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The role of sustainable cities & green jobs in Australia

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GLOBAL VOICES

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RIO+20

The United Nations Conference on Sustainable Development, also referred to as Rio+20, is an important step in ongoing international efforts to accelerate progress towards achieving sustainable development globally. The conference will mark the 20th anniversary of the 1992 UN Conference on Environment and Development in Rio de Janeiro (the Earth Summit). It will also mark the 10th anniversary of the 2002 World Summit on Sustainable Development in Johannesburg.

The 1992 and 2002 summits were headline international events and key drivers of the sustainable development agenda. Similarly, Rio+20 presents an opportunity to re-direct and re-energise political commitment to the three pillars of sustainable development: economic growth, social improvement and environmental protection. The conference is expected to be attended by a significant number of Heads of State and Government.

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Abstract

This paper examines the existing Australian sustainability landscape and concludes that more can be done from a policy perspective to ensure a more sustainable future. Considering the two areas of sustainable cities and green jobs through the four lenses of: productivity, sustainability, liveability and governance reveal that Australia's commitment to sustainable development can be improved. Although legislation and academic research created by government aims to improve existing cities in line with sustainable development, the efficacy of such measures is brought into question. Considering green jobs, the initial government subsidies and consequent hasty withdrawal of funds from the *Solar Credits Program* reveals a waning commitment. Australia's pursuit of a more sustainable future is one currently mired in theory. It does not fully utilise a defining link between young people in green jobs, and the subsequent development of sustainable cities. Education, above all, is concluded to be the primary method through which existing sustainability shortfalls can be addressed. In looking to a sustainable future, young Australians should not be overlooked.

Recommendations:

- Establish subsidised or fully sponsored TAFE and University places throughout Australian tertiary institutions that teach useful skills for employment in the green jobs sector;
- In line with the social protection floor that green jobs offer, target potential students from low socioeconomic backgrounds;
- The *Solar Credits Program* and other subsidy-based programs like it should be reinstated to their previous operational level. This means, no cuts to funding, thereby leaving skilled workers without employment and undermining previous sustainability achievements; and
- Focus on utilising existing infrastructure in the most efficient ways possible. This may mean an increase in housing density, but not at the expense of resident's quality of life. 'Greening' buildings through such measures as: installing solar PV or insulating walls to reduce cooling

and heating costs should be encouraged. Perhaps this too could be achieved through subsidies.

Introduction

In looking to create 'The Future We Want', Australia as a nation should place focus on adopting and improving existing sustainability measures. This paper will focus on two priority areas identified by the United Nations as needing immediate attention. The first, sustainable cities relates primarily to Australian capital cities, namely Sydney and Melbourne. The measures being taken to accommodate growing populations, and the poorly planned expansion and uncontrolled growth that go with it will be assessed. This essay will examine Australia's major cities through the following four lenses: productivity, sustainability, liveability and governance. This will yield an accurate picture of the current sustainability landscape, showing exactly how sustainable Australia's urban policy is. Secondly, the role that green jobs play in the sustainable city and how jobs are critically important to social inclusion will be evaluated. Australia's commitment to green jobs creation and skills provision will be examined, with recommendations drawn stating which strategies are perceived to be effective and which are not. Finally, after having examined the sustainability landscape with regard to sustainable cities and green jobs, recommendations for future strategies will be made.

Conventional cities and associated issues

Before assessing Australia's commitment to sustainable practices, an understanding of some of the factors that make a city 'conventional' is needed. Urbanisation is one such factor and is a process occurring in both the developed and developing world. It is the result of a number of forces including push elements that involve a lack of services and job opportunities in rural areas, and pull factors that include people seeking: a better quality of life as well as improved educational and employment

opportunities in major cities.¹ Negative social and environmental effects often accompany urbanisation with poorly planned and uncontrollable expansion and development frequently viewed as a quick-fix solution to the issue of population growth. So widespread is the issue that Sha Zukang, Secretary-General of the UN Conference on Sustainable Development identified urbanisation as a key challenge. He states that 'buildings alone account for roughly...20-25 per cent [of global greenhouse emissions]', placing the imperative on countries to support the developing world where the issue is most pronounced.² Financial aid represents the key to acquiring technologies that can build greener cities. Zukang aptly identifies sustainable development as the single path that allows a shared decent life on our one planet.

