



MONASH University
Monash Sustainability Institute

Sustainable development goals and targets for Australia

An interim proposal

Robert Watson, John Thwaites, Dave Griggs,
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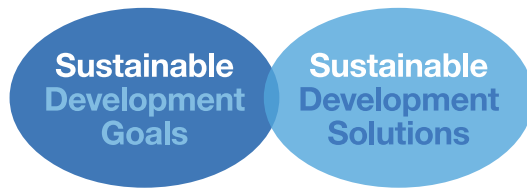


SUSTAINABLE DEVELOPMENT
SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

Australia
Pacific



Harold Mitchell
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City lights of Asia and Australia, credit: NASA via visibleearth.nasa.gov/

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1. Introduction

In *The Future We Want*¹, the outcome document of the June 2012 Rio+20 United Nations (UN) Conference on Sustainable Development, world governments called for the development of a set of universal Sustainable Development Goals (SDGs) that would apply to all countries (the concept of universality) and come into effect in 2016. It was agreed that the SDGs would be limited in number, aspirational and easy to communicate, as well as address in a balanced way the three elements of sustainable development – providing economic transformation and opportunity to lift people out of poverty, advancing social justice and protecting the environment.

The SDG discussions and negotiations have been justly focussed on continuing and finishing the work of the Millennium Development Goals (MDGs) in “developing” countries. But what would – and could – the SDGs mean for a developed country like Australia? How relevant are current SDG proposals to Australia? And what sustainable development goals and targets should Australia aim for? The Monash Sustainability Institute 3-year initiative *Sustainable Development Goals ↔ Sustainable Development Solutions*² has been exploring these questions with the aim of promoting Australian leadership in the development of the SDGs and the solutions for implementing them.

The initiative, through a multi-stakeholder process, has been developing a set of potential goals (SDGs) and targets relevant to Australia that integrate economic, environmental and social issues: (1) food security and agriculture, (2) climate change and energy security, (3) sustainable water, (4) health, (5) social inclusion and gender, (6) education, (7) sustainable economy, (8) biodiversity and ecosystem services, (9) governance, and (10) cities. It also identifies a number of key linkages among the goals with a suggested set of targets that can ensure that actions to achieve one goal are synergistic with achieving another goal rather than undermine them.

This report provides a proposal for sustainable development goals and targets for Australia as it currently stands, half way through the initiative, together with background material on the thinking behind the proposal.

The process so far

The process to develop a proposal for sustainable development goals and targets for Australia started with a national workshop in May 2013 on how Australia is tracking in relation to sustainable development. The workshop examined Australia’s current sustainability performance and challenges, its impact on the world, its relationship with its neighbours, and the role of SDGs in an advanced country like Australia.

It was followed by the development of ten discussion papers, one for each of the issues above, which examined Australia’s sustainable development challenges and proposed what SDGs relevant to Australia could look like. The papers used as starting points the MDGs and key proposals for SDGs by the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda³, the Sustainable Development Solutions Network (SDSN)⁴, and the discussions and papers associated with the UN Open Working Group on Sustainable Development Goals. Two Australian reports were of particular importance in developing the goals and targets for Australia: the National Sustainability Council’s *Sustainable Australia Report 2013: Conversations with the Future*⁵ and the Australian Bureau of Statistics’ *Measures of Australia’s Progress 2013: Is Life in Australia Getting Better?*⁶ The papers, and the proposed goals, underwent an initial round of expert review.

In addition to the topic-specific papers, the initiative also developed a discussion paper considering integration and interlinkages among different areas of sustainable development, as understanding and taking account of potential trade-offs and synergies within and between the proposed SDGs is critically important.

1 UN (2012) [The Future We Want: Outcome document adopted at Rio+20](#).

2 The goals and targets have been developed as part of the “Sustainable Development Goals ↔ Sustainable Development Solutions” project. The project is an initiative of the Monash Sustainability Institute (MSI) and the Harold Mitchell Foundation under the auspices of the UN Sustainable Development Solutions Network (SDSN), of which Monash is Australia/Pacific Regional Centre.

3 High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

4 SDSN (2013) [An action agenda for sustainable development](#).

5 National Sustainability Council (2013) [Sustainable Australia Report 2013: Conversations with the future](#).

6 Australian Bureau of Statistics (2013) [Measures of Australia’s Progress 2013: Is life in Australia getting better?](#) cat. no. 1370.0.

The second national workshop in May 2014 got a broad range of participants to critique and refine the proposed goals and targets and strengthen the treatment of interlinkages between the goals – in particular to ensure that all the key issues relevant to Australia were captured.

This interim report represents the outcomes of the process following the discussions at the second workshop. The proposed sustainable development goals and targets for Australia are outlined in Section 2. Section 3 provides the framework that was used to consider interlinkages between the goals. Annex 1 provides the discussion papers on each of the goal areas that were developed as input into the second workshop. Reports from the two workshops can be found on the initiative website⁷.

As well as goals and targets, the workshop identified broad aspirations and objectives under each goal together with potential indicators and policies that might help achieve the goals. These have been separately identified.

Next steps

There is still considerable work needed to refine the goals and targets within this report and to build on them. The following are the key steps as planned as part of this process:

- Add goals and/or targets on sustainable consumption and production, including in relation to Australia's extractive industries. This is a gap that was identified at the workshop.
- Use the proposed goals and targets as the basis for consultation with business, government and the public on the current proposed goals and targets.
- Work with the ABS and stakeholders to consider how the proposed targets can be re-phrased as measurable targets and to identify or develop a set of appropriate indicators to measure progress towards the targets and the goals.
- Analyse how the SDGs proposed in the Outcome Document of the Open Working Group on Sustainable Development Goals⁸, released in mid-July, align with these proposed goals and targets for Australia, and in general how relevant they are to Australia.
- Develop an action plan for implementing the proposed goals and targets in Australia. This, as well as Australia's role in global implementation and in providing support to aid implementation in the region – will be the focus of the third national workshop in 2015.

The Sustainable Development Solutions Network (SDSN)

Monash Sustainability Institute is the Australia/Pacific Centre for the SDSN, a global network of universities and research centres supporting the development and implementation of the SDGs.

We hope that this report assists in promoting informed public debate about potential sustainable development goals for Australia and informs those responsible for negotiating the goals on Australia's behalf. We also hope that the report and the process we have adopted will assist other Regional Centres and members of the SDSN, particularly in the Asian region, to agree on appropriate goals and targets for their countries.

⁷ [Sustainable Development Goals ⇄ Sustainable Development Solutions web page.](#)

⁸ [Outcome Document - Open Working Group on Sustainable Development Goals.](#)

2. Proposed goals and targets for Australia

Table 1: A summary of the proposed sustainable development goals for Australia.

1	<p>Ensure food security, good nutrition and a sustainable food system</p> <p><i>Ensure all Australians have safe, nutritious and affordable food (no-one goes to bed hungry) and our food resources, and skills, contribute to world food security. Ensure the agriculture sector in Australia is managed sustainably using innovative practices that improve productive and environmental outcomes.</i></p>
2	<p>Curb human-induced climate change, including through an affordable and sustainable low-emissions energy system</p> <p><i>Play an active role in preventing the increase in global average temperature exceeding 2°C above pre-industrial levels, in line with international agreements, by decarbonising the energy system, improving energy efficiency, and reducing non-energy emissions from land use, agriculture and industrial production.</i></p>
3	<p>Ensure water is managed to sustain people and the environment</p> <p><i>Ensure sustainable management of all water systems to deliver universal access to safe water and sanitation, and systems that provide for productivity, resilience and liveability, including the ecosystem services of catchments, waterways, and related groundwater.</i></p>
4	<p>Ensure healthy lives</p> <p><i>Ensure universal health and wellbeing at every stage of life for all Australians, focusing on efforts to reduce health inequalities.</i></p>
5	<p>Achieve social inclusion, respect and equity for Indigenous people, gender equality, peaceful and inclusive societies, and human rights for all</p> <p><i>Ensure all Australians have equal rights (e.g., economic, social and cultural), opportunities (e.g., education, employment and housing) and resources (e.g., food water and energy), and all forms of discrimination are eliminated.</i></p>
6	<p>Ensure quality education and lifelong learning</p> <p><i>All people living in Australia are able to demonstrate the capabilities, competencies and capacities to contribute to a sustainable future</i></p>
7	<p>Achieve a sustainable and inclusive economy</p> <p><i>Australia has a dynamic (adaptive and innovative) sustainable and inclusive economy that promotes human wellbeing, social equity and ecosystem health.</i></p>
8	<p>Ensure healthy and productive ecosystems</p> <p><i>Protect and restore Australia's unique biodiversity and globally-significant biodiversity hot spots, and adequately value and support the services provided by ecosystems to Australia's economic development and human wellbeing.</i></p>
9	<p>Ensure good governance</p> <p><i>Australia and Australians commit to good governance in delivering SDGs by respecting human rights and fundamental freedoms, increasing participation by all Australians in political processes and civic engagement, eliminating corruption and promoting effective, accountable and transparent institutions.</i></p>
10	<p>Empower inclusive, productive, and resilient cities</p> <p><i>Make all Australian cities socially inclusive, healthy, economically productive, environmentally sustainable, culturally vibrant, secure, and resilient to climate change and other risks. Develop participatory, accountable, and effective city governance to support rapid and equitable urban transformation.</i></p>

Notes on the proposed goals and targets for Australia

Table 1 on the previous page provides a summary of the ten proposed sustainable development goals for Australia as they currently stand.

The following pages provide more detail on each proposed goal, including targets that address key issues within each area or key interactions and trade-offs between areas. The targets are for the year 2030 unless otherwise stated. In addition, bullet points under each target represent notes on additional sub-targets and aspirations/objectives that should be considered, as well as potential indicators and policy responses to assist in tracking progress towards the goals and targets.

There are ongoing issues in terms of the measurability of development goals and the need to balance aspiration with achievability, as well as balancing the simplicity of goals with regional relevance, even within Australia. It will be important to set some intermediate targets for 2020 for many of the issues. The quantification of these targets, the finalisation of a set of indicators, and an action plan to implement these goals and targets is the work for the next 12 months leading up to the third national workshop.

Goal 1: Ensure food security, good nutrition and a sustainable food system

Ensure all Australians have safe, nutritious and affordable food (no-one goes to bed hungry) and our food resources, and skills, contribute to world food security. Ensure the agriculture sector in Australia is managed sustainably using innovative practices that improve productive and environmental outcomes.

Target 1a Ensure everyone in Australia has access to sufficient, safe, affordable, and nutritious food

Targets

- Ensure all people have a daily intake of x calories per day of affordable nutritious food

Indicators

- Develop a national target and indicator for the proportion of food energy derived directly from plant sources

Aspiration/objective

- Ensure all packaged food is labelled to indicate nutrition facts, sustainable production costs (including water and greenhouse gas intensity), country of origin, and allergy advice
- Increase publicly available allotments for food production in cities

Policies

- Implement and enforce a national “Healthy Eating Action Plan” for all Australians, including remote Indigenous communities
- Utilise indigenous knowledge and food sources (to improve diet, economic growth etc.)

Target 1b Ensure agriculture practices are productive and sustainable based on high efficiency use of water, land, nutrients and energy

Targets

- Increase Australia’s sustainable agricultural productivity by xx% by 2030
- Improve soil health, including erosion, soil acidification, soil carbon stores and soil salinity grades by location by xx
- Increase the profit margin for farmers and the value of Australia’s agriculture exports from sustainably produced agriculture by xx% (in real terms) by 2030
- Decrease the run-off of agricultural effluents, sediments, and chemicals (site specific);
- Reduce energy/carbon intensity of agriculture and food systems (reducing GHG emissions, increasing energy security, protecting viability of food system and biodiversity);
- Reduce the use of fossil-based chemicals in agricultural production
- Increase investment by government and private sector in agricultural research and development

Indicators

- Establish targets and reporting systems to monitor regional efficiencies of nitrogen and phosphorus nutrient use
- Develop greenhouse gas intensity indicators, targets and reporting for the food production systems utilising where possible available data reporting systems
- Establish water use efficiency and catchment ecosystem health targets for existing and new irrigation developments
- Develop a national target and indicator for the loss/gain of arable land for food production through competition for from urban and industrial (biofuels and coal-seam gas) land
- Protection of biodiversity indicator;

Aspiration/objective

- Increase the productivity of water use per unit of agriculture produced
- Eliminate agricultural extensification (i.e., minimise conversion to other uses) and restore degraded lands

Policies

- Promote precision irrigation
- Internalise the social and environmental costs of agriculture into the price of food
- Promote agro-ecosystems and increase genetic diversity within agricultural systems
- Provide payments for ecosystems services to farmers

Target 1c Increase the resilience of agricultural businesses and their dependent communities to changes in the global environment, including markets, climate change, drought, flood and fire

Indicators

- Develop measures of rural community resilience in terms of infrastructure , health and education services

Policies

- Regional government-funded risk management and preparedness plans and crisis assistance for extreme events
- Improve rural infrastructure (e.g., roads, internet)
- Eliminate all agricultural production subsidies
- Improve rural infrastructure and policies around seasonal employment for migrant workers in the agricultural sector

Target 1d Adopt sustainable ocean and freshwater fishery practices and rebuild designated fish stocks to sustainable levels

Targets

- 100% of fish stock under Australian Government control are classified as “not overfished”

Indicators

- Develop sustainability targets and indicators for marine and freshwater aquaculture production systems

Policies

- All States and Territories have “no take” marine parks for fish

Target 1e Reduce loss and waste throughout the food production value chains

Targets

- Post-harvest loss is reduced from xx% to xx%
- Food waste per capita is reduced from xx% to xx%

Goal 2: Curb human-induced climate change, including through an affordable and sustainable low-emissions energy system

Play an active role in preventing the increase in global average temperature exceeding 2°C above pre-industrial levels, in line with international agreements, by decarbonising the energy system, improving energy efficiency, and reducing non-energy emissions from land use, agriculture and industrial production.

Target 2a Reduce Australia’s greenhouse gas emissions below 2000 levels by 19% by 2020, 40% to 60% by 2030 and at least 80% by 2050 and the national carbon budget for the period 2013–2050 is no more than 10.1 Gt CO₂-e, in line with the targets recommended by the Climate Change Authority

Indicators

- Emissions – Mt CO₂-e
- Emissions per capita t CO₂-e

Target 2b Ensure all Australians and the Australian economy have access to sufficient and affordable clean energy

Target 2c Improve the energy productivity of Australia’s economy by reducing the emissions intensity of electricity generation and increasing the energy efficiency of Australia’s buildings, industry and transport

Targets

- Reduce the emissions intensity of electricity generation from 0.9 t CO₂-e/MWh today to 0.5 t CO₂-e per MWh in 2030 and less than 0.1 t CO₂-e per MWh in 2050
- Renewable energy target

Indicators

- Carbon intensity – t CO₂-e per \$GDP
- Energy intensity GJ per \$GDP
- Energy efficiency buildings GJ/m²
- Emissions intensity of transport gCO₂/km

Policies

- Fuel efficiency standards applying to vehicles in Australia
- Eliminate fossil fuel subsidies

Target 2d Reduce non-energy related emissions of greenhouse gases through improved practices in agriculture, forestry, waste industrial processes and fugitive emissions by x% by 2030

Policy

- Promote afforestation and reforestation programs, including Indigenous carbon farming

Target 2e Expand investment in research, innovation, development and implementation of technologies and practices for a low-carbon economy

Policy

- Provide short-term financial incentives to overcome barriers for energy-efficient production and the use of new technologies

Target 2f Reduce the non-greenhouse gas impacts of energy production and use

Targets

- Increase water-use efficiency in energy production through enhanced use of water-efficient renewable technologies
- Reduce emissions of air pollutants (e.g., NO_x, NMHCs, CO and particulates)

Policy

- Implement environmental standards on large-scale hydropower system

Goal 3: Ensure water is managed to sustain people and the environment

Ensure sustainable management of all water systems to deliver universal access to safe water and sanitation, and systems that provide for productivity, resilience and liveability, including the ecosystem services of catchments, waterways, and related groundwater.*

Target 3a Provide all Australians with access to safe and affordable water, sanitation and hygiene (WASH) services

Aspirations/objectives

- All Australian homes have access to adequate, clean and safe water at affordable prices
- All Australian homes have access to adequate sanitation and hygiene services at affordable prices
- Water systems support for remote communities for the achievement of all Indigenous “closing the gap” life outcomes

Target 3b Ensure water is used efficiently and effectively to maximise productivity for all consumptive uses (homes, businesses, agriculture, and urban open space)

Indicators

- Household, industry and rural uses – efficiency targets to be developed at a regional level to meet local geographic, climatic and socio-economic circumstances

Targets

- Total greenhouse gas emissions from all water systems are reduced by 25% between 2015 and 2030.
- Decrease effluent and sediment run-off from agricultural systems into the coastal environment
- Increase water recycling

Policies

- Water-use efficiency standards and water pricing policies to reflect the true price of water
- Promote precision irrigation

Target 3c Ensure surface water and groundwater in Australia is monitored and governed sustainably and in an integrated manner to satisfy human needs while preserving cultural and ecosystem values

Aspirations/objectives

- Water available to meet needs of Indigenous people – to their economic, spiritual and environmental purposes
- Ensure no net loss of ecosystem regulating services for clean water and flood control through preserving, restoring and promoting healthy ecosystems

Targets

- Surface water and groundwater withdrawals for consumptive uses are in line with environmentally sustainable levels⁹
- Proportion of river basins in ‘good’ or ‘excellent’ condition (increase from X to Y% by 2030)

Policies

- “Blue-green” infrastructure¹⁰ incorporated in the planning of cities to meet human health needs (mental and physical)

⁹ Rivers to receive minimum scientifically-researched and agreed environmental flow regimes – taking into account climate change demands.

