increase productivity by minimising waste, reducing environmental impacts and freeing up investment and resources.
- Develop localised infrastructure and services to assist governments in meeting and exceeding current carbon and job targets.
- Foster the development of Next-Gen energy, ICT, mobility, waste and water infrastructure and services to encourage participation in these markets, driving jobs, and productivity.
- Promote Next-Gen mobility, including shared mobility, mobility-as-a-service, AVs and EVs, to generate more affordable transport options, tackle congestion, improve air quality, create safer streets, and address affordability.

- Initiate federal and state government projects to research, adjust and remove regulation, and focus on the essential and inevitable transition to new infrastructure and services that will create jobs and investment into the future.

Open Cities would like to work with the NSW Productivity Commission on achieving the following outcomes:

#### **DRIVING PRODUCTIVITY**

- 1. Make Australia/NSW a circular economy world leader by 2030 with a dedicated national strategy.**
- 2. Establish a dedicated unit in NSW Treasury to provide research and leadership on Australia's transition to a Circular Economy to drive productivity and create jobs.**
- 3. Infrastructure NSW consider opportunities to fully leverage the potential of Next-Gen utilities/ mobility and services through the development of the Australian Infrastructure Plan and in response to those opportunities and challenges identified in the Infrastructure Audit.**
- 4. Appoint a Prosumer Commissioner to champion prosumer rights across NSW Government and implement a prosumer framework for individuals and businesses.**
- 5. Resource the NSW Productivity Commission to investigate the productivity opportunities from the implementation of a circular economy with a focus on Next-Gen infrastructure and services.**

#### **REDUCING COSTS, INCREASING RELIABILITY AND BUILDING RESILIENCE**

- 6. Commit to staged targets that support zero emissions in energy, water, waste, and transport sectors to provide certainty to business and drive innovation.**
- 7. Establish a Heat Island Mitigation Unit in Prime Minister and Cabinet to develop and implement a Cool Communities Strategy to work across government to help reduce temperatures in classrooms, buildings, and communities.**

#### **REALISING THE BENEFITS OF NEXT-GEN INFRASTRUCTURE AND SERVICES**

- 8. Leverage investment in infrastructure and through City Deals to incentivise the delivery of next-generation utilities and services.**
- 9. Expand the scope of the State transport plan to include shared mobility, integrated mobility including electric vehicles (EVs), autonomous vehicles (AVs) and energy demand modelling.**

## Conclusion

NSW must address key productivity challenges beyond water and energy. It must include Next-Gen waste and mobility, along with more competitive ICT networks that will provide the future accessible networks long after the NBN. NSW people are currently missing out on the many benefits Next-Gen solutions can deliver to them because unlevel playing fields are dominated by near monopolies with business models that are 75 – 100 years old. They are missing out on the opportunity to be resilient and self-sufficient, reduce utility and mobility costs and even earn new revenues from selling or sharing water, energy, waste, mobility and data.

Next-Gen infrastructure and solutions are converging - for example, waste and water are energy, solar is mobility, and water for trees and living infrastructure tackles air pollution. However, our infrastructure policies and governance structures are not reflecting how digitalisation and new customer models are converging traditional services and capital asset planning. And our markets are siloed and dominated by last century policies, legislation, regulation and tariff structures.

There is now an unprecedented and critical level of customer desire and business ability that can be unleashed to drive the new Circular Economy. This will kickstart a new sustainable economic growth for NSW - driving new jobs, smarter cities, and more liveable and sustainable precincts and businesses. It will also position us for a climate-changed future.

Open Cities is excited to work with the NSW Productivity Commission in setting the right course for productivity priorities and ensuring the solutions that are delivered over the next five years will be world leading.

We are available, and would welcome the opportunity, to meet with the NSW Productivity Commission to discuss this submission.

Yours sincerely,



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APPENDIX A: OPEN CITIES FEDERAL POLICY AGENDA below