In an effort to hastily remedy resultant urban sprawl, some cities resort to building high-density structures, often dozens of stories high. These buildings are used to accommodate growing urban populations in relative comfort however they can place enormous strain on a city's energy, waste removal and sewerage infrastructure. They also destroy the aesthetic value of an area; with many questioning whether simply building more skyscrapers is really sustainable³ in the long-term. More popular still, and this perhaps owes to the sheer convenience of the act, is developing beyond existing city boundaries. The creation of low-density housing through development of a city's urban periphery is an irresponsible and unsustainable practice. The lack of adequate public transportation links and huge cost of utility provision render it harmful from an environmental standpoint. An

¹ Shen, L, Peng, Y, Zhang, X & Wu, Y, 'An alternative model for evaluating sustainable urbanization', *Cities*, Vol. 29, No. 1, 2012, pp. 32-39, viewed 20 March 2012, Science Direct.

² Sha Zukang, *The Challenges for Rio+20*, retrieved 7 May 2012 from <<http://uncsd.iisd.org/guest-articles/the-challenges-for-rio20/>>.

³ Rasoolimanesh, S, Badarulzaman, N, & Jaafar, M, 'Achievement to Sustainable Urban Development using City Development Strategies: A Comparison between Cities Alliance and the World Bank definitions', *Journal Of Sustainable Development*, Vol. 4, No. 5, 2011, pp. 151-166, viewed 27 April 2012, Environment Complete, EBSCOhost.

overreliance on motor vehicles compounds environmental complications, contributing to an increase in air pollution and a lack of pedestrian, bicycle or mass-transport only areas.

How sustainable is Australia's existing urban policy?

Whilst there is no one definition of a 'sustainable city', it is accepted that such cities should aim to meet the needs of current generations without depriving future generations of any living benefits.⁴

The importance of the sustainable city in obtaining 'The Future We Want' becomes apparent when one considers that more than 80% of Australians live in cities.⁵ Furthermore, over half of the world call cities home and in the course of their daily lives generate 75% of world greenhouse gasses.⁶ Consequently, the sustainable operation of major population centres is critical in ensuring that future generations enjoy the privileges that come with productive, sustainable, liveable and well-governed cities.

In response to the challenges outlined above, a consolidated Australian response has come in the form of the *National Urban Policy*.⁷ The stated aim of the policy is to ensure sustained economic growth that does not come at the expense of the natural environment or the Australian way of life. Through this, a sustainable future may be achieved, accompanied by ongoing prosperity and wellbeing. This policy provides an invaluable glimpse into the future of Australian sustainability and thus is an excellent starting point for surveying the sustainability landscape. Many of the guiding principles and goals identified in the policy reflect the commitments made by the international

⁴ *Ibid.*

⁵ Adams, R 2009, 'Transforming Australian Cities for a More Financially Viable and Sustainable Future: Transportation and Urban Design' *Australian Economic Review*, Vol. 42, No. (2), pp. 209-216.

⁶ As above, n 2.

⁷ Department of Infrastructure and Transport 2011, *Our Cities, Our Future: A national urban policy for a productive, sustainable and liveable future*, viewed 21 March 2012, <<http://www.infrastructure.gov.au/infrastructure/mcu/urbanpolicy/index.aspx>>

community to sustainability in such resolutions as Agenda 21 (1992). Others however are far too general in nature, but provide an indication as to future best practices.

Productivity

Australian cities and their accompanying development policies may be examined through the lens of productivity. This issue may be further broken down into the integration of land use and infrastructure, as well as an improvement of existing urban infrastructure. Without adequate investment in the people and capital of Australian Cities, the nation is at risk of suffering declining prosperity and a lowered standard of living. The policy identifies urban passenger transport as an area of concern, citing road-based connections between households and cities as needing improvement. Whilst reference is made to a *Nation Building Program*, which would improve heavy vehicle movements and upgrade national highways, no mention is made to initiatives that would facilitate better *mass* movement of commuters. Again, the overreliance on motor vehicles is made plain. Emphasis is seemingly placed on helping to move freight more efficiently between businesses and markets, with only brief mention of incorporated walking and cycling infrastructure.

In looking to improve the efficiency of urban infrastructure, the policy proposes enhanced connectivity. This idea of a *National Broadband Network* aligns directly with UN directives for efficient communication networks. The \$27.5 billion already committed bodes well from a sustainability perspective, as the ability of cities to disseminate information reliably and at high speed is a key factor to a sustainable future. A number of strategies are proposed that would reduce congestion and thereby improve community wellbeing. The costs of congestion to a city include: additional greenhouse gas emissions, poorer air quality and consequently higher healthcare costs. 'Managed motorways' would encompass variable speed message signs, delivering up to a 13%

increase in travel speed.⁸ Ramp metering would also deliver higher travel speeds, increased throughput of traffic and notably, a reduction in road accidents. Benefits include a reduction in travel time and delays, leading to savings in fuel usage and consequent lower greenhouse gas emissions. The above signals a move towards more efficient transportation and communication networks. It stands as important policy that forms a key part in a more sustainable future. However, once again the benefits of mass transport have been overlooked in favour of continuing Australia's car-dependent culture.