¹⁰ Blue-green infrastructure provided through water sensitive urban design (WSUD).

Target 3d Ensure water systems are resilient, with the capacity to cope with extreme events, in particular climate change impacts and rapid population growth in urban areas.

Aspirations/objectives

- Social resilience – capacity of socio-economic and institutional systems to respond and recover to extreme events

Indicators

- Flood indicator – number of lives and properties at risk of 1:100 year floods
- Water supply security – water remains available for critical human needs in periods of prolonged drought
- ratio of water consumption to total water volume available
- time on water restrictions

Target 3e Develop a national governance framework for effective stewardship of all water resources

Aspirations/objectives

- Accountable and transparent processes for identifying water property rights and ensuring equitable distribution of all water – for people and the environment

Policies

- Governance arrangements in place that are multi-level, multi-sectorial and trans-boundary
- Water pricing policies to reflect the true price of water

* “Water systems” are all supply and demand services for water, sewerage and drainage services, including both centralised and decentralised (or distributed) services.

Goal 4: Ensure healthy lives

Ensure universal health and wellbeing at every stage of life for all Australians, focusing on efforts to reduce health inequalities.

Target 4a Ensure all Australians have access to, and avail themselves of, affordable healthcare

Targets

- Indigenous life expectancy gap is closed within a generation
- Mortality rate for indigenous children is halved by 2018

Indicators

- Low income/disadvantaged indicators
- ABS Burden of Disease indicators

Target 4b Promote preventative health education and practices

Aspirations/objectives

- Improved and ongoing access to water and sanitation, especially remote communities
- Road safety

Targets

- Reduce the percentage of Australians who are obese from 28% in 2013 to xx% by 2030 (this is also an indicator for Target 1a, “Ensure everyone in Australia has access to sufficient safe, affordable, and nutritious food”)
- Reduce the rate of non-communicable diseases by x%

Indicators

- Physical activity indicators e.g. weekly exercise, walking and cycling
- Self-assessed health and subjective life satisfaction/happiness surveys
- Indigenous “closing the gap” indicators
- Low income/disadvantaged indicators
- Behaviour change campaign indicators

Policies

- Encourage a healthy and active lifestyle and a healthy and sufficient diet through education, legislation and pricing
- Children are taught the value of active and healthy lifestyles
- Access to open spaces for all

Target 4c Reduce the loss of health, wellbeing and economic potential of Australians due to both communicable and non-communicable diseases

Indicators

- ABS Burden of Disease indicators
- Indigenous “closing the gap” indicators
- Low income/disadvantaged indicators
- Behaviour change campaign indicators
- Research spend indicators
- Immunisation uptake

Target 4d Improve and promote mental health and wellbeing

Indicators

- Levels of psychological distress
- Access to mental health services
- Indigenous “closing the gap” indicators
- Low income/disadvantaged indicators
- ABS Burden of Disease indicators
- Behaviour change campaign indicators
- Research spend indicators

Target 4e Ensure Australia has a health care system that supports the health and wellbeing of Australians today and in the future

Indicators

- Research spend indicators
- Behaviour change campaign indicators
- Health system governance indicators
- Trends in aging and access to aged-care services

Policies

- Monitor and reduce the environmental footprint of the Australian healthcare system
- Long-term multi-level, multi-sectoral and transboundary governance and dedicated funding of health priorities

Goal 5: Achieve social inclusion, respect and equity for Indigenous people, gender equality, peaceful and inclusive societies, and human rights for all

Ensure all Australians have equal rights (e.g., economic, social and cultural), opportunities (e.g., education, employment and housing) and resources (e.g., food water and energy), and all forms of discrimination are eliminated.

Target 5a Eliminate discrimination and inequalities in public service delivery, the rule of law, access to justice, and participation in political and economic life on the basis of gender, Indigenous status, race, ethnicity, religion, disability, age, national origin, sexuality and social or other status

Target 5b Ensure all Australians have access to decent job opportunities and livelihoods

Targets

- Decrease in unemployment rate
- Youth unemployment rate is below 10%
- Number of good and decent jobs has increased by XX%

Indicators

- Indigenous “closing the gap” indicator
- Rural and remote communities indicator

Target 5c Eliminate absolute poverty and halve levels of relative poverty

Targets

- Halve the proportion of households with incomes less than half of the national median income
- Decrease the proportion of children in jobless families
- Decrease the number of long-term income support recipients

Indicators

- Indigenous “closing the gap” indicator
- Rural and remote communities indicators

Target 5d Eliminate discrimination against women in political, economic, social, family and public life

Aspirations/objectives

- Elimination of pay gap between men and women
- Access to childcare
- Equal participation of women in parliament and senior levels in workplaces (access to board and executive positions)

Targets

- Expand participation in sexual and reproductive health education by x%

Target 5e Eliminate violence against individuals, especially women and children

Indicators

- Indigenous “closing the gap” indicator

Targets

- Decrease in family violence

Goal 6: Ensure quality education and lifelong learning

All people living in Australia are able to demonstrate the capabilities, competencies and capacities to contribute to a sustainable future

Target 6a Reduce the proportion of children identified as developmentally vulnerable on the Australian Early Development Index at Age 5

Indicators

- Enrolment rates ages 3 and 4 in early childhood education
- Percentage of children developmentally vulnerable

Target 6b Ensure Australian students excel by international standards and Australia is placed in the top five countries internationally in reading, mathematics and science by 2025 and the top 4 by 2030

Indicators

- Australia's mean scores for OECD PISA testing in reading, mathematics and science
- The proportion of students in the bottom and top levels of performance in international testing
- Indicator on teacher quality, such as the proportion of teachers with masters qualification

Aspirations/objectives

- Teachers should participate in career long professional development

Target 6c Ensure Australia has an equitable schooling system by international standards in 2025 that reduces educational disadvantage

Indicators

- Relationship between the socio-economic background and PISA and NAPLAN educational performance of Australian students compared to other countries and the OECD average

Policies

- All performance indicators are to be disaggregated where possible by equity groups

Target 6d Lift the Year 12 (or equivalent) or Certificate III attainment rate to 90% by 2020 and 100% by 2030

Indicators

- The proportion of young people who have completed Year 12 or equivalent or gained a qualification at AQF Certificate III or above

Target 6e At least halve the gap for Aboriginal and Torres Strait Islander students in Year 12 or equivalent attainment rates by 2020 from the 2006 baseline and eliminate the gap by 2030

Indicators

- The proportion of Aboriginal and Torres Strait Islander young people who have completed Year 12 or equivalent or gained a qualification at AQF Certificate II or above compared with non-Indigenous students

Target 6f Halve the gap for Aboriginal and Torres Strait Islander students in reading, writing and numeracy by 2018 from the 2008 baseline and eliminate the gap by 2030

Indicators

- The proportion of Aboriginal and Torres Strait Islander young people who achieved at or above the national minimum standard (for reading, writing and numeracy, in Years 3, 5, 7 and 9) compared with non-Indigenous students

- NAPLAN mean scale scores of Aboriginal and Torres Strait Islander students (for reading, writing and numeracy in Years 3, 5, 7 and 9) compared with non-Indigenous students

Target 6g Ensure all students are able to demonstrate the capabilities, competencies and capacities to contribute to the current and future needs of the skill-based economy and a sustainable and inclusive future

Policies

- Develop and implement a national Education for Sustainable Development strategy

Target 6h Support access to and participation in tertiary education

Targets

- Increase the proportion of students completing tertiary education to x
- Increase the proportion of students from low socio-economic and disadvantaged backgrounds completing tertiary education

Target 6i Support access to and expand participation in lifelong learning

Aspiration/objective

- People have the opportunity to re-skill to meet the needs of a changing workforce environment

Goal 7: Achieve a sustainable and inclusive economy

Australia has a dynamic (adaptive and innovative) sustainable and inclusive economy that promotes human wellbeing, social equity and ecosystem health.

Target 7a Ensure measurement and disclosure for a sustainable and inclusive economy

Targets

- All Australian Federal and State Treasury Departments have adopted expanded measures of GDP (GDP+) and national accounts by 2030 at the latest, e.g., GDP adjusted for the depletion and degradation of natural capital
- social and human capital
- All Australian Federal and State Treasury Departments publish economic, social and environmental accounts by 2030 at the latest

Aspiration/objective

- Promote ecosystem health and natural capital
- Increase in the number of companies participating in Corporate Social Responsibility

Policies

- Australia complements its current measure of economic activity, GDP, with measures of natural,
- Internalise the cost of depleting natural capital into all goods and services
- Require companies to quantify their environmental and social externalities and report on their use of natural capital

Target 7b Implement policies and practices that encourage and empower people and businesses with the opportunities and capabilities for a dynamic sustainable and inclusive economy

Indicators

- Innovative economy; investment in knowledge, R&D
- Investment in building the needed human capital, including education, new skills & capabilities (e.g. managerial capabilities), collaborations

Policies

- Shift incentives in the system to promote the good and tax the bad; Shift Government subsidies from polluters to problem solvers and report on the level of subsidies to different industries
- Embrace ICT, close digital divide

Target 7c Ensure greater international economic engagement to increase the flow of finance, people and ideas to support prosperity in Australia and globally

Indicators

- Federal Budget commitments to overseas development aid

Aspiration/objective

- Engagement in global financial system

Policies

- Eliminate trade distortions and subsidies

Target 7d Develop partnerships to support collective approaches to collective challenges to bring all stakeholders on board to build consensus (eg, mining tax, carbon tax)

Target 7e Reduce waste and pollution through optimisation of use and re-use of resources

Goal 8: Achieve healthy and productive ecosystems

Protect and restore Australia's unique biodiversity and globally-significant biodiversity hot spots, and adequately value and support the services provided by ecosystems to Australia's economic development and human wellbeing.

Target 8a Protect and restore Australia's unique biodiversity and biodiversity hotspots

Targets

- Meet the relevant Aichi targets and the interim national targets under Australia's Biodiversity Conservation strategy 2010-2030
- Maintain and increase protected areas

Policies

- Common asset trusts

Aspiration/objective

- Restore, with appropriate species, degraded lands

Target 8b Recognise, communicate and account for the full value and benefits provided by ecosystem services

Aspiration/objective

- Market and non-market values
- Incorporate the value of ecosystem services into decision-making

Targets

- Meet the relevant Aichi targets
- By 2030, all governments and x% large companies publish integrated reports on their economic, social and environmental performance and impacts, and accounts that record environmental and social impacts of operations and stocks and flows of different forms of capital including natural capital

Policies

- Publish and use national, regional, and corporate accounts that include ecosystem services
- Reward those who enhance and charge those that degrade
- Corporate business report on their use of natural capital at multiple scales
- Legislative frameworks recognise the value of biodiversity and ecosystem services

Target 8c Ensure Australian governments (local, state and national) and businesses commit to building natural capital via integrated and adaptive management of water, agricultural land, soils, forests, fisheries, cities, mining and hydrocarbon resources to support inclusive economic development and the achievement of all sustainable development goals

Policies

- Partnership arrangements between different levels of government to manage biophysical systems that cross governance boundaries
- Establish biodiversity corridors within agricultural landscapes

Aspiration/objective

- Decrease invasive species

Target 8d Ensure inclusion of indigenous and local communities in decision-making and stewardship of biodiversity and ecosystem services and promote traditional knowledge of Indigenous Australians

Indicators

- Indigenous employment in park management
- Number of “Friends” and other volunteering groups

Target 8e Improve monitoring, data collection and knowledge generation on the status of Australia’s ecosystems and biodiversity and the value of the ecosystem services they provide

Policies

- Annual national accounts
- Develop and report on summary measure of the health of Australian ecosystems (e.g., ecological footprint)
- Citizen participation in data collection

Aspirations/objectives

- All forms of knowledge, including Indigenous
- More comprehensive measures of value

Goal 9: Ensure good governance

Australia and Australians commit to good governance in delivering SDGs by respecting human rights and fundamental freedoms, increasing participation by all Australians in political processes and civic engagement, eliminating corruption and promoting effective, accountable and transparent institutions.

Target 9a Ensure all Australians enjoy freedom of speech, association, peaceful protest and access to information and independent/free media

Policies

- All levels of government report on agreed specific measures in relation to transparency/accountability
- All major corporations publish financial data on a publicly available dedicated web site that shows the source of income and expense by country and integrated economic, social, environmental and wellbeing indicators
- All Australian governments have Freedom of Information laws that are affordable and effective
- Australia is a signatory to the Extractive Industries Transparency Initiative by 2020

Indicators

- [Potential to use indicators from the Australian National Development Index, currently being developed by a consortium of community, academic and industry groups, to provide a holistic and integrated approach to measuring wellbeing.]

Target 9b Ensure Australia commits and contributes to global good governance, systems, structures and initiatives that align with achievement of SDGs

Policies

- Australia increases official development assistance to developing countries to 0.7 per cent of gross national product
- Australia delivers development assistance using partner government systems in accordance with principles of the New Deal for Engagement in Fragile States
- As a high income country Australia contributes additional funding of \$X per year in official climate financing by 2020
- Australia adopts mechanisms to facilitate business/private support for global good governance initiatives

Target 9c Increase public participation for all groups in all decision making and political processes and civic engagement in Australia

Policies

- Australia adopts robust transparency measures to expose the role of partisan lobbyists in funding election campaigns

Target 9d Ensure good multi-level, multi-sectoral, and trans-boundary governance that can deal effectively with complex issues such as sustainable development

Policies

- All federal, state and local government legislation will be reviewed and amended to ensure alignment with SDGs and all new legislation will include explicit and specific consideration of SDGs as part of due process by 2020

Aspirations/objectives

- Governments take into account externalities and non-market social and environmental values in all government policies

Target 9e Reduce corruption and ensure officials and corporations are held accountable

Policies

- Australia adopts a robust anti-corruption regime covering corporations found to be acting corruptly domestically and internationally

Target 9f Improved provision and allocation of property rights for people and the environment within a trans-boundary framework

Goal 10: Empower inclusive, productive, and resilient cities

Make all Australian cities socially inclusive, healthy, economically productive, environmentally sustainable, culturally vibrant, secure, and resilient to climate change and other risks. Develop participatory, accountable, and effective city governance to support rapid and equitable urban transformation.

