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CEO
Infrastructure Australia
Level 21/126 Phillip Street SYDNEY NSW
VIA EMAIL: infrastructureas@infrastructure.gov.au
Friday November 15, 2019

Dear Romily,

Re: Infrastructure Australia 2019 Infrastructure Audit

Thank you for the opportunity to respond to Infrastructure Australia's 2019 Audit.

Open Cities Alliance

Open Cities Alliance is a national peak association for Next-Gen infrastructure and services. We are working with our industry and government members to open our market setting and modernise policy frameworks to enable more sustainable, resilient and affordable utility and mobility 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 decouple economic growth from resource use. 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.¹

Open Cities Commends IA for its Leadership

The 2019 IA Audit is to be commended for recognising that Australia's current approach to infrastructure and services will put the nation at risk of not meeting its 2030 Paris Agreement commitments to reduce emissions - becoming one of the highest carbon emitters per capita in the world. This is in line with Open Cities policy position of net-zero carbon emissions in energy, waste, water and transport sectors.

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

We also commend IA for exploring and understanding the lack of consultation and potential disconnect Australians feel with existing infrastructure solutions.

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.

Open Cities welcomes the opportunities identified by IA to unlock Next-Gen infrastructure solutions that can take Australia to a sustainable, decarbonised future, while putting downward pressure on utility and mobility service costs.

Circular Economy Infrastructure & Services

The Circular Economy is emerging as one of the few viable economic pathways out of our global consumption-climate-biodiversity crisis. Backed 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. The G20 has Circular Economy as one of the few viable economic pathways out of our global consumption-climate-biodiversity crisis.

Australian families, businesses, communities already experiencing the impacts of this consumption climate biodiversity crisis across the country, including:

- The collapse of fish stocks, water scarcity, soil erosion, air pollution, deforestation, biodiversity loss.
- 67 million tonnes of general waste annually of which only half is recycled
- 7.3 million tonnes of food waste annually
- And of course, more extreme heat, lack of rainfall which is contributing to our catastrophic bush fires in these past weeks and days in NSW and QLD - now affecting 6 million people

The efficiency and the effectiveness of Australia’s utility and mobility infrastructure will be critical to the 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.

The 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.

They are driving critical efficiencies that we're just not seeing in our existing siloed utility and mobility markets, through sharing and reuse like recycling water and waste, sharing mobility, local renewable energy generation and storage.

Circular Economy is importantly enabling economies to tackle the 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.

Next-Gen Infrastructure

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 Australia 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 IA's work to identify these barriers.

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 Australia, 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.

Australia 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 Australians. 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 Australia 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 Australian communities who would be better served with more efficient management solutions at the household and precinct-scale.

Open Cities is calling on Infrastructure Australia to consider opportunities to fully leverage the potential of Next-Gen utilities/mobility and services through the development of the Australian Infrastructure and in response to those opportunities and challenges identified in the Infrastructure Audit.

In addition, understanding the real lifecycle costs and values of infrastructure and services in Australia 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 Infrastructure Australia as it provides research and advice to governments, industry and the community on the infrastructure investments and reforms that benefit Australians.

The Rise of the Prosumer

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 Infrastructure Reforms

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

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 IA on achieving the following outcomes:

DRIVING PRODUCTIVITY

1. **Make Australia a circular economy world leader by 2030 with a dedicated national strategy.**
2. **Establish a dedicated unit in Treasury to provide research and leadership on Australia's transition to a Circular Economy to drive productivity and create jobs.**
3. **Infrastructure Australia (IA) 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 Government and implement a prosumer framework for individuals and businesses.**
5. **Resource the 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 federal investment in infrastructure and through City Deals to incentivise the delivery of next-generation utilities and services.
9. Expand the scope of the Electric Vehicle Strategy to include shared mobility, integrated mobility, autonomous vehicles and energy demand modelling.

Please refer to Appendix A for more detail.

Conclusion

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.

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 Australia - driving new jobs, smarter cities, and more liveable and sustainable precincts and businesses.

Open Cities is excited to work with IA in setting the right course for infrastructure and service priorities and ensuring the solutions that are delivered over the next five years will be world-leading Next-Gen solutions.

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

Yours sincerely,



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APPENDIX A: OPEN CITIES FEDERAL POLICY AGENDA below