The *National Urban Policy* proposes overwhelmingly positive and practical strategies when considering sustainability goals. It is accepted that cities and their populations have a harmful net effect on natural ecosystems. Such an impact would increase in scope and severity as demand for water, energy and land continues to increase. Further exacerbating the issue is increased waste generation by major cities. Whilst legislative measures such as the *Environment and Biodiversity Protection Conservation Act* (1999) aim to protect and sustain the natural environment, their practical efficacy is questionable.⁹ An ANAO¹⁰ report titled, *The Conservation and Protection of National Threatened Species and Ecological Communities*¹¹ concluded that the Environment Department consistently failed to adequately list threatened species and ensure compliance with environmental law.¹² This Act aims to protect locally significant: flora, fauna, ecological communities and heritage sites from wanton development. A *National Waste Policy* also helps to minimise the impacts of human settlement in the form of reduced waste generation. In looking to avoid environmental damage caused by unsustainable development, provisions for green space should be

⁸ *Ibid.*

⁹ The Age, *Audit slams slow Environment Department*, Retrieved 3 June 2012 from <<http://www.theage.com.au/news/National/Audit-slams-slow-Environment-Department/2007/03/29/1174761660624.html>>.

¹⁰ Australian National Audit Office.

¹¹ Australian National Audit Office, *The Conservation and Protection of National Threatened Species and Ecological Communities*, Retrieved 2 June 2012 from <www.anao.gov.au/uploads/.../2006-07_Audit_Report_311.pdf>.

¹² As above, n 10.

made within cities. Acknowledging that the built environment is a large source of energy consumption and waste production is key to implementing sustainable strategies. The policy summarily addresses this through committing to a *Sustainable Communities Package* that would disseminate \$120 million to state governments. With the ambitious aim of increasing affordability and liveability in major cities, the *Package* targets more effective planning and city design. Given these wide reaching aims, the funding allocated when spread across numerous jurisdictions and governmental levels may prove insufficient. It nonetheless represents a renewed commitment to green buildings albeit a minor one.

Recent efforts to reduce greenhouse gas emissions and thereby improve air quality have received a great deal of public attention. Foremost amongst this awareness has been debate surrounding the pricing of carbon. Extensive consideration of the 'Carbon Tax' and both its merits and shortcomings is outside the scope of this research. This said, the initiative as outlined by the *National Urban Policy* does seek to provide tangible incentives to cities in an effort to lower carbon emissions. In the short-term, Australia's reliance on motor vehicles is unlikely to change greatly. Acknowledging this, a *Green Vehicles Guide* is viewed by Government as a means of assisting consumers with relevant data. This data includes environmental performance and fuel consumption figures. Funding for low emissions technologies, particularly those applying to improved building practices and motor vehicle efficiency could be provided by the Carbon Tax. Whether this occurs in practice remains to be seen. Tax incentives for businesses to improve the energy efficiency and recycling credentials of existing buildings have also been proposed¹³. Legislative measures regarding new buildings signal a positive step towards stricter energy efficiency requirements.¹⁴

¹³ Tax Breaks for Green Buildings Policy.

¹⁴ Building Energy Efficiency Disclosure Act.

Sustainable resource management is a further area of consideration. A reduction of resource consumption and waste is a necessary response given the challenge of existing unsustainable practices. At the Federal level, the *National Waste Policy* seeks to coordinate action across the six areas of: taking responsibility, improving the market, pursuing sustainability, reducing hazard and risk, tailoring solutions and providing the evidence.¹⁵ Securing the ongoing supply of water, energy and food is a further challenge that sustainable cities must overcome. Water restrictions have in the past been put in place. Sustainable measures however, would encompass a holistic approach including: taking action on climate change, securing water supplies and using water efficiently.

A key aim of Rio+20 would be to achieve cities that possess resilience to climate change and excellent natural disaster preparedness. Whilst scientific research certainly plays a role¹⁶ in increased climate resilience, existing development practices should also be modified. Rising sea levels, storm surges and particularly bushfires have been features of the changing Australian landscape. Land use planning and spatial mapping can contribute to reducing the exposure of urban areas to climate change and disaster risks.

¹⁵ As above, n 8.