Target 10a Ensure good urban planning and design that promotes social inclusion and wellbeing by providing fairer and better access to services, jobs, housing, transport, civic engagement and recreation

Indicators

- Unemployment by LGA
- Increase in levels of employment self-sufficiency, i.e. jobs per resident by local government area (LGA)
- Access to public transport by LGA
- VAMPIRE index – vulnerability for mortgage, petrol and inflation risks
- Hospital beds per 10,000 residents by LGA
- Educational outcomes by LGA
- Housing affordability and diversity
- Distance and time to work
- Urban governance arrangements to effectively implement spatial equity outcomes

Policies

- “Blue-green” infrastructure¹¹ incorporated in the planning of cities to meet human health needs (mental and physical)

Target 10b Improve the productivity of Australian cities

Indicators

- Contribution of cities to GDP
- Investment in intangible assets (software, R&D, organisational capital)
- Education qualifications
- Travel time by LGA
- Proportion of houses with broadband internet connection

Target 10c Maximise liveability and environmental sustainability of Australian cities

Indicators

- Travel share of public transport, walking and cycling; improve affordability of public transport
- Investment in active travel options for a more healthy city
- Energy and water consumption per head
- GHG emissions per head
- Waste disposed to landfill
- Air quality
- Native vegetation protection
- Containment of urban growth to minimise environmental footprint
- Implementation of a carbon neutral strategy
- Urban design that minimises resource consumption and throughput
- Building energy efficiency standards
- Distributed energy generation (and cogeneration)

¹¹ Blue-green infrastructure provided through water sensitive urban design (WSUD).

Target 10d Develop culturally diverse and vibrant cities

Indicators

- Level of engagement by different communities in local decision making

Policies

- Recognition of Indigenous heritage and local communities
- Funding support for cultural activities by local and state governments

Aspiration/objective

- Range of cultural activities, festivals

Target 10e Ensure good multi-level, multi-sectoral, and trans-boundary (including urban/rural interface) governance for all cities

Policies

- All cities have long term plans that are developed in partnership with different levels of government and the community; guide investment and resource allocation; and are monitored and reported
- property rights for people and the environment

3. Framework for goal integration

The eight Millennium Development Goals (MDGs), adopted in 2000 by 189 nations, were designed to improve the lives of the world's poor. Set to expire in 2015, the MDGs have had some notable successes, such as achieving the target to halve the number of people living on less than \$1.25 a day, though many targets will be unmet. Even when targets have been met on a global scale regional differences in the degree of success are masked. In addition, it is widely recognised that because of the isolated nature of each of the goals they failed to exploit possible synergies, where action on one goal could produce a mutual benefit for another goal or target, or deal with trade-offs, where action on one goal can adversely affect another goal or target. For example, some approaches to increasing food security may come at a significant cost to the global climate system, in turn putting food security itself at risk in the long term.

*The Future We Want*¹², the outcome document of the June 2012 Rio+20 UN Conference on Sustainable Development, recommended that each of the SDGs being considered by the UN Open Working Group incorporates social, economic and environmental dimensions and that the synergies and trade-offs among the SDGs are explicitly recognised and taken into account when developing the individual SDG targets. The interactions producing these synergies and trade-offs can take a number of forms:

- between development needs (e.g., food production) and environmental issues (e.g., climate change and loss of biodiversity)
- between different areas of development (e.g., energy, food, fibre and water)
- between different geographic regions (e.g., exporting polluting industries and forestry operations from developed to developing countries)

Understanding and taking account of potential trade-offs within and between proposed SDGs is critically important. For example, the “ensure sustainable energy and curb human-induced climate change” SDG proposed in this paper is a challenge for many countries, including Australia. Given access to affordable modern energy for all and economic growth are two very high priorities, and in many countries fossil fuel energy is the cheapest form of energy, the two goals can be in conflict. Another challenge for many countries is poverty eradication and hunger alleviation. Eradication of poverty for the rural poor in many countries would be assisted by higher food prices for farmers, but increased food prices can lead to less affordable food and an increase in the incidence of hunger.

Two examples of proposed SDGs in this paper, i.e., human health, and agriculture and food security either affect or are affected by all other proposed SDGs. Human health affects economic prosperity through healthy and productive workers, and social inclusion and gender equality as healthy individuals are more likely to participate in political and civic engagement. Human health is affected by education as an educated populace is more likely to choose a healthy lifestyle (physical exercise and eating healthy foods), access to clean water, sanitation and affordable nutritious food, emissions from energy production and use (through local and regional air pollution and climate change), and ecosystem health where healthy ecosystems can provide medicinal products and control pests and diseases.

The goal of ensuring food security, good nutrition and a sustainable food and agricultural system can affect human health through the provision of affordable adequate nutritious food, economic prosperity through creation of employment and international trade, water quality and quality depending on the efficiency of water use and the degree of agricultural pollutants entering ground-water, rivers and lakes, energy use through the use of agricultural chemicals and mechanisation, the Earth's climate through the emissions of greenhouse gases, biodiversity and ecosystem services through agricultural effluents and extensification (the conversion of natural habitats into agricultural land), education because well-fed children learn much better than hungry children, and social inclusion as well-nourished people are likely to be more effective in employment, and political and civic engagement. In turn, the increased use of first generation biofuels for energy security can increase food prices and reduce land available for agriculture, urban and peri-urban agriculture can supplement rural agriculture and often stimulates mental well-being, governance structures, rural development and international trade regimes all have a profound effect on agricultural productivity, and an educated farmer is likely to be more productive.

The other proposed SDGs are also inter-linked. Table 2 illustrates some of the key inter-linkages among the goals and Table 3 illustrates some possible targets that can provide a benefit from one SDG to another.

12 UN (2012) [The Future We Want: Outcome document adopted at Rio+20](#).

Table 2: Key inter-linkages among the proposed goals.

LINKAGES	Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities
Food security and agriculture	Reduced energy/carbon intensity of agriculture and food systems reduces GHG emissions and increases energy security	Increased agricultural water use efficiency improves water security Reduced agricultural run-off improves water quality and fish production in rivers and lakes	Affordable nutritious food and a good diet reduces hunger and obesity and the incidence of NCDs Reduced water pollution from agriculture improves human health	Affordable nutritious food is crucial for poor and disadvantaged communities	Affordable nutritious food for school children impacts on their ability to learn A populace educated about healthy living and nutritious diets will be healthier	Agriculture is a source of wealth creation and employment Rural infrastructure and development policies can stimulate the agricultural and food sectors Indigenous food offer potential for new high value food markets	Increased agricultural production through extensification, or the increased use of chemical inputs leading to increased effluents, can cause biodiversity loss and ecosystem degradation	Reduced trade barriers and subsidies will stimulate efficient agricultural systems	Urban agriculture can complement rural agricultural supply enhancing food security An efficient food system is needed to feed an urban population Poor planning and urban sprawl can lead to loss of valuable food producing land
Climate change and energy security	More water efficient energy systems, e.g., some renewable energy systems, will use less water and increase water security Transitioning to a low-carbon economy on a global scale will reduce the impact of climate change on water resources	Reduced energy pollutant emissions will improve air quality thus reducing adverse health impacts Reduced GHG emissions will reduce the magnitude of climate change and associated health impacts	Affordable modern energy is crucial for the poor and disadvantaged communities Equity considerations in transitioning to a low-carbon economy, e.g., affordability of energy and access to energy in rural and remote areas	An educated public can make informed decisions on energy use and reduce GHG emissions Investment in education, research and innovation is a key driver of the transition to a low-carbon economy	The energy sector is a source of employment and economic growth through new markets Reduced fossil fuel subsidies promote energy efficiency and cleaner energy	Reduced global emissions of GHGs from the energy sector will reduce climate change and the adverse impact on biodiversity and ecosystem services Increased use of hydropower can adversely affect biodiversity and ecosystems	Good governance, elimination of corruption and fossil fuel subsidies, and market structures are critical for an efficient energy system	Distributed energy systems, improved energy standards (e.g., buildings) and mass transport can reduce GHG emissions	

LINKAGES	Sustainable water							
	Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance
Sustainable water		Improved water quality can reduce water-borne diseases and access to sanitation improves human health	Access to clean water and sanitation is critical for disadvantaged communities	An educated public can make informed decisions on water use and contribute to water security	Water pricing policies that reflect the true cost of water promote the efficient use of water and hence water security The quality of water entering the coastal environment can impact on the economic returns from marine resources and tourism	Healthy ecosystems provide clean water (regulating service) and control floods and storm surges The efficient use of water by industry, agriculture and households assists in maintaining adequate water flows for natural ecosystems	Integrated, distributed and flexible governance systems contribute to water-use efficiency Good multi-sectoral, multi-sectoral governance systems will produce social, physical and natural environments that optimise water security	Efficient water and sanitation infrastructure in water sensitive cities improves water security Good urban design that supports civic engagement, cohesion and activities, while minimising resource consumption and throughput will enhance water security
Human health			Access to affordable health care facilities is critical for social inclusion for the poor and disadvantaged Sexual and reproductive health education enhances social inclusion for women	Healthy children have a greater ability to learn Access to life-long education is a key driver of health promotion and preventative health	Healthy people are more productive and have less days off work	Biodiversity is a source of new drugs, and ecosystems promote physical activity and mental well-being	Affordable universal health care needs good governance Good multi-sectoral governance will produce social, physical and natural environments that optimises human health	Good urban air quality and healthy buildings reduces adverse health effects Good urban design planning, and parks promote physical and mental well-being

LINKAGES		Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities
Social inclusion and gender						<p>Social inclusion and gender equality require equal educational opportunities</p> <p>Gender education leads to respect for women and can reduce violence against women</p>	<p>Equal opportunities, in particular for women, provide for a more dynamic and productive work force</p>	<p>Social inclusion requires access to open spaces and wild places for the poor and disadvantaged to enjoy the health and physical benefits, but may impact on biodiversity</p> <p>Biodiversity protection may impact on indigenous access and use of land</p>	<p>Equality will broaden participation in political processes.</p> <p>Private land ownership limits access and social inclusion</p>	<p>Equality will broaden participation in local politics and civic engagement.</p> <p>Good urban planning and design can promote social inclusion by promoting fairer and better access to services, jobs, affordable housing, transport and recreation</p>
Education							<p>An educated public produces a more vibrant, skilled and happy work force</p> <p>A sustainable economy needs an education system that responds to the needs of society and the economy</p>	<p>An educated and informed public will understand the value of ecosystems and the importance of protecting them</p>	<p>Good governance is required for efficient educational systems and ensure access for remote and disadvantaged communities</p>	

LINKAGES	Sustainable economy	Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities
									Informed decision-making should take account of market and non-market natural capital, because current economic approaches lead to the depletion of natural capital	Good governance systems (elimination of subsidies and corruption) are critical to sustainable economic growth
								Sustainable use of ecosystems services can underpin economic prosperity through valuation and the appropriate use of economic incentives and instruments for ecosystem services (e.g., payment for ecosystem services)	Time needed for broad based participation may slow down decision making	

LINKAGES		Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities
Biodiversity and ecosystem services									<p>Biodiversity can be fostered and preserved by</p> <ul style="list-style-type: none"> (i) measuring and valuing biodiversity and ecosystem services in decision-making and reporting by government, corporations, communities (ii) legal rights and protection for biodiversity and ecosystem services (iii) governance processes that involve all the community in caring for and stewardship of biodiversity and ecosystem services (iv) transboundary governance that aligns governance & biophysical boundaries 	<p>Urban green space (e.g., parks) contributes to cultural ecosystem services</p> <p>Poor urban planning and urban sprawl impacts on biodiversity and ecosystems</p> <p>Urban biodiversity and ecosystems can improve city liveability, health and amenity (e.g. trees reduce urban heat, healthy streams improve liveability and amenity)</p>

LINKAGES	Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities
Governance									<p>Good planning and governance that focus on the long-term rather than the short-term will promote more sustainable and efficient cities</p> <p>Good multi-level multi-sectoral governance will produce social, physical and natural environments that optimises inclusive and resilient cities</p>

Table 3: Potential targets to address inter-linkages among the proposed goals.

LINKAGE TARGETS	Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities
Food security and agriculture	Reduce GHG emissions and improve energy/carbon efficiency in agriculture and food system Reduce the use of fossil-based chemicals	Increase the productivity of water use per unit of agriculture produced and promote precision irrigation Decrease the run-off of agricultural effluents and sediments	Reduce hunger and obesity by encouraging a healthy and sufficient diet through education, legislation and pricing Decrease agricultural chemical inputs into water bodies	Ensure all people have a daily intake of x calories per day of affordable nutritious food	Every child learns about healthy diets	Increase the profit margin for farmers and the value of agricultural exports from sustainably produced agriculture Improve rural infrastructure (e.g., improved internet access and roads) Utilise indigenous knowledge and food sources to improve diets and economic growth	Eliminate agricultural extensification, and restore degraded lands Decrease chemical and sediment flows from agricultural systems Promote agro-ecosystems and increase genetic diversity within agricultural systems	Eliminate all agricultural production subsidies Provide payments for ecosystem services to farmers	Increase publicly available allotments

LINKAGE TARGETS	Climate change and energy security		Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities
	Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities	
Climate change and energy security	Increase water-use efficiency in energy production through enhanced use of water-efficient renewable energy technologies	Reduce emissions of air pollutants – e.g., NOx, NMHC, CO, and particulates – and GHGs	Ensure all people have access to sufficient and affordable clean energy Improve affordability of public transport by x%	Energy efficient schools A curriculum that teaches about climate change Expand investment in low carbon energy technology research and innovation by x%	Set renewable energy targets, and eliminate all fossil fuel subsidies Provide short-term financial incentives to overcome market barriers for energy-efficient production and the use of new technologies Reduce waste and pollution through optimisation of use and re-use of resources	Reduce national GHG emissions Promote afforestation and reforestation programs Implement environmental standards on large-scale hydropower systems	Energy market reform	City regulations and incentives to promote energy efficient buildings In-city energy production, and tree planting		
Sustainable water	Ensure all Australians have access to modern sanitation Improve water quality	Water-use efficiency standards and water pricing policies to reflect the true price of water Decrease effluent and sediment run-off from agricultural systems into catchments and coastal waters	Ensure no net loss of ecosystem regulating services for clean water and flood control through preserving, restoring and promoting healthy ecosystems Develop and implement multi-sectoral water-use standards	Water pricing policies to reflect the true price of water						

LINKAGE TARGETS	Climate change and energy security		Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities
	Human health					<p>Ensure all Australians have access to affordable health care</p> <p>Utilise Indigenous knowledge and food sources to improve diets</p> <p>Expand participation in sexual and reproductive health education by x%</p> <p>End male sexual and family violence</p>	<p>Children are taught the value of active and healthy lifestyles and health check-ups</p> <p>Expand participation in life long education by x%</p>	<p>Access to affordable health care facilities for an aging population</p>	<p>Access to open spaces for all</p>	<p>Well run health system for current and future needs</p> <p>Encourage a healthy diet through education, legislation and pricing</p>
Social inclusion and gender						<p>Ensure equal access to early childhood, primary, secondary, tertiary, and life-long education for all</p> <p>Teach gender equality education</p>	<p>Ensure all Australians complete secondary education</p> <p>Equal pay for women</p>	<p>Ensure Government policies take into account the importance of non-market ecosystem services (e.g., cultural)</p> <p>Ensure inclusion of Indigenous and local communities in decision-making and stewardship of biodiversity and ecosystem services</p>	<p>More women in political office</p> <p>Good urban planning and design to promote social inclusion</p>	<p>Access to affordable transport</p>

LINKAGE TARGETS	Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities
Education						An equitable education system that creates the human capital to respond to the current and future needs of a skill-based economy	People are educated to understand sustainable development and the value of biodiversity and ecosystems and their services		
Sustainable economy							Incorporate the value of ecosystem services (social and economic - market and non-market) in decision making Implement policies to make government and business report on their use of natural capital Reduce waste and pollution through optimisation of use and re-use of resources	Eliminate trade distortions and subsidies	

LINKAGE TARGETS	Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities
	Biodiversity and ecosystem services								<p>Government and business commit to the sustainable management and improved reporting on natural capital and biodiversity</p> <p>By 2030 all governments and x% large companies publish integrated reports on their economic, social and environmental performance and impacts</p> <p>Legislative frameworks are developed and implemented that recognise the value of biodiversity and ecosystem services</p>

LINKAGE TARGETS	Governance	Climate change and energy security	Sustainable water	Human health	Social inclusion and gender	Education	Sustainable economy	Biodiversity and ecosystem services	Governance	Cities

Annex 1. Background papers

Overview of discussion papers on sustainable development goals and targets for Australia

Following the Rio+20 United Nations (UN) Conference on Sustainable Development in June 2012, world governments embarked on a process to develop a set of universal Sustainable Development Goals (SDGs) that will apply to all countries and come into effect in 2016. The discussion papers collated in this section of the report examine the sustainable development challenges facing Australia and the relevance of key proposals for the SDGs in the Australian context.

The papers are the result of the recommendations from the first national workshop on “What sustainable development goals should Australia aim for?” in May 2013. They aim to stimulate debate and discussion on what the SDGs mean for Australia, and support Australian leadership in the global negotiations for the development of the SDGs. The papers formed the major input to the second national workshop on “What sustainable development goals should Australia aim for?,” in Melbourne in May 2014.

Background

In *The Future We Want*¹, the outcome document of the June 2012 Rio+20 United Nations (UN) Conference on Sustainable Development, world governments called for the development of a set of universal Sustainable Development Goals (SDGs) that would apply to all countries and come into effect in 2016. In this document and subsequent UN discussions it was agreed that the SDGs would be limited in number, aspirational and easy to communicate, as well as address in a balanced way the three elements of sustainable development – providing economic transformation and opportunity to lift people out of poverty, advancing social justice and protecting the environment.

Importantly, the SDGs would build on the foundation laid by the Millennium Development Goals (MDGs), which expire in 2015. Since the MDGs were implemented in 2000 there have been significant advances in poverty reduction, health and education in many parts of the developing world. However significant sustainable development challenges remain and global issues of environmental degradation and climate change threaten the long-term progress against poverty and the wellbeing in both developed and developing countries. Global action is needed to meet these challenges and it is proposed that the SDGs apply to all countries including Australia.

In January 2013, the UN General Assembly formed the 30-member Open Working Group on Sustainable Development Goals (OWG) to prepare a proposal on the SDGs for consideration by the General Assembly before the end of its 68th session in September 2014. Most seats on the Open Working Group are shared by several Member States; Australia shares a seat with the Netherlands and the United Kingdom.

In August 2012, The UN Sustainable Development Solutions Network (SDSN) was established under the auspices of the UN Secretary-General Ban Ki Moon to mobilise global scientific and technological knowledge on the challenges of sustainable development including the design and implementation of the SDGs. The SDSN comprises research centres, universities and technical institutions working together to support sustainable-development problem solving at local, national, and global levels. It is led by Professor Jeffrey Sachs, from Columbia University. Monash University has been appointed the SDSN's Regional Centre for the Australia/Pacific, and Professor John Thwaites, Chair of the Monash Sustainability Institute, is a member of the SDSN's Leadership Council.

In early 2013, the Monash Sustainability Institute initiated the three-year project “Sustainable Development Goals ↔ Sustainable Development Solutions” to promote Australian and regional leadership in the development of the SDGs and the solutions for implementing them. The project is chaired by the distinguished scientist and former Chair of the Intergovernmental Panel on Climate Change, Sir Bob Watson, and is an initiative of the SDSN.

The project is being carried out through a series of high-level workshops and the development of papers to support them. The first workshop, which took place in Melbourne on 13–14 May 2013, brought together almost 100 participants from diverse backgrounds to develop a vision for what a sustainable Australia might look like, what sustainable development goals we should aim for, and how Australia could influence the international discussion around the SDGs.

To inform and stimulate future discussions, the workshop recommended the development of papers to explore how the SDGs could apply to key sustainable development challenges in Australia. The papers collated in this report have been developed in response.

Each paper covers one of the sustainable development themes relevant for Australia, and considers:

- The global challenges in relation to the theme

¹ UN (2012) *The Future We Want: Outcome document* adopted at Rio+20.

- How the theme and its challenges are addressed in the MDGs and key proposals for the SDGs
- The Australian challenges in relation to the theme

The sections cover the following themes:

1. Food security and agriculture
2. Energy security and the transition to a low-carbon economy
3. Water security
4. Health
5. Social inclusion and gender issues
6. Education
7. Sustainable economic growth
8. Biodiversity and ecosystem services
9. Governance
10. Cities

While the papers are each on a particular theme, many issues are cross-cutting. The workshop also identified Indigenous disadvantage and development as a key theme that needs to be considered; as this theme intersects with most of the other themes, it is introduced later in this overview and considered further within the other papers.

Key international proposals for the SDGs

As starting points for potential sustainable development goals and targets for Australia, these papers considered key contributions to the SDGs, namely the Millennium Development Goals and key proposals developed as part of the post-2015 discussions by the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (HLP) and the SDSN, and the latest thinking from the UN Open Working Group². Each of these is briefly described separately below, however as shown in Table 4 on the next page, which summarises the MDGs and the SDGs proposed by the HLP, SDSN and OWG, there are substantial overlaps in the areas covered by the different goal sets.

The Millennium Development Goals

In September 2000, the UN General Assembly adopted the UN Millennium Declaration, which committed all nations to a new global partnership to reduce poverty. The Declaration stated that every individual has the right to dignity, freedom, equality, a basic standard of living that includes freedom from hunger and

violence, encouraging tolerance and solidarity. The Declaration was distilled into eight time-bound targets – with a deadline of 2015 – known as the Millennium Development Goals (MDGs). The MDGs have formed the primary platform for the international community's development agenda since 2001.

The MDGs aim to:

1. Halve the proportion of people living in extreme poverty by 2015
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability, and
8. Create a global partnership for development with targets for aid, trade and debt relief.

Each year, the UN Secretary-General presents a report to the UN General Assembly on progress achieved towards implementing the Declaration, based on data on the selected indicators, aggregated at global and regional levels.

According to the UN's *Millennium Development Goals Report 2013*³, there has been strong progress in achieving a number of the MDGs. For example, the targets of reducing extreme poverty by half and halving the proportion of people who lack dependable access to improved sources of drinking water have been reached, and the living conditions have been significantly improved for more than 200 million people living in slums. Gender disparity in primary school enrolment has greatly declined.

However, development continues to be unevenly spread within and across target countries and a number of weaknesses of the MDGs have been identified including inadequate incorporation of issues like environmental sustainability and inequality; imprecise targets and difficulties with data capture; problems translating global targets to relevant regional and local issues; lack of recognition of the synergies and trade-offs among the MDGs, too short-term, not universal, and difficulties reconciling a pass/fail mentality with the need to account for progress made.

Despite these weaknesses, there is general agreement that the MDGs have been valuable in providing a group of indicators and benchmarks to guide, motivate and communicate international action aimed at dealing with global development challenges. They have also provided

² This paper has been updated to reflect the list of SDGs proposed in the [OWG Outcome Document](#), which was released in July 2014.

³ UN (2013) [The Millennium Development Goals Report 2013](#).

a central rallying point for global development-oriented partnerships through a shared understanding of poverty reduction.

The uptake of the MDGs has demonstrated that a clear and limited set of international goals, targets and indicators can mobilise international action and political will towards a core set of development priorities.

High-Level Panel of Eminent Persons on the Post-2015 Development Agenda

In July 2012 the UN Secretary-General Ban Ki-moon established the 27-member High-Level Panel of Eminent Persons on the Post-2015 Development Agenda to advise him on the global development framework beyond 2015. The Panel was co-chaired by President Susilo Bambang Yudhoyono of Indonesia, President Ellen Johnson Sirleaf of Liberia, and Prime Minister David Cameron of the United Kingdom, and included leaders from civil society, private sector and government.

Australia was not represented on the Panel; however Panel Member Ms Emilia Pires, the Timor-Leste Finance Minister, consulted with representatives from youth organisations, the private sector and academia in Australia in early 2013 and fed the outcomes into the Panel's reporting process.

The Panel submitted its report, *A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development*⁴, to the Secretary-General on 30 May 2013. The Panel's report and its recommendations will be used as an input for UN member states to decide on the post-2015 framework.

In its report, the Panel proposed five transformative shifts as the drivers for the post-2015 Development Agenda:

1. Leave no one behind
2. Put sustainable development at the core
3. Transform economies for jobs and inclusive growth
4. Build peace and effective, open and accountable public institutions
5. Forge a new global partnership

The Panel considered that a goal framework would be valuable in driving these transformations, and recommended that, unlike the MDGs, any new set of goals should be universal, applying to developed, as well as developing countries, to present a common aspiration for all countries. It provided 12 'illustrative goals':

1. End poverty
2. Empower girls and women and achieve gender equality
3. Provide quality education and lifelong learning
4. Ensure healthy lives
5. Ensure food security and good nutrition
6. Achieve universal access to water and sanitation
7. Secure sustainable energy
8. Create jobs, sustainable livelihoods and equitable growth
9. Manage natural resource assets sustainably
10. Ensure good governance and effective institutions
11. Ensure stable and peaceful societies
12. Create a global enabling environment and catalyse long-term finance

The Panel also provided 'illustrative targets' and recommended that almost all targets should be set at the national level or even local level, to account for different starting points and contexts. To ensure equality of opportunity, the Panel recommended that relevant indicators should be disaggregated with respect to income (especially for the bottom 20%), gender, location, age, people living with disabilities, and relevant social group. Significantly the Panel recommended that targets should only be considered 'achieved' if they are met for *all* relevant income and social groups.

Sustainable Development Solutions Network

In June 2013 the SDSN presented a stand-alone report on the design and implementation of the post-2015 agenda: *An Action Agenda for Sustainable Development: Report for the UN Secretary-General*.⁵

The report included ten 'proposed sustainable development goals and targets'. Like the High Level Panel, the SDSN report recommended that goals and targets should be universal and apply to all countries national and local governments, businesses and civil society. The SDSN's proposed goals are to:

1. End extreme poverty including hunger
2. Achieve development within planetary boundaries
3. Ensure effective learning for all children and youth for life and livelihood
4. Achieve gender equality, social inclusion, and human rights for all
5. Achieve health and wellbeing at all ages
6. Improve agriculture systems and raise rural prosperity

⁴ HLP (2013) *A new global partnership: Eradicate poverty and transform economies through sustainable development*.

⁵ SDSN (2013) *An action agenda for sustainable development*.

7. Empower inclusive, productive, and resilient cities
8. Curb human-induced climate change and ensure sustainable energy
9. Secure ecosystem services and biodiversity, and ensure good management of water and other natural resources
10. Transform governance for sustainable development

The SDSN recommended targets that are specific, measurable, attainable, relevant and time bound to 2030 or earlier.

UN Open Working Group on Sustainable Development Goals

The UN Open Working Group on Sustainable Development Goals (OWG) is the UN body charged with preparing a proposal on the SDGs for the consideration by the UN General Assembly in September 2014. Based on extensive consultations with countries, experts, and stakeholders between March 2013 and February 2014, the OWG released its outcome report in July 2014 containing 17 proposed goals that have emerged from the consultations, each with a set of targets⁶. The list of proposed goals is:

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote life-long learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable, and modern energy for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production patterns

⁶ UN Open Working Group on SDGs (2014) [Outcome document](#).

13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalise the global partnership for sustainable development

It is abundantly evident that the suggested goals and most of the targets suggested by the OWG, HLP, and SDSN are highly relevant to all countries, including Australia. For example, most if not all the targets suggested for the OWG goal to “End hunger, achieve food security and improved nutrition, and promote sustainable agriculture” (Box 1) are clearly relevant for Australia.

Key sources on Australia’s sustainability

To provide a detailed picture of Australia’s current sustainability and potential future challenges, the discussion papers relay extensively on two recent reports: the National Sustainability Council’s *Sustainable Australia Report 2013* and the Australian Bureau of Statistics’ *Measures of Australia’s Progress 2013*. These sources are briefly described below.

Sustainable Australia Report 2013

In May 2013 the Australian National Sustainability Council released the first Sustainable Australia Report, *Sustainable Australia Report 2013: Conversations with the Future*.⁷ This report examines Australia’s wellbeing and sustainability through a comprehensive set of social and human, natural, economic, and contextual indicators, and provides information and analysis on key trends and emerging issues.

The report shows that Australia is in a good position and has made great progress in many areas, including rising incomes, low unemployment, longer life expectancy, increasing levels of educational attainment and performance, relatively low crime levels, increasing levels of community participation, improvements in

⁷ NSC (2013) [Sustainable Australia Report 2013: Conversations with the future](#).

water efficiency and good air quality. Overall, Australia is ranked second in the world on the Human Development Index and first on the OECD “Your Better Life Index”.

However some key issues for Australia need to be considered particularly around rising inequality and environmental impact. Given current trends in the indicators and global and regional “megatrends” and drivers, the report identified key challenges for Australia, including:

- reducing the link between educational performance and disadvantage
- boosting innovation and connectivity in Australian businesses
- planning for an ageing population
- planning more sustainable cities
- reducing greenhouse gas emissions and adapting to climate change
- reducing the environmental impact of economic growth
- protecting biodiversity and ecosystems
- sustainable food and agriculture
- tackling inequality and disadvantage

Measures of Australia’s Progress 2013

The Australian Bureau of Statistics report *Measures of Australia’s Progress: Is Life in Australia Getting Better?*⁸, examines trends in societal, environmental, economic, and governance indicators identified by Australians as important for national progress. The report shows a similar picture to the *Sustainable Australia Report 2013*, with Australia overall being in a good position, and progress in areas of health, learning and knowledge, jobs, living standards and participation. However, the report found a decline in the resilience of the Australian economy and sustaining the environment, two key indicators for Australia’s future, and encountered data gaps in several other key indicators, including “healthy natural environment”, that prevented it from making an assessment of progress.

Further analysis of how the *Measuring Australia’s Progress 2013* report addresses the areas covered in the discussion papers is included in Annex 1.

8 ABS (2013) *Measures of Australia’s Progress 2013: Is life in Australia getting better?*, cat. no. 1370.0.

Key issues to consider when drafting Australia’s goals, targets and indicators

How to measure progress

There are ongoing issues in terms of the measurability of development goals and the need to balance aspiration with achievability, as well as balancing simplicity of goals with regional relevance.

The Director of the SDSN Professor Jeffrey Sachs argues in favour of “backcasting”. Professor Sachs recently argued in *The Economist* that “SDGs should start with what is needed to achieve climate safety (for example, to stop a global increase in temperature beyond 1.5°C or 2°C). That goal defines a set of possible energy pathways to 2050 and a cumulative amount of greenhouse-gas emissions that are consistent with it.”⁹

The UN High Level Panel Report recommended that goals be designed that “focus on reaching excluded groups, for example by making sure we track progress at all levels of income, and by providing social protection to help people build resilience to life’s uncertainties.”¹⁰ The Panel concluded that there will need to be new ways of measuring success to ensure the post 2015 development agenda results not only in helping the largest number of people, but the neediest and most vulnerable as well. The Panel recommended that strategies and plans “will have to be developed to reach those not adequately covered by existing programs. The cost of delivering services in remote areas may be only 15 to 20 per cent higher than average, to judge by practical experience in many countries. This seems reasonable and affordable, given higher tax revenues expected in most countries, and sustained aid to the lowest income countries.”

The SDSN also addressed this issue and urged that where appropriate and feasible, metrics should be disaggregated according to gender, geography, socioeconomic status, disability, ethnicity, and other dimensions in order to track and address marginalization and inequalities across sub-populations.

The need to address inequality and Indigenous disadvantage

The need for disaggregation of targets and indicators is very relevant in Australia. While Australia performs exceptionally well in international measures of well-being – for example Australia is second only to Norway in the

9 Jeffrey Sachs (2013) *The next frontier*, *The Economist*, 21 Sep 2013.

10 HLP (2013) *A new global partnership: Eradicate poverty and transform economies through sustainable development*.

UN Development Programme's Human Development Index 2013¹¹, there is a considerable gap between the richest and poorest Australians. The wealthiest 20% of the population hold 62% of total household wealth, while the poorest 20% hold just 1%,¹² and the gap in both incomes and wealth is widening.

This gap is extreme in some of the data concerning Aboriginal and Torres Strait Islanders in Australia today. There are just over half a million Indigenous Australians, comprising 2.5% of the Australian population. Current data shows that while many Indigenous Australians have a good standard of living, too many experience unacceptable levels of disadvantage in living standards, life expectancy, education, health and employment.

The Australian Bureau of Statistics estimates for 2009 show life expectancy for Indigenous Australians to be lower than the non-Indigenous population by approximately 11.5 years for males and 9.7 years for females. In the period 2002–2006 Indigenous children under five died at around three times the rate of non-Indigenous children (305.2 compared with 102.4 deaths per 100,000). Approximately 83% of Indigenous deaths below age five occurred in the first year of life, and of these nearly half occurred within the first month.

Indigenous children are less likely to participate in early childhood education. Without preschool learning opportunities, Indigenous students are likely to be behind from their first year of formal schooling. While most Indigenous students in metropolitan and regional areas meet the minimum reading standards, the proportion achieving at least the minimum standard of literacy and numeracy skills decreases as the level of remoteness increases. Australians who do not complete Year 12 are less likely to have the same opportunities as those who do. In 2006 Year 12 completions for Indigenous Australians were 45.3%, compared to 86.3% for other Australians.

Indigenous Australian also experience much higher levels of unemployment than non-Indigenous Australians. At the time of the 2006 Census, around 48% of the Indigenous workforce-aged population was in employment. This compared to 72% for other Australians – a gap of 24 percentage points.

Action was taken to address this gap in 2008 when the Australian Governments agreed to implement the Australian National Indigenous Reform Agreement. The Agreement commits the Federal, State and Territory governments to the following six ambitious “Closing the Gap” targets:

- To close the life-expectancy gap within a generation
- To halve the gap in mortality rates for Indigenous children under five within a decade
- To ensure access to early childhood education for all Indigenous four years olds in remote communities within five years
- To halve the gap in reading, writing and numeracy achievements for children within a decade
- To halve the gap in Indigenous Year 12 achievement by 2020
- To halve the gap in employment outcomes between Indigenous and non-Indigenous Australians within a decade.¹³

Given the cross-cutting nature of the issues relating Indigenous disadvantage, they are considered within the relevant papers in this series.

Definition of key terms

Both the High Level Panel Report and the Sustainable Development Solutions Network provide useful and similar definitions of key terms. The definitions below are from the Network's report.

Goal	Expresses an ambitious, but specific, commitment. Always starts with a verb/ action. Eg from MDGs - reduce child mortality (HLP)
	Expresses an ambitious, specific commitment. Lays out a single challenge with great impact. Should be universal, comprehensive, operational, and easy to understand. (SDSN)
Target/s	Quantified sub-components that will contribute in a major way to achievement of goal. Should be an outcome variable. Eg from MDGs - reduce by two-thirds, between 1990 and 2015, the under-five mortality rate (HLP)
	Specific, measurable, attainable, time-bound sub-component that contributes in a major way to achievement of the goal, i.e. an outcome variable that is easy to understand, representing one major direction of change. Targets should be specified at the global and national level, reflecting the level of ambition of each country and the speed at which a country pursues a goal. (SDSN)

11 UNDP (2013) [Human Development Report 2013: The Rise of the South: Human Progress in a Diverse World](#).

12 NSC (2013) [Sustainable Australia Report 2013: Conversations with the future](#), p. 98.

13 Prime Minister of Australia (2013) [Closing the Gap: Prime Minister's Report 2013](#).

Indicator Precise metric from identified databases to assess if target is being met (often multiple indicators are used). Eg from MDGs - under-5 mortality rate; infant mortality rate; proportion of 1-year olds immunized against measles. (HLP)

Precise metric from identified databases to assess whether the target is being met, including detecting trends and anomalies. Often multiple indicators are used for this purpose. Indicators should be meaningful, sensitive to the most critical aspects of a target, reliable in terms of available data and measurement protocols, and easy to understand by policy makers, investors and other stakeholders. They should also allow for disaggregation, i.e., targets to be measured in various dimensions, such as by geography, socioeconomic status, gender, age, and ethnicity, for example. (SDSN)

Food security and agriculture

According to the Rome Declaration on World Food Security at the 1996 World Food Summit food security exists when all people, at all times, have access to sufficient, safe, nutritious food to maintain a healthy and active life.¹⁴ This definition generally incorporates physical and economic access to food that meets people's dietary needs as well as their food preferences, making it an issue of both supply and demand.

According to the World Health Organisation, food security is built on three pillars:

- Food availability: sufficient quantities of food available on a consistent basis.
- Food access: having sufficient resources to obtain appropriate foods for a nutritious diet.
- Food use: appropriate use based on knowledge of basic nutrition and care, as well as adequate water and sanitation.¹⁵

Current and future global challenges

In general terms, the global challenge for managing food security is to find new and innovative ways of increasing production of appropriate food by raising agricultural productivity and efficiency (given finite arable land and other resources) while reducing the environmental footprint.¹⁶ This challenge is magnified by a variety of demand- and supply-side issues like population growth, urbanisation, income growth, trade and impacts on agricultural and aquaculture production (including climate change and competing uses for land, water and energy).

Although there has been progress in reducing global levels of food insecurity over recent years, uneven progress across regions and countries remains a significant issue. The *2012 State of Food Insecurity in the World* report¹⁷ estimated that 870 million

people (or 12.5% of the global population) have been undernourished in the period 2010–12 and the very large majority of these people live in developing countries.¹⁸ According to the Food and Agriculture Organisation of the United Nations (FAO), food production must increase by 70% of 2007 levels in order to feed the world's population by 2050.¹⁹ At a time when yield increases are slowing, worldwide incomes are growing, global consumption patterns are changing and diets are becoming more complex. Initiatives are needed to address the fact that between 30% and 40% of all food produced in the world is not eaten.²⁰

Additional considerations for the management of global food security include improving emergency food responses, building market infrastructure and access (including food transportation and storage capacities in poorer countries), reducing trade barriers, managing gender issues and improving data and measurability of food security.²¹

Millennium Development Goals

Millennium Development Goal 1 is to halve the proportion of people living in extreme poverty by 2015. Target 1C is to halve, between 1990 and 2015, the proportion of people who suffer from hunger.

While the proportion of undernourished people globally decreased from 23.2% in 1990–1992 to 14.9% in 2010–2012, there are still 870 million people – one in eight worldwide – going hungry. Globally an estimated one in six children under five is underweight. However the target of halving the percentage of people suffering from hunger is within reach. South-East Asia is the first developing region to reach the hunger reduction target ahead of 2015. The proportion of undernourished people in the total population of the region has decreased from 29.6% in 1990–1992 to 10.9% in 2010–2012.

18 In South-East Asia and Eastern Asia, for example, the share of the world's undernourished people has declined from 13.4% to 7.5% and from 26.1% to 19.2% between 1990 and 2012, respectively. Conversely, the share has increased from 32.7% to 35.0% in Southern Asia, from 17.0% to 27.0% in sub-Saharan Africa and from 1.3% to 2.9% in Western Asia and Northern Africa.

19 FAO (2009) *Issues brief: How to feed the world in 2050*, Rome, FAO.

20 Australian Government (2013) *National food plan: Our food future*.

21 Proxy indicators, such as prevalence of undernourishment, are regularly used for measuring food security but may not provide a complete assessment of all contributing factors. Further, gathering data requires significant resourcing, making it difficult to accurately assess food security, particularly at sub-national levels.

14 World Food Summit (1996) *Rome declaration on world food security*.

15 WHO, *Food security* web glossary entry.

16 Foresight. (2011) *The future of food and farming*, The Government Office for Science, London.

17 FAO, WFP and IFAD (2012) *The State of Food Insecurity in the World 2012. Economic growth is necessary but not sufficient to accelerate reduction of hunger and malnutrition*, FAO, Rome.

High Level Panel Report

The report of the High Level Panel (HLP) of Eminent Persons on the Post 2015 Development Agenda²² called for a global consensus around a single sustainable development agenda. The report included 12 “illustrative goals and national targets”. Illustrative Goal 5 directly addresses food security and nutrition.

HLP Goal 5: Ensure food security and good nutrition

- Target 5a End hunger and protect the right of everyone to have access to sufficient, safe, affordable, and nutritious food
- Target 5b Reduce stunting by x%, wasting by y%, and anaemia by z% for all children under five
- Target 5c Increase agricultural productivity by x%, with a focus on sustainably increasing smallholder yields and access to irrigation
- Target 5d Adopt sustainable agricultural, ocean and freshwater fishery practices and rebuild designated fish stocks to sustainable levels
- Target 5e Reduce postharvest loss and food waste by x%

Sustainable Development Solutions Network Report

The report of the Sustainable Development Solutions Network (SDSN)²³ included ten “proposed sustainable development goals and targets”. Goal 1 is to end extreme poverty, including hunger, and Goal 6 is to improve agricultural systems and raise rural prosperity.

SDSN Goal 1: End extreme poverty including hunger

- Target 1a End absolute income poverty (\$1.25 or less per day) and hunger, including achieving food security and appropriate nutrition, and ending child stunting

22 HLP (2013) *A new global partnership: Eradicate poverty and transform economies through sustainable development*.

23 SDSN (2013) *An action agenda for sustainable development*.

SDSN Goal 6: Improve agricultural systems and raise rural prosperity

- Target 6a Ensure sustainable food production systems with high yields and high efficiency of water, soil nutrients, and energy supporting nutritious diets with low food losses and waste
- Target 6b Halt forest and wetland conversion to agriculture, protect soil resources, and ensure that farming systems are resilient to climate change and disasters
- Target 6c Ensure universal access in rural areas to basic resources and infrastructure services (land, water, sanitation, modern energy, transport, mobile and broadband communication, agricultural inputs and advisory services waste)

Other UN reports related to food security and agriculture

Post-2015 discussions were prominent on the agenda of the 40th session of the Committee on World Food Security that brought together nearly 750 people – 130 government delegations, 100 civil society and 50 private sector organizations – to Rome in October 2013.

The following key issues emerged from the discussions:

- the world has changed since 2000 – future plans and actions for development should be more universal, inclusive and transformative with increasing emphasis on governance, inter-linkages, transparency and accountability
- sustainable agriculture, food security and nutrition are crucial to several agendas such as, poverty alleviation, gender empowerment, youth employment, climate change, energy use, and water management, and
- effort is needed to enable greater convergence of different initiatives on food security and nutrition so that they build on and align with regional and country-led efforts.

Current and future challenges for Australia

Australia has a high level of food security and a sufficient supply of safe, high quality food made up of domestic production and imports. Australia produces enough food to feed about 60 million people and export about 70% of its production²⁴. However, substantial increases in food supply are likely to be needed to meet the needs

24 Department of Agriculture, Fisheries and Forestry (2013) *Australian food statistics 2011–12*.

of Australia's growing population (which is projected to increase to around 37.5 million in 2050). This suggests a trajectory toward reduced food exports and increased dependence on food imports²⁵.

More than 90% of fresh produce sold in Australia is domestically produced. Complete self-sufficiency in food is not practical, cost-free or without significant risks.

About 5% of Australians experience food insecurity, usually linked to issues of resourcing, access and knowledge. The higher cost of healthy food often makes it unaffordable for low income families and the convenience of processed or take-away food has had an impact on Australian diets²⁶. An important component of food security, particularly in a developed country like Australia, is access to and consumption of nutritionally adequate and safe foods. Poor food quality and overeating is leading to obesity and consequent chronic illness in Australia. For example, the rate of obesity in the most disadvantaged areas is 35%, compared to 22% in the most advantaged areas²⁷.

Rates of food insecurity in Australia are highest for the 80,000 Indigenous people living in very remote communities.²⁸ However, Indigenous people living in urban environments are also vulnerable to food insecurity due to poor income, household infrastructure and overcrowding, access to transport, storage and cooking facilities.²⁹ In 2009 the Council of Australian Governments implemented a National Strategy for Food Security in Remote Indigenous Communities.³⁰ This strategy is part of the Australian Government's Closing the Gap program aimed at addressing Indigenous disadvantage, particularly in the areas of life expectancy, infant mortality and educational attainment. Up to 19% of the national Indigenous health gap is attributable to diet-related causes, including low fruit and vegetable intake. In remote areas, 20% of Indigenous people aged 12 years and over reported no usual daily fruit intake and 15% reported no usual daily intake of vegetables.

25 Ridoutt, B., et al. (2014) *Nutritional sufficiency of the national food production system: Situation and outlook*, Rural Industries Research and Development Corporation, Clayton South, Victoria.

26 For example, Barosh, L., et al. (2014) *The cost of a healthy and sustainable diet – who can afford it?*, *Australian and New Zealand Journal of Public Health*, 38:7–12.

27 NSC (2013) *Sustainable Australia Report 2013: Conversations with the future*.

28 COAG (2009) *National Strategy for Food Security in Remote Indigenous Communities*.

29 Browne, J., Laurence, S., & Thorpe, S. (2009) *Acting on food insecurity in urban Aboriginal and Torres Strait Islander communities: Policy and practice interventions to improve local access and supply of nutritious food*. Retrieved from HealthInfoNet.

30 COAG (2009) *National Strategy for Food Security in Remote Indigenous Communities*.

Nationally, Indigenous children aged less than four years suffer from nutritional anaemia and malnutrition at 29.6 times the rate for non-Indigenous children.³¹

Food waste is also a growing issue in Australia, with Australian households wasting approximately 15% of the food they purchase each year.³² This equates to an estimated 361 kilograms of food waste per person annually.³³

As a net exporter of food, agricultural production in Australia has ramifications for both domestic and international food security. Although these are likely to become more significant into the future, Australia can play a role in responding to global food security issues by providing agricultural innovation and research services as well as sharing water and land use management expertise.

In May 2013 the Australian Government released a *National Food Plan* to address the challenges facing the Australian food industry, such as climate change, population growth, changing economic conditions, competition for resources and diet-related health issues.³⁴

Along with the challenges, the *National Food Plan* recognises the future holds unprecedented opportunities for Australia's food industry resulting from growing demand for Australian produce caused by increasing international food consumption, particularly in Asia. In order to respond to these opportunities into the future, the *National Food Plan* set out a series of goals and targets to manage the environmental impacts of domestic food production, improving soils, using land, water and marine resources wisely and protecting the country's food industry from introduced pests and diseases.

The long term sustainability of food production in Australia will depend on the effective management of our natural resources, particularly soil and water.

31 COAG (2009) *National Strategy for Food Security in Remote Indigenous Communities*.

32 NSC (2013) *Sustainable Australia Report 2013: Conversations with the future*.

33 Australian Government (2013) *National food plan: Our food future*.

34 Australian Government (2013) *National food plan: Our food future*.

Energy security and the transition to a low-carbon economy

Energy security is a relatively new concept and does not have a widely agreed definition. It generally encapsulates consideration of energy availability and access. The International Energy Agency defines energy security as the uninterrupted availability of energy sources at an affordable price.³⁵

The dividing line between energy poverty and energy sufficiency is sometimes considered to be approximately 100 kWh per capita per day.³⁶ However energy services provided are more important than the quantity of energy and more services can be provided where energy efficiency is higher. While most OECD countries use over 120 kWh per capita per day, many countries in Africa and all in South Asia consume on average below 20 kWh per capita per day.³⁷ Further, approximately 1.3 billion people around the world do not have access to electricity and 2.6 billion people rely on the burning of wood, dung, coal and other traditional fuels in their homes, significantly putting their health at risk due to indoor air pollution and reducing their prospects for better lives.³⁸

The energy sector exemplifies the challenge of balancing sustainable development and poverty reduction. On the one hand, energy underpins sustained development and prosperity and is therefore a critical component of poverty eradication. On the other hand, traditional energy production is a major cause of environmental harm, creating pollution, emitting greenhouse gases and depleting non-renewable resources.³⁹ By 2035, the International Energy Agency projects global energy demand to grow by around 40%, with 90% occurring in developing economies.⁴⁰ If energy consumption patterns do not change, increasing energy use resulting from improved access and a growing world population will create enormous strains on the planet.

35 IEA, [Energy security](#) web topic.

36 UN-DESA (2009) [Policy Brief no.24: Climate change and the energy challenge](#).

37 UN-DESA (2009) [Policy Brief no.24: Climate Change and the Energy Challenge](#).

38 Energy underpins the majority of development goals, such as those relating to agriculture and food production, education and so on. Lack of light prevents children from studying and learning and the collection of firewood for cooking and heating often takes a significant amount of time (mostly for women). There are also serious health implications of having fires for cooking and heating within the home. HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

39 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#)

40 IEA (2011) [World energy outlook 2011](#).

Current and future global challenges

Ensuring developing countries are able to grow in a more energy efficient and less carbon-intensive fashion as those before requires action across the energy supply and consumption chain. It involves energy producers, infrastructure providers, those involved in setting energy prices, and consumers (particularly in relation to efficiency and wastage considerations).

Issues of technology and finance are the most significant constraints affecting low- and middle-income countries' ability to develop secure and sustainable energy systems.⁴¹ The Johannesburg Plan of Implementation, adopted at the World Summit on Sustainable Development in 2002, aims to address many of these challenges, calling for action to:

- improve access to reliable, affordable, economically viable, socially acceptable and environmentally sound energy services;
- recognise that energy services have positive impacts on poverty eradication and the improvement of standards of living;
- develop and disseminate alternative energy technologies with the aim of giving a greater share of the energy mix to renewable energy and, with a sense of urgency, substantially increase the global share of renewable energy sources;
- diversify energy supply by developing advanced, cleaner, more efficient and cost-effective energy technologies;
- combine a range of energy technologies, including advanced and cleaner fossil fuel technologies, to meet the growing need for energy services;
- accelerate the development, dissemination and deployment of affordable and cleaner energy efficiency and energy conservation technologies; and
- take action, where appropriate, to phase out subsidies in this area that inhibit sustainable development.

A further challenge for managing global sustainable energy issues, particularly in many developing countries, is equity of access. There are significant gaps (e.g.

41 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#)

between the poor and affluent and those living in urban and rural areas) that need to be considered alongside the issues discussed above.⁴²

To achieve the political goal of limiting human-induced climate change to no more than 2°C relative to pre-industrial levels will require a rapid technological evolution in the efficiency of energy use, environmentally sound low-carbon renewable energy sources and potentially carbon capture and storage. The longer we wait to transition to a low carbon economy the more we are locked into a high carbon energy system with consequent environmental damage to ecological and socio-economic systems. Without strong action to reduce emissions, over the course of this century we would likely add at least 300 ppm CO₂e, taking concentrations to around 750 ppm CO₂e or higher at the end of the century or early in the next. If emissions continue to grow at current rates, global warming is projected to exceed 2°C within the next few decades and foreseeably reach 4°C or more by the end of the century.

Millennium Development Goals

The Millennium Development Goals do not directly address the issue of energy security, however indicators used to gauge the success of efforts to meet Millennium Development Goal 7, “ensure environmental sustainability,” have included efforts to reduce global emissions of carbon dioxide. The first target under this goal is to integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources.

Global carbon dioxide emissions have increased by more than 46% since 1990, and the growth in global emissions has accelerated, rising 33% from 2000 to 2010.

High Level Panel Report

The report of the High-Level Panel (HLP) of Eminent Persons on the Post 2015 Development Agenda⁴³ included 12 “illustrative goals and national targets”. Illustrative Goal 7, “Secure sustainable energy,” directly addressed energy security, as did one aspect of Goal 12, “Create a global enabling environment and catalyse long-term finance”.

HLP Goal 7: Secure sustainable energy

Target 7a Double the share of renewable energy in the global energy mix

⁴² UN-DESA (2009) [Policy Brief no.24: Climate change and the energy challenge](#).

⁴³ HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

Target 7b Ensure universal access to modern energy services

Target 7c Double the global rate of improvement in energy efficiency in buildings, industry, agriculture and transport

Target 7d Phase out inefficient fossil fuel subsidies that encourage wasteful consumption

HLP Goal 12: Create a global enabling environment and catalyse long-term finance

Target 12c Hold the increase in global average temperature below 2°C above pre-industrial levels, in line with international agreements

Sustainable Development Solutions Network Report

The report of the Sustainable Development Solutions Network (SDSN)⁴⁴ included ten “proposed sustainable development goals and targets”. SDSN Goal 8, “Curb human-induced climate change and ensure sustainable energy,” directly addressed the issue of energy security.

SDSN Goal 8: Curb human-induced climate change and ensure sustainable energy

Target 8a Decarbonize the energy system, ensure clean energy for all, and improve energy efficiency, with targets for 2020, 2030 and 2050

Target 8b Reduce non-energy-related emissions of greenhouse gases through improved practices in agriculture, forestry, waste management and industry

Target 8c Adopt incentives, including pricing greenhouse gas emissions, to curb climate change and promote technology transfer to developing countries

Current and future challenges for Australia

In the context of Australia, the transition to a low-carbon economy involves a number of changes to the domestic production and consumption of energy. Traditional energy security challenges include inadequate energy sector investment and balancing reliable energy supplies with environmental impact.⁴⁵ In the context of a low-

⁴⁴ SDSN (2013) [An action agenda for sustainable development](#).

⁴⁵ UN-DESA (2009) [Policy Brief no.24: Climate change and the energy challenge](#).

carbon future, additional challenges include increasing the efficiency of energy consumption by Australian households and managing future growth in energy demand; increasing cross-sectoral uniformity of energy efficiency gains; decoupling economic growth from greenhouse gas emissions; and reducing consumption waste, including indirect contributors like food waste. Given the central role of civil society in driving and supporting changes in energy use, focusing on behaviour change is an important aspect of achieving energy security and a transition to a low carbon future.

Building infrastructure, adopting technology and supporting innovation for renewable and low carbon energy is likely to form an important part of Australia's transition to a low carbon future. Managing the financial impact and possible changes to the adequate, reliable and competitive supply of energy throughout the country are important considerations throughout this transition.

Over the next two and a half decades, Australia's energy production is projected to more than double, largely due to export growth.⁴⁶ This poses an additional consideration and challenge, particularly in relation to Australia's contribution to the transition to a global low carbon future.

Australia is one of the top ten greenhouse gas emitting countries in the world on a per capita basis. In 2012, 25 tCO₂-e was emitted per capita. Comparing 2005 emissions data, Australia emitted more greenhouse gas per capita (28 tCO₂-e per capita) than any other developed country. Per capita greenhouse gas emissions for the United States in 2005 were 23 tCO₂-e, and the world average was 6 tCO₂-e per capita.⁴⁷

Sustainable Australia Report 2013

The *Sustainable Australia Report 2013*⁴⁸ found that changes in energy consumption are caused mainly by three factors:

- changes in the level of economic activity (the 'activity effect')
- changes in the mix of economic activities or products produced (the 'structural effect'), and
- changes in energy intensity (the 'efficiency effect').

Energy intensity refers to the amount of energy consumed in the production of each unit of economic output. Energy intensity shows change in the energy efficiency of the economy excluding the 'activity effect' and the 'structural effect'. Reductions in energy intensity are associated with lower greenhouse gas emissions and energy costs, and improved energy security.

The report noted that because 96% of Australia's net energy consumption comes from fossil fuel combustion, decreasing Australia's energy intensity is vital to reduce greenhouse gas emissions and improve energy security.

Total energy consumption per unit of GDP decreased by approximately 20% between 1990 and 2010. This was largely caused by a shift within the economy from energy-intensive manufacturing to the services sector. When excluding these structural effects, energy intensity decreased by approximately 4% over the same period, or an average of 0.2% each year.

⁴⁶ Department of Resources, Energy and Tourism. 2012. *Energy White Paper 2012*. Canberra, DRET

⁴⁷ NSC (2013) *Sustainable Australia Report 2013: Conversations with the future*.

⁴⁸ NSC (2013) *Sustainable Australia Report 2013: Conversations with the future*.

Sustainable water

Water is at the core of sustainable development and is closely linked to many of its themes, such as economic growth, health, biodiversity, agriculture, cities and population trends, climate change and physical security. As a result, addressing water security often requires interdisciplinary collaboration across sectors, communities and political borders.⁴⁹

UN-Water recently proposed the following definition of water security:

*The capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability.*⁵⁰

This builds on previous definitions that confined the issue of water security to potable water access. The new definition focuses on the quantity and quality of available water and identifies a variety of interconnected issues that influence, and are influenced by, water.

Current and future global challenges

Water security is rapidly declining in many parts of the world. Nearly 800 million people worldwide are without access to an improved water source and many more remain without safe and sustainable water supply. As countries develop and populations grow and urbanise, demand for water is projected to increase by 55% by 2050.⁵¹ At the same time there will be increased demand for sewerage services and increased pressure on ecosystems from waterway pollution, nitrification, loss of natural wetlands, flooding, droughts and extreme weather events.

Water security is underpinned by a set of demand- and supply-side challenges. Holistic management of water usage and identification of synergies to improve water productivity is critical, as is developing appropriate infrastructure and building resilience. In relation to supply, managing water scarcity and quality issues can be supported by initiatives to conserve and protect ecosystems that provide water-provisioning services

49 UN (2012) [The Future We Want: Outcome document adopted at Rio+20](#).

50 UNU-INWEH (2013) [Water security & the global water agenda](#).

51 UN Technical Support Team (2013) [TST Issues brief: Water and sanitation](#).

as well as addressing wastewater, water pollution and improving climate change adaptation.⁵² Appropriate water pricing is an important policy driver that tends to stimulate the efficient use of water. This is particularly important in areas where water is scarce resource. A whole of government response to the multiple challenges of water security is also required and in many cases this will require reforms in urban water governance.

The majority of water resources are shared and individual actions, such as over extraction of groundwater or dumping of pollutants in river systems, have the potential to affect the quality and quantity of resources available to other users. As such, building effective governance structures (institutional, legal and regulatory systems) and ensuring that all users are adequately represented in water management decision-making processes is paramount for achieving universal water security. In Australia a number of urban water systems are part of the Murray Darling Basin, which presents policy and governance challenges in managing water across a large geographic area with different users and interests. At an international level, effective cooperation across political borders holds value for managing trans-boundary water resources and has the additional benefit of providing an avenue for the peaceful resolution of traditional resource-based conflict.⁵³

Millennium Development Goals

Under Millennium Development Goal 7, “ensure environmental sustainability,” a target was set to halve by 2015 the proportion of the population without sustainable access to safe drinking water and basic sanitation. The world met the safe drinking water target five years ahead of this deadline; this means more than 2 billion people have gained access to an improved drinking water source since 1990. Almost 2 billion more people now have access to proper sanitation than in 1990, however 2.5 billion still do not have access to toilets or latrines. Improving access to sanitation is one of the most off-track Millennium Development Goals.⁵⁴ Rapid urbanisation is compounding the problem in the burgeoning number of cities in the developing world, and this unfinished business demands continued attention in the new development framework.⁵⁵ Initiatives to provide greater access to proper sanitation should

52 UN Technical Support Team (2013) [TST Issues brief: Water and sanitation](#).

53 UNU-INWEH (2013) [Water security & the global water agenda](#).

54 UN (2013) [Fact sheet on MDG Goal 7: Ensure environmental sustainability](#).

55 UN (2013) [The Post 2015 Water Thematic Consultation Report](#).

be accompanied by initiatives to recover the resources inherent in sanitation systems such as water, nutrients and energy. Wastewater (and nutrient) recycling can be linked to local food production.

High Level Panel Report

The report of the High-Level Panel (HLP) of Eminent Persons on the Post 2015 Development Agenda⁵⁶ included 12 “illustrative goals and national targets”. Goal 6, and parts of Goal 5, are related to water security.

HLP Goal 6: Achieve universal access to water and sanitation

- Target 6a Provide universal access to safe drinking water at home, and in schools, health centres, and refugee camps
- Target 6b End open defecation and ensure universal access to sanitation at school and work, and increase access to sanitation at home by x%
- Target 6c Bring freshwater withdrawals in line with supply and increase water efficiency in agriculture by x%, industry by y% and urban areas by z%
- Target 6d. Recycle or treat all municipal and industrial wastewater prior to discharge

HLP Goal 5: Ensure food security and good nutrition

- Target 5c Increase agricultural productivity by x%, with a focus on sustainably increasing smallholder yields and access to irrigation
- Target 5d Adopt sustainable agricultural, ocean and freshwater fishery practices and rebuild designated fish stocks to sustainable levels

Sustainable Development Solutions Network Report

The report of the Sustainable Development Solutions Network (SDSN)⁵⁷ included ten “proposed sustainable development goals and targets”. Goal 9, and parts of Goals 6 and 7 relate to water security.

56 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

57 SDSN (2013) [An action agenda for sustainable development](#).

SDSN Goal 9: Secure ecosystem services and biodiversity, and ensure good management of water and other natural resources

- Target 9a Ensure resilient and productive ecosystems by adopting policies and legislation that address drivers of ecosystem degradation, and requiring individuals, businesses and governments to pay the social cost of pollution and use of environmental services.
- Target 9b Participate in and support regional and global arrangements to inventory, monitor, and protect biomes and environmental commons of regional and global significance and curb trans-boundary environmental harms, with robust systems in place no later than 2020.
- Target 9c All governments and businesses commit to the sustainable, integrated, and transparent management of water, agricultural land, forests, fisheries, mining, and hydrocarbon resources to support inclusive economic development and the achievement of all SDGs.

SDSN Goal 6: Improve agriculture systems and raise rural prosperity

- Target 6a Ensure sustainable food production systems with high yields and high efficiency of water, soil nutrients, and energy, supporting nutritious diets with low food losses and waste.
- Target 6b Halt forest and wetland conversion to agriculture, protect soil resources, and ensure that farming systems are resilient to climate change and disasters.
- Target 6c Ensure universal access in rural areas to basic resources and infrastructure services (land, water, sanitation, modern energy, transport, mobile and broadband communication, agricultural inputs, and advisory services).

SDSN Goal 7: Empower inclusive, productive, and resilient cities

- Target 7b Ensure universal access to a secure and affordable built environment and basic urban services including housing; water, sanitation and waste management; low-carbon energy and transport; and mobile and broadband communication.

Target 7c Ensure safe air and water quality for all, and integrate reductions in greenhouse gas emissions, efficient land and resource use, and climate and disaster resilience into investments and standards.

The Post-2015 Water Thematic Consultation Report

The *World We Want 2015 Water Thematic Consultation Report* recommends a new development framework to reduce inequalities around water through rights-based approaches to service provision and governance.⁵⁸

Following a high-level meeting in March 2013 the UN Water Thematic Consultation group recommended a new course for concerted action and global direction to capture water's importance to the Post-2015 Development framework in these key points:

- Water is a key determinant in all aspects of social, economic and environmental development and must therefore be a central focus of any post-2015 framework for poverty eradication and global sustainable development.
- Water, Sanitation and Hygiene, Water Resources Management and Wastewater Management and Water Quality are all indispensable elements for building a water-secure world.
- Water security will be of growing importance. Water should be addressed adequately in the Post-2015 Development Agenda, in order to prevent crises in the water as well as in the water dependent sectors.
- Governments play a key role in securing water for competing demands; however the quest for a water-secure world is a joint responsibility and can only be achieved through water cooperation at local, national, regional and global level and through partnerships with a multitude of stakeholders ranging from the citizens to policy makers to the private sector.
- Water-related capacity development, both at the individual and institutional levels, will be fundamental in the realization and implementation of the Post-2015 Development Agenda.
- Innovative, inclusive and sustainable financing mechanisms for water need to be implemented.

The Water Thematic Consultation Report sets out the following three global goals:

- The world must aim for universal access to safe and sustainable water, sanitation and hygiene services.

⁵⁸ UN (2013) [The Post 2015 Water Thematic Consultation Report](#).

- Ground and surface water should be monitored and governed sustainably and in an integrated manner to satisfy human needs while respecting ecosystem requirements.
- All used water and wastewater should be collected and treated before it is returned to nature and managed under principles of pollution prevention and reuse.⁵⁹

The current and future challenges for Australia

Despite being a relatively wealthy country, Australia faces many of the same water security issues as those threatening developing nations. A key global issue is access to clean water. In Australia that is not an issue for the majority of Australians however it is an issue for some pockets of the community (largely remote, indigenous communities). In the last decade Australia has faced a prolonged drought in the southwest and southeast of the continent followed by extreme floods over many parts of eastern Australia. Since 1950, most of eastern and south-western Australia (where most of Australia's population and agriculture are based) has become drier, and most of the continent experienced severe drought conditions throughout much of the 2000s. At the same time, demand for agricultural production has increased, driven by an increasing population and growing exports.

While Australia consumes only 6% of its renewable water resources each year, a very uneven distribution of water resources across the country and high inter-annual rainfall variability mean that water resources in some regions are over-allocated while others remain largely undeveloped.⁶⁰

For example, the Murray-Darling Basin has been under enormous stress over recent years, primarily as a result of past water allocations, which have at times reduced flows in major rivers to a small percentage of natural flow. In response to this decline, in 2012 the States, Territories and Commonwealth Governments agreed to the Murray-Darling Basin Plan, which provides a high level framework to manage the Murray-Darling Basin's water resources in a coordinated and sustainable way in collaboration with the community. The Murray-Darling Basin Plan was not easy to achieve but provides the opportunity for co-operative water management across jurisdictional boundaries.

In Australia 68% of water is consumed in rural areas for agricultural purposes. Policy initiatives encouraging efficient water use have resulted in Australia's

⁵⁹ UN (2013) [The Post 2015 Water Thematic Consultation Report](#), p. 57.

⁶⁰ Prosser IP (ed.) (2011) [Water: Science and Solutions for Australia](#). CSIRO Publishing.

agriculture sector increasing the value of production while simultaneously decreasing water extraction over the past decade. The gross value of irrigated agriculture increased from \$9.3 billion in 2003 to \$12.9 billion in 2011. During this same period, water use by the industry fell from 10,404 GL to 6,645 GL.⁶¹ While the increasing value of irrigated produce is partially influenced by increasing commodity prices over time (among many other factors), supply has not been constrained by reduced water use. The irrigated agriculture sector in Australia today is far more water efficient than a decade ago and is an example of increasing economic growth without increasing environmental pressure.

Many of those most disadvantaged in terms of water security are Indigenous Australians living in remote communities. Drinking water quality in many small remote Indigenous communities often does not meet Australian Drinking Water Quality Guidelines⁶². A crucial part of the Australian governments' *Closing the Gap* agenda aims to improve the health outcomes of Indigenous communities by addressing drinking water quality and sanitation.

The decade-long drought in Australia led to unprecedented cooperation between the Federal, State and Territory Governments, leading to the *National Water Initiative* released in June 2004. The prolonged drought also led to major government investment in desalination plants to provide water security for Brisbane, Sydney, Melbourne and Perth when governments faced the real prospect of major

cities running out of water. The *National Water Initiative* included objectives, outcomes and agreed commitments across eight inter-related elements of water management in Australia that aimed to achieve⁶³:

- economically efficient water use and related investment that maximise the economic, social and environmental value of Australia's water resources, and
- improved environmental water outcomes, including the identification and effective and efficient delivery of water to sustain the health of water-dependent ecosystems of waterways and wetlands.

Efficiency and effectiveness of investment in water infrastructure in Australia is a key challenge. Urban water infrastructure has traditionally been large scale and centralised: dams, water and wastewater treatment facilities and more recently desalination plants. However more decentralised water infrastructure such as stormwater harvesting and fit for purpose use of recycled water offer the opportunity for more incremental and less lumpy infrastructure investment. This is particularly important given the uncertainties in water supply as a result of climate variability and climate change.

Floods in South East Queensland and Brisbane in December 2010 and January 2011, which led to 35 confirmed deaths and \$2.38 billion in damage, refocused the debate to also include the need to distribute water during high-rainfall events.⁶⁴

61 NSC (2013) [Sustainable Australia Report 2013: Conversations with the future](#), p. 81.

62 National Water Commission (2012) [Position statement: Indigenous access to water resources](#).

63 See also National Water Commission (2011) [Urban water in Australia: Future directions](#).

64 Delana Carbone & Jenna Hanson (2012) Floods: 10 of the deadliest in Australian history, *Australian Geographic*, 8 March 2012.

Human health

Human health is a key part of sustainable development. The first principle of the 1992 Rio Declaration on Environment and Development states that human beings are at the centre of concerns for sustainable development and are entitled to a healthy and productive life in harmony with nature. This is reiterated in *The Future We Want*⁶⁵, the outcomes document of the UN Conference on Sustainable Development (Rio+20); the document recognises that health is a precondition for and an outcome and indicator of all three dimensions of sustainable development.

There are a number of important synergies that influence health outcomes. For example, health is closely linked to economic prosperity, water and sanitation, education, gender equality, nutrition and population dynamics. Human health also relies on ecosystem health, which provides control of vector-borne diseases and a source of traditional and western medicines. Although it can be considered an important development objective in its own right, health supports the achievement of improved well-being through material, psychological, social, cultural, educational, work, environmental and personal security dimensions.⁶⁶

Environmental sustainability is no longer limited to avoiding hazardous (toxicological and microbiological) local pollution; it must now include arresting larger-scale disruptions of terrestrial and marine ecological systems and of biophysical systems, including the global climate. These human-driven systemic changes mostly impinge at the level of whole communities or populations, influencing their average levels of health, longevity and (especially in relation to weather extremes) survival. This type of impact on human health is predominantly a ‘herd’ effect (well understood by farmers), not a set of risks to otherwise disconnected individuals, and should therefore be understood primarily in ecological terms as collectively shared damage to the health of ‘communities’. A major policy implication is that these risks cannot be reduced and managed by the health sector alone; it is a quintessentially inter-sectoral responsibility.

The current and future global challenges

Improving health in poorer countries has been a goal of poverty alleviation for many years and was a primary objective of the Millennium Development

Goals. According to a recent UN brief on health and sustainable development⁶⁷ some of the emerging global health challenges include: managing major shifts in the age structures of countries; the need to develop innovatively and build capacity to deliver health and wellness; new diseases; and populations moving to urban areas.

These challenges magnify the need to change how global development issues, including health, are conceptualised and managed today. For example, three-quarters of the world’s poorest people are now living in middle income countries, meaning the financing for improving health no longer falls within the domain of traditional development aid alone.⁶⁸ There is also growing variability of health patterns and priorities within and across countries, covering both communicable and non-communicable diseases. Further, the global connectivity of the world means that the management of communicable diseases is a shared responsibility requiring international cooperation.

There is a further significant challenge in integrating all facets of health into an international development framework in a way that is measurable, readily understandable and ensures political traction.

A 2013 report by the *Lancet* Commission on Investing in Health⁶⁹ revisited the case for investment in health and developed a new investment frame work to achieve health gains by 2035. The report makes the case that:

- The returns on investing in health are even greater than previously estimated
- Within a generation – by 2035 – the world could achieve a “grand convergence,” bringing preventable infectious, maternal and child deaths down to universally low levels
- Taxes and subsidies are a powerful and underused lever for curbing non-communicable diseases and injuries
- Progressive universalism, a pathway to universal health coverage that targets the poor from the outset, is an efficient way to achieve health and financial protection.

65 UN (2012) *The Future We Want: Outcome document adopted at Rio+20*.

66 UN Technical Support Team (2013) *TST issues brief: Health and sustainable development*.

67 UN Technical Support Team (2013) *TST issues brief: Health and sustainable development*.

68 UN System Task Team on the Post-2015 UN Development Agenda (2012) *Thematic think piece: Health in the post-2015 UN development agenda*.

69 Jamieson DT et al. (2013) *Global health 2035: A world converging within a generation*. *The Lancet*, 382(9908):1898–1955.

Millennium Development Goals

Three of the eight Millennium Development Goals are directly related to health⁷⁰; however, none relate to non-communicable diseases or obesity.

Millennium Development Goal 4 is to reduce child mortality, with a specific target of reducing the under-five mortality rate by two thirds between 1990 and 2015. Worldwide, the mortality rate for children under five dropped by 41% –from 87 deaths per 1,000 live births in 1990 to 51 in 2011. Despite this enormous accomplishment, it still falls short of the target and more rapid progress is needed if it is to be met by 2015. In 2011, an estimated 6.9 million children – 19,000 a day - died from mostly preventable diseases. The overwhelming majority of these deaths occurred in the poorest regions and countries of the world, and in the most underprivileged areas within countries.

Millennium Development Goal 5 is to improve maternal health, with specific targets to reduce the maternal mortality ratio by three quarters between 1990 and 2015, and to achieve universal access to reproductive health by 2015. Globally, the maternal mortality ratio has declined by nearly half since 1990 but it still falls short of the target and only half of the women in developing regions receive the recommended level of care.

Millennium Development Goal 6 is to combat HIV/AIDS, malaria and other diseases. Its 2015 targets are to halt and start reversing the spread of HIV/AIDS; to achieve universal access to treatment for HIV/AIDS for all those who need it; and to halt and start reversing the incidence of malaria and other major diseases. Worldwide, the number of people newly infected with HIV continues to fall, dropping 21% from 2001 to 2011. Still, an estimated 2.5 million people were infected with HIV in 2011 –most of them (1.8 million) in sub-Saharan Africa. Eight million people were receiving antiretroviral therapy for HIV at the end of 2011. Between 2000 and 2010, mortality rates from malaria fell by more than 25% globally.

High Level Panel Report

The report of the High-Level Panel (HLP) of Eminent Persons on the Post 2015 Development Agenda⁷¹ included twelve “illustrative goals and national targets”. Goal 4 is specifically related to health.

HLP Goal 4: Ensure healthy lives

Target 4a End preventable infant and under-5 deaths

70 UN (2013) [The Millennium Development Goals Report 2013](#).

71 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

Target 4b Increase by x% the proportion of children, adolescents, at-risk adults and older people that are fully vaccinated

Target 4c Decrease the maternal mortality ratio to no more than x per 100,000

Target 4d Ensure universal sexual and reproductive health and rights

Target 4e Reduce the burden of disease from HIV/AIDS, tuberculosis, malaria, neglected tropical diseases and priority non-communicable diseases

Sustainable Development Solutions Network Report

The report of the Sustainable Development Solutions Network (SDSN)⁷² included ten “proposed sustainable development goals and targets”. Goal 5 is specifically related to health and part of Goal 2 is related to sexual and reproductive health rights.

SDSN Goal 5: Achieve health and wellbeing at all ages

Target 5a Ensure universal access to primary healthcare that includes sexual and reproductive healthcare, family planning, routine immunizations, and prevention and treatment of communicable and non-communicable diseases rights

Target 5b End preventable deaths by reducing child mortality to [20] or fewer deaths per 1000 births, maternal mortality to [40] or fewer deaths per 100,000 live births, and mortality under 70 years of age from non-communicable diseases by at least 30 percent compared to the levels in 2015.

Target 5c Promote healthy diets and physical activity, discourage unhealthy behaviours, such as smoking and excessive alcohol intake, and track subjective well-being and social capital.

SDSN Goal 2: Achieve development within planetary boundaries

Target 2c Rapid voluntary reduction of fertility through the realization of sexual and reproductive health rights in countries with total fertility rates above 3 children per woman and a continuation of voluntary fertility reductions where total fertility rates are above replacement level.

72 SDSN (2013) [An action agenda for sustainable development](#).

The Post-2015 Health Thematic Consultation Report

The *World We Want 2015 Health Thematic Consultation Report* concluded that the Post-2015 Agenda should have a rigorous framework that clearly articulates both how sustainable development differs from (and is preferable to) existing development models and how health and development are inextricably linked. It calls for greater synergies between health and other sectors to be achieved by framing the goals in such a way that their attainment requires policy coherence and shared solutions across multiple sectors – that is, a whole-of-government or “health-in-all-policies” approach.

The current and future challenges for Australia

In general, Australians have a high standard of health, with high average life expectancy and a low rate of infant mortality compared with other developed countries.⁷³ Australia has a system of universal health coverage and high quality health care. However, Australia has rising levels of obesity and chronic diseases. The National Health Reporting Authority for the Council of Australian Governments found 28% of Australians were obese in 2011–12, up from 11% in 1989.⁷⁴ Baby Boomers aged 53 to 62 years have double the rates of obesity, asthma, hearing loss and high cholesterol compared with the previous generation.⁷⁵ Most Australian adults get insufficient exercise for good health.

Over half (56%) of Australians rated their health as being excellent or very good in 2012⁷⁶ and Australians rank highly in subjective life satisfaction.⁷⁷ However, significant numbers of Australians suffer from mental illness and in 2012 one in ten Australian adults experienced high or very high levels of psychological distress. People with a disability or long-term health condition were significantly more likely to experience such psychological distress.

Inequality is also an issue, with a significantly higher proportion of Aboriginal and Torres Strait Islander people, those of lower socio-economic status, and those in remote communities faring worse across a

number of health measures.⁷⁸ The life expectancy of Aboriginal and Torres Strait Island men is approximately eleven years less, and women nearly ten years less, than the population as a whole.⁷⁹ Health service issues, including workforce supply and distribution, are a related challenge, as is the need to improve urban planning to support healthy activity and sustainable communities.

Life expectancy at birth in Australia stands at 82 years, two years above the OECD average of 80 years. Life expectancy for women is 84 years, compared with 80 for men, a slightly smaller difference than the average OECD gender gap of six years (the OECD average life expectancy is 83 years for women and 77 years for men). Total health spending accounts for 9.1% of GDP in Australia, slightly less than the 9.5% OECD average. However, Australia ranks above the OECD average in terms of total health spending per person, at 3670 USD in 2010, compared with an OECD average of 3268 USD.

Throughout the OECD, tobacco consumption and excessive weight gain remain two important risk factors for many chronic diseases. Australia provides an example of a country that has achieved remarkable progress in reducing tobacco consumption, cutting by more than half the percentage of adults who smoke daily, from 35.4% in 1983 to 15.1% today. The smoking rate among adults in Australia is now one of the lowest in the OECD, equal to the United States and behind only Mexico, Sweden and Iceland. Much of the decline in Australia can be attributed to policies aimed at reducing tobacco consumption through public awareness campaigns, advertising bans and increased taxation.

In many OECD countries, large proportions of the population are overweight or obese. In Australia, the obesity rate among adults is 28%, higher than the OECD average of 17.8%. Obesity rates in Australia are high, and they have been increasing faster than in most other OECD countries over the last 20 years. These facts foreshadow increases in the occurrence of health problems such as diabetes, cardiovascular diseases and asthma, and higher health care costs in the future.

Population dynamics are likely to drive many of Australia's future health challenges. Population ageing poses a significant challenge for health policy, as it has ramifications for the country's health infrastructure and its economic performance, both of which drive investment in health services. Planning for these factors while managing the health budget, as well as preventing non-communicable diseases, are important challenges for the future of Australia's health.

73 Armstrong, B et al. (2007) Challenges in health and healthcare for Australia. *Medical Journal of Australia*, 187(9): 485–489.

74 National Health Performance Authority (2013) [Healthy communities: Australians' experience with primary health care in 2010–11](#).

75 NSC (2013) [Sustainable Australia Report 2013: Conversations with the future](#), p. 51

76 Australian Institute of Health and Welfare (AIHW) (2012) [Australia's Health 2012](#).

77 Helliwell J, Layard R, Sachs J (eds.) (2013) [World Happiness Report 2013](#). *UN Sustainable Development Solutions Network*, New York.

78 Australian Institute of Health and Welfare. 2012. *Australia's health 2012*. Canberra, AIHW

79 ABS (2011 & 2012) *Deaths Australia* (cat. No. 3302.0), 2010 and 2011.

Social inclusion and gender

Social exclusion, or marginalisation, refers to social disadvantage and relegation within society, in which individuals or entire communities may be systematically blocked from rights, opportunities and resources that are normally available and are important for social integration and stability. Specific groups (minorities, people with disability etc.) often experience a greater degree of social exclusion, preventing them from participating fully in the economic, social, and political life of the society in which they live.⁸⁰

Social inclusion, which aims to change the drivers of marginalisation, involves dealing with contributors to long-term disadvantage such as education, gender inequality, lack of employment opportunities or economic rights, racial exclusion, geographic isolation, violence and lack of security, religious exclusion, and class structure and political representation issues.

Social inclusion ensures that the wellbeing benefits of sustainable development are shared equally by all members of society. For this reason, it is also a driver of true intergenerational equity and is crucial in eradicating poverty and hunger. Social inclusion activities that are critical to sustainable development include improved social protection and education for all people; greater levels of food security and nutrition; peaceful, cohesive societies, with good governance structures and participatory citizenship.

Gender equality and women's empowerment are central to addressing marginalisation.⁸¹

Current and future global challenges

There is a strong degree of interconnectedness between education, health, poverty reduction and gender equality such that improvement in one area has a positive effect on the others.⁸² With this in mind, a critical challenge in improving social inclusion in low-income and conflict-affected countries is dealing with mutually reinforcing

disadvantages. Similarly, understanding and identifying the underlying reasons for exclusion or disengagement from formal and non-formal inclusion opportunities is a critical step in developing targeted strategies for the most vulnerable groups.⁸³

Other broad challenges relating to social inclusion include:

- building resilience against natural and man-made shocks and prolonged crises that threaten to send the most vulnerable deeper into poverty;⁸⁴
- encouraging mutually reinforcing policies across social sectors and across broader economic and social policies.⁸⁵

Gender is important for social inclusion (and sustainable development), as it promotes equality and leads to wellbeing benefits across the majority of sustainability-related themes and issues. Global challenges relating specifically to gender revolve around achieving equality and realising women's rights.⁸⁶ Measurement is a key challenge in this regard, with many forms of gender equality going unrecorded or, in the case of some gender-based violence, being complex to measure accurately. Other key challenges relate to the objectives of ensuring equal opportunities and equal pay; increasing the level of job security and job protection for women; and ensuring equal access to, and participation in, decision making.⁸⁷

Education is another important contributor to social inclusion (and sustainable development) and can increase opportunities for innovation and promote equality. Among other things, education generates greater economic returns and growth for individuals and

83 UN System Task Team on the Post-2015 UN Development Agenda (2012) [Thematic think piece: Education and skills for inclusive and sustainable development beyond 2015](#). Mutually reinforcing disadvantages occur where traditional factors of marginalization such as gender and urban/rural residence combine with income, language, minority status, HIV and AIDS, age and disability to influence and perpetuate other drivers of exclusion, like education.

84 UN Technical Support Team (2013) [TST Issues brief: Social Protection](#) & UN System Task Team on the Post-2015 UN Development Agenda (2012) [Thematic think piece: Social protection: A development priority in the post-2015 UN development agenda](#).

85 UN Technical Support Team (2013) [TST Issues brief: Social Protection](#).

86 UN System Task Team on the Post-2015 UN Development Agenda (2012) [Thematic think piece: Addressing inequalities: The heart of the post-2015 agenda and the future we want for all](#).

87 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

80 Australian Social Inclusion Unit, [What is social inclusion?](#) (archived).

81 UN Technical Support Team (2013) [TST issues brief: Education and culture](#).

82 UN System Task Team on the Post-2015 UN Development Agenda (2012) [Thematic think piece: Education and skills for inclusive and sustainable development beyond 2015](#).

societies; creates a lasting impact on health, decent work and gender equality; and leads to safer and more resilient and stable societies.⁸⁸

Education issues relevant to the post 2015 development agenda are discussed in more details in a separate consultation paper.

Millennium Development Goals

Millennium Development Goal 3, “Promote gender equality and empower women,” directly addresses gender issues. Its main target is to eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015. Gender is also addressed in MDG 1, “Eradicate extreme poverty and hunger”, with a target to “Achieve full and productive employment and decent work for all, including women and young people.” Recent data⁸⁹ shows that while the world is close to achieving equality in primary education between girls and boys, progress towards gender equality in other areas of access to education, work and economic assets, and participation in government has been slow. In many countries, gender inequality persists and women continue to face discrimination in access to education, work and economic assets, and participation in government. Violence against women continues to undermine efforts to reach all goals. Poverty is a major barrier to secondary education, especially among older girls.

The Millennium Development Goals do not directly address other aspects of social inclusion.

High Level Panel Report

The report of the High-Level Panel (HLP) of Eminent Persons on the Post 2015 Development Agenda⁹⁰ included 12 “illustrative goals and national targets”. Goal 2 directly concerns social inclusion and gender.

HLP Goal 2: Empower girls and women and achieve gender equality

- Target 2a Prevent and eliminate all forms of violence against girls and women
- Target 2b End child marriage
- Target 2c Ensure equal right of women to own and inherit property, sign a contract, register a business and open a bank account

88 UN Technical Support Team (2013) [TST issues brief: Education and culture](#).

89 UN (2013) [The Millennium Development Goals Report 2013](#).

90 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

Target 2d Eliminate discrimination against women in political, economic, and public life

The first of five transformative shifts identified by the HLP is to ‘leave no one behind’ by ending extreme poverty in all its forms. “We should ensure that no person – regardless of ethnicity, gender, geography, disability, race or other status – is denied universal human rights and basic economic opportunities. We should design goals that focus on reaching excluded groups, for example by making sure we track progress at all levels of income, and by providing social protection to help people build resilience to life’s uncertainties.”

Sustainable Development Solutions Network Report

The report of the Sustainable Development Solutions Network (SDSN)⁹¹ included ten “proposed sustainable development goals and targets”. Goal 4 directly concerns social inclusion and gender.

SDSN Goal 4: Achieve gender equality, social inclusion, and human rights for all

- Target 4a Monitor and end discrimination and inequalities in public service delivery, the rule of law, access to justice, and participation in political and economic life on the basis of gender, ethnicity, religion, disability, national origin, and social or other status.
- Target 4b Reduce by half the proportion of household with incomes less than half of the national median income (relative poverty)
- Target 4c Prevent and eliminate violence against individuals, especially women and children women

The World We Want Report

The United Nations Development Group report *A Million Voices: The World We Want*, released in September 2013, reported on global consultations on the shape and content of a successor framework to the Millennium Development Goals beyond 2015.⁹²

The report found that consultations around the theme Inequalities stressed that national averages have concealed often highly uneven progress towards Millennium Development Goal targets, with many specific groups, such as women and girls, people

91 SDSN (2013) [An action agenda for sustainable development](#).

92 UNDG (2013) [A million voices: The world we want](#).

with disabilities and ethnic minorities, as well as families in remote rural and urban slum localities, being systematically left behind.

The consultation emphasized the need to identify and address the structural factors that perpetuate these inequalities, such as discrimination, gender based violence and social exclusion. In the majority of national and thematic consultations, there were clear demands for gender inequality to be tackled at root in all its dimensions, and not just by focusing on the three manifestations expressed in Millennium Development Goal 3: gender parity in education, improved access of women to quality jobs outside the agricultural sector, and increased representation of women in parliament.

The current and future challenges for Australia

Many indicators of social exclusion in Australia have been improving over recent years. Australians generally enjoy high levels of financial wealth and security compared to those in most other countries; however the gap between rich and poor has been widening.⁹³

The 2012 Australian Social Inclusion Board report, *Social Inclusion in Australia – How Australia Is Faring*⁹⁴ provides a statistical view on social inclusion in Australia using the latest available data. The report shows that overall Australia today is prosperous and fares well in comparison to other nations in the world, with high life expectancy, good health, growing income and employment rates, and high levels of education. However the report identified the following “areas for improvement”:

- Around 5% of Australians (or 640,000) experience multiple and entrenched disadvantage.
- In 2011, 14% of all children under 15 (or 590,000) lived in jobless families.
- 7% of people aged over 15 years have low economic resources and high financial stress (around 1.5 million people). The bulk of these are families with children.
- Only 54% of Aboriginal and Torres Strait Islanders aged 15–24 were fully engaged in education and/or work in 2008.
- Around 100,000 people were counted as homeless on Census night in 2006.
- Income inequality has increased steadily from the mid-1990s.

- Attitudes towards people from different cultures, as reported by Scanlon-Monash Index of Social Cohesion, worsened between 2007 and 2011.
- The proportion of Australians who reported feeling safe walking alone in the city or area in which they live (64%) was lower than the OECD average (67%).

There are just over half a million Indigenous Australians, comprising 2.5% of the Australian population. Current data shows that while many Indigenous Australians have a good standard of living, too many experience unacceptable levels of disadvantage in living standards, life expectancy, education, health and employment.

Action was taken to address this gap in 2008 when Australian governments agreed to implement to the Australian National Indigenous Reform Agreement. The Agreement commits the Federal, State and Territory governments to the following six ambitious “Closing the Gap” targets:

- To close the life-expectancy gap within a generation
- To halve the gap in mortality rates for Indigenous children under five within a decade
- To ensure access to early childhood education for all Indigenous four years olds in remote communities within five years
- To halve the gap in reading, writing and numeracy achievements for children within a decade
- To halve the gap in Indigenous Year 12 achievement by 2020
- To halve the gap in employment outcomes between Indigenous and non-Indigenous Australians within a decade.

The gender gap has widened in Australia since 2006, with Australia slipping nearly ten spots in an annual ranking by the World Economic Forum. In 2006 Australia was ranked 15th out of 136 countries. The Global Gender Gap Report 2013 puts Australia at 24 on the gender gap index, just below the United States.

Women are still poorly represented at leadership and management levels in Australian workplaces. Progress towards gender equality has been extremely slow even though there are strong economic arguments underpinning the case for equality. Women continue to earn less than men, are less likely to advance their careers as far as men, and are more likely to spend their final years in poverty. At the same time, some men find it more difficult to access family-friendly policies or flexible working arrangements than women.

On 6 December 2012, the Australian Government replaced the Equal Opportunity for Women in the Workplace Act 1999 with the Workplace Gender

93 NSC (2013) [Sustainable Australia Report 2013: Conversations with the future](#).

94 Australian Social Inclusion Board (2012) [Social inclusion in Australia: How Australia is faring](#).

Equality Act 2012 (Act). The Act introduces a new reporting and compliance framework to encourage

measures that improve gender equality outcomes and has been designed to reduce the regulatory burden on business.⁹⁵

⁹⁵ Workplace Gender Equality Agency (2012) [Workplace profile and reporting questionnaire](#).

Education

Education is a fundamental right and one of the most basic ways people can achieve wellbeing.⁹⁶ It increases lifetime earnings, and how much a person can engage with and contribute to society. Quality education positively affects health, and lowers family size and fertility rates and leads to gender equality. Investing in education brings individuals and societies enormous benefits, socially, environmentally and economically. Education fosters the development of creative, informed and resilient citizens who are able to participate fully in a dynamic and globalised world. It also leads to safer, more resilient and stable societies.

There is growing evidence of the importance of early childhood development in building human capital and setting the foundation for successful lives. Early childhood development, primary and secondary school education, vocational and skills training, tertiary education and lifelong learning all help enable people to realize their full potential and build a healthy and productive society. Education is about investing in human capital and for most countries human capital is the most important component of the wealth of the nation. The first Human Development Report produced by the UN in 1990 opened with the simply stated premise: “People are the real wealth of a nation.”⁹⁷

The current and future global challenges

Globally, however, there is an education, learning and skills crisis. Some 60 million primary school-age children and 71 million adolescents do not attend school. Even in countries where overall enrolment is high, significant numbers of students leave school early. On average, 14% of young people in the European Union reach no further than lower secondary education. Among the world’s 650 million children of primary school age, 130 million are not learning the basics of reading, writing and arithmetic. A recent study of 28 countries in Africa found that more than one out of every three students (23 million primary school children) could not read or do basic maths after multiple years of schooling.⁹⁸

At the global level, there is a need to identify country-specific barriers to school attendance and develop relevant, measurable national education targets to address barriers and to understand the enabling conditions for quality education and learning.

96 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

97 UNDP, [About Human Development web page](#).

98 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

Importantly, recent developments in the way knowledge is valued in relation to work are raising the skill/qualification requirements for job entry and subsequently increasing demand for a more knowledgeable and skilled workforce.⁹⁹ This is a key challenge for education systems around the world and the value they hold in terms of employment potential.

The UNDP’s *Human Development Report 2013* advocates strongly in favour of education as one of the most powerful instruments for advancing equity and human development.¹⁰⁰ According to the Report education “builds people’s capacities and expands their freedom of choice. Education boosts people’s self-confidence and makes it easier for them to find better jobs, engage in public debate and make demands on government for health care, social security and other entitlements. Education also has striking benefits for health and mortality.” The Report also notes that education is a common denominator in many national success stories, in the Republic of Korea, China, India, and Ghana, for example.

Millennium Development Goals

Two of the eight Millennium Development Goals are directly related to education.

Millennium Development Goal 2 is to achieve universal primary education with a specific target of ensuring that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling. Developing regions have made impressive strides in expanding access to primary education. From 2000 to 2011, the enrolment rate grew from 83% to 90%, and the number of out-of-school children dropped by almost half from 102 million in 2000 to 57 million in 2011. Literacy rates among adults and youths are on the rise and gender gaps are narrowing. However progress in reducing the number of out-of-school children has come to a standstill as international aid to basic education in 2011 fell for the first time since 2002. This stalled progress, combined with reductions in aid, has put the chances of meeting the 2015 target at risk. All around the world, we are nearing universal primary school enrolment, although 28 million children in countries emerging from conflict are still not in school.

The emphasis on universal primary education in Millennium Development Goal 2 has in some cases led to the deprioritisation of secondary and tertiary

99 UN System Task Team on the Post-2015 UN Development Agenda (2012) [Thematic think piece: Education and skills for inclusive and sustainable development beyond 2015](#).

100 UNDP (2013) [Human Development Report 2013: The Rise of the South: Human Progress in a Diverse World](#).

education. There is also consensus that the framing of this goal has led to a disproportionate focus on 'quantity' i.e. the amount of schooling, rather the provision of 'quality' education.

Millennium Development Goal 3 is to promote gender equality and empower women with a specific target to eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education, no later than 2015. Gender parity in primary schooling worldwide has been achieved though disparities remain between regions and education levels. There has been major progress across all developing regions in reducing gender gaps in primary school attendance.

However, girls continue to face barriers to schooling, particularly in Northern Africa, sub-Saharan Africa and Western Asia. Poverty is the main cause of unequal access to education, particularly for girls of secondary-school age. Women and girls in many parts of the world are forced to spend many hours fetching water, and girls often do not attend school because of a lack of decent sanitation facilities. There is also a religious barrier for girls in some countries. Child marriage and violence against girls are also significant barriers to education. Girls with disabilities are also less likely to go to school. If they get pregnant, many girls drop out of school.

High Level Panel Report

The report of the High Level Panel (HLP) of Eminent Persons on the Post 2015 Development Agenda called for a global consensus around a single sustainable development agenda, with a specific focus on quality education and lifelong learning.³ The Panel quotes a study of 98 countries that found each additional year of education results in, on average, a 10% increase in lifetime earnings – a huge impact on an individual's opportunities and livelihood.¹⁰¹ The Panel also noted that in countries emerging from conflict, giving children who couldn't attend school a second chance is one way to rebuild individual capabilities and move into national recovery. The report included twelve "illustrative goals and national targets". Illustrative Goal 3 related to education.

HLP Goal 3: Provide quality education and lifelong learning

Target 3a Increase by x% the proportion of children able to access and complete pre-primary education

¹⁰¹ HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development.](#)

Target 3b Ensure every child, regardless of circumstance, completes primary education able to read, write and count well enough to meet minimum learning standards

Target 3c Ensure every child, regardless of circumstance, has access to lower secondary education and increase the proportion of adolescents who achieve recognised and measurable learning outcomes to x%

Target 3d Increase the number of young and adult women and men with the skills, including technical and vocational, needed for work by x%

Sustainable Development Solutions Network Report

The report of the Sustainable Development Solutions Network (SDSN)¹⁰² report included ten "proposed sustainable development goals and targets". Goal 3 specifically related to education.

SDSN Goal 3: Ensure effective learning for all Children and youth for life and livelihood

All girls and boys complete affordable and high quality early childhood development programs, and primary and secondary education to prepare them for the challenges of modern life and decent livelihoods. All youth and adults have access to continuous lifelong learning to acquire functional literacy, numeracy, and skills to earn a living through decent employment or self-employment.

Target 3a All girls and boys have equal access to quality early childhood development programs

Target 3b All girls and boys receive quality primary and secondary education that focuses on learning outcomes and on reducing the drop-out rate to zero

Target 3c Youth unemployment rate is below 10%

Report of the Global Thematic Consultation on Education in the Post-2015 Development Agenda

The Making Education a Priority in the Post 2015 Development Agenda: Report of the Global Thematic Consultation on Education in the Post-2015 Development Agenda focused on the need for

¹⁰² SDSN (2013) [An action agenda for sustainable development.](#)

equitable and quality education and lifelong learning¹⁰³. The Report identified two imperatives for any global education agenda: equitable access and equitable quality. It identified an emerging consensus that learning as a proxy measure of quality should be a separate goal and suggested the goal could be expressed in broad terms, for example: ensuring that all children, particularly marginalized and vulnerable groups, are prepared for school entry and leave school with measurable learning and the skills, knowledge and values to become responsible, active and productive members of society and the world.

The United Nations Global Education First Initiative calls on countries to prioritise putting every child in school, to improve quality of learning, and to foster global citizenship.¹⁰