¹⁶ Climate Change Adaptation Research Grants Program.

Liveability

Liveability can be taken to refer to the way that a city supports the quality of life and wellbeing of communities.¹⁷ The challenge of ensuring ongoing happiness, physical and mental health for individuals is exacerbated by the growth and change of cities. Sustainable cities rely on an equitable distribution of appropriate and affordable mixed income housing. Such affordable living choices are achieved through proper planning where housing is located close to facilities and services such as public transportation. The potential for outer suburbs as employment centres should also be recognised as inevitable. Even when managed stringently, a city's outer limits may expand slowly over time. Taking the example of Sydney, Parramatta as a second CBD to the City of Sydney could provide a starting point to generating jobs and providing adequate housing.

Improving the accessibility of cities and reducing a dependence on private motor vehicles is addressed in this section of the *National Urban Policy*. Such reliance, in addition to the ill effects outlined previously, divides society between those who have access to a car and those who do not. In the interest of equitable access to jobs, services, shops and social activities state governments should act to improve transport options. Reducing the need to travel is a further measure that is being explored. This may be achieved by creating polycentric city structures, where cities are developed into zones catering to mixed needs such as employment and social living. The *National Broadband Network* also holds great potential in reducing travel demand, allowing individuals to telecommute and reduce strain on both public and private forms of transport.

The health and wellbeing benefits of the sustainable city are correctly identified in the Policy. Mixed-use areas, where people work and live should be integrated with green spaces such as parks and cycling tracks. Such planning facilitates improved public health outcomes and quality of life. In

¹⁷ As above, n 8.

conclusion, the above represent strategies that can be adopted to develop safer, sustainable and more inclusive urban communities.

Governance

The final lens through which the Australian sustainability landscape may be viewed is that of governance. All of the strategies and goals outlined in the *National Urban Policy* require full cooperation between different levels of government to be realised. The process of good governance is threefold: the planning and management of cities should be improved, the administrative process streamlined and finally, progress should be evaluated. Australian cities frequently lack cohesion in their planning. This is due to poor communication between local governments, which possess intimate knowledge of their own cities, and federal and state governments, which often act as major sources of funding. It is therefore heartening that the *NUP* proposes a ‘whole-of-governments’ approach to planning, with integrated goals and objectives to achieve sustainability outcomes.

The Australian sustainability landscape when considered through the four lenses of: productivity, sustainability, liveability and good governance seems to indicate a more sustainable future. This said, the Policy is itself a plan and implementation in the coming years will determine its success.

Melbourne provides a model for responsible planning and sustainable growth. Examination of the *Transforming Australian Cities* study carried out by the Department of Transport and City of Melbourne reveals a number of simple strategies that are applicable to all cities.¹⁸ With the focus of obtaining greater utilisation from existing infrastructure, the study proposes activity centres, transport corridors and redevelopment sites. Of particular merit are the proposed transport corridors. The corridors would allow for volumes of people to be housed in 4-6 storey developments

¹⁸ Victorian Department of Transport & City of Melbourne, *Transforming Australian Cities*, viewed 20 March 2012, <www.melbourne.vic.gov.au/.../TransformingCitiesMay2010.pdf>.

located immediately adjacent to major public transport hubs.¹⁹ The selective development outlined above has the potential to create capacity for a further 3.8 million people within 7.5% of the existing metropolitan area²⁰ and represents the brand of thought that should be adopted at the national policy level.

Green Jobs

Green jobs represent an opportunity for sustainable cities to be realised more quickly. Green jobs, defined simply as those that reduce the negative impact made on the environment relative to the status quo, may prove a viable conduit towards creating sustainable cities.²¹ The full utilisation of human capital in creating liveable and productive sustainable cities is not occurring at present in Australia. In order to achieve a greener economy, workers must be equipped with the skills and protections necessary to transition from our current way of living. Green jobs mean social inclusion, they are an opportunity for governments to realise new areas of growth. Public work that relates to: sustainable land and water management practices, ecological farming and enhancing natural capital are all opportunities for green jobs growth and creation. Green jobs provide a social protection floor for citizens, protecting those who are not employed in the formal economy.²² They also help countries to achieve UN aims such as social inclusion.

UN estimates concerning the number of green jobs worldwide predict an increase from 2.3 to 20 million jobs from 2006 to 2030, an average of 750,000 new jobs a year.²³ Of these 750,000 jobs, 59% would lie with biofuels and related industries, whilst 31% of the jobs would lie with solar power

¹⁹ Adams, R, 'Transforming Australian cities for a more sustainable future', *Interaction*, Vol. 38, No. 4, 2010, pp. 8-11.

²⁰ *Ibid.*

²¹ Annandale, D, Morrison-Saunders, A, & Duxbury, L, 'Regional sustainability initiatives: the growth of green jobs in Australia', *Local Environment*, Vol. 9, No. 1, 2004, pp. 81-87, viewed 20 March 2012, Environment Complete, EBSCOhost.

²² *Ibid.*

²³ United Nations Environment Program, *Green jobs: towards decent work in a sustainable, low-carbon world*, retrieved 10 May 2012 from <http://www.unep.org/labour_environment/features/greenjobs.as>.

generation. Considering the benefits and drawbacks of solar PV against the comparative convenience of a continued reliance on coal-fired and gas power generation reveals an interesting fact. In terms of the number of green jobs created per dollar spent on power by consumers, solar PV reveals itself to be the most viable option. External costs such as pollution and land degradation brought about by coal seam gas drilling are also avoided, making solar PV an even more attractive proposition.

The Australian response to these opportunities has been somewhat limited. Notably, it has focused on the provision of subsidies and additional incentives to encourage technology adoption. The Solar Homes and Communities Plan²⁴ had aims of reducing energy use, saving money on power bills and importantly, growing the solar power industry. Rebates of \$8000 and payment for electricity generated were provided. Over 3200 accredited Australian solar panel installers operated at the peak of the program, which was terminated in 2009. The replacement Solar Credits Program²⁵ was initially broader than its predecessor. It covers a Large-scale Renewable Energy Target that supports the deployment of wind farms and geothermal stations amongst other large projects. Furthermore, a Small-scale Renewable Energy Scheme provides support for renewable energy in homes through rooftop solar panels and solar water heaters.

As of early 2011 however, the Australian Government has reduced the solar credits multiplier available, meaning reduced incentives for individuals to install energy-generating systems. This reduced commitment by Government does little to assist the solar power industry in remaining competitive and providing continued employment on a large scale. The *National Urban Policy* makes little mention of green jobs in relation to sustainable city design. Rather, it is concerned with the

²⁴ Department of Climate Change and Energy Efficiency, *Solar Homes and Communities Plan*, retrieved 11 May 2012 from <<http://www.climatechange.gov.au/what-you-need-to-know/renewable-energy/solar-homes.aspx>>.

²⁵ Department of Climate Change and Energy Efficiency, *Solar Credits*, retrieved 11 May 2012 from <<http://www.climatechange.gov.au/en/government/initiatives/renewable-target/need-ret/solar-credits-faq.aspx>>.

location, distribution and number of jobs rather than their 'green' status. There is therefore great potential for increased green jobs creation. Outside of the aforementioned solar credits scheme, which is undermined by funding reductions, the Australian commitment to green jobs is minimal. A social protection floor for Australia's marginalised and long-term unemployed may come from other measures such as social security. This said, it is a gross oversight that green jobs play a minimal role in remedying current social ills.

The current Australian position on sustainable cities and green jobs reveals a need for real, renewed commitment towards achieving sustainable development. This is particularly the case for green jobs, which are lacking both in number and in variety. Young Australians should form part of the solution through contributing their skills and knowledge to the sustainable development process. In order for this to occur, there is a need to reform the education system so that it adequately equips young people to participate in green employment. The *National Urban Policy* addresses some of the issues related to education. Positive aims include increasing year 12 completion rates, implementing universal access to early childhood education and uncapping public university places.²⁶ Crafting the sustainable cities of the future requires adequate training today. Higher qualifications that deliver positive job outcomes, particularly in areas such as biofuel research, solar PV, and ecological farming should be emphasised. The current Australian framework overlooks the need for funding to address the above aims. Education would in itself allow for green jobs creation and bring Australia into line with other countries.

²⁶ As above, n 7.

Conclusion

Australia's pursuit of a more sustainable future is one currently mired in theory. Commitments that fall short of their initial aims, unfulfilled promises, developments that are completed in half-measures and a failure to consult with young Australians are amongst the chief concerns plaguing the development of sustainable cities and the creation of green jobs. Although certain commitments outlined in the *National Urban Policy* address the challenges posed by urbanisation, continued emphasis on education as a means of job generation is needed. Green jobs can provide a powerful tool in the creation of sustainable cities as the two are inextricably linked. Remembering to maintain the social protection floor offered by green jobs and providing for job creation through adequate funding are two tenets government should be mindful of in moving forward. Young people should not be overlooked in carrying out this process, as it is they who will be instrumental in its success.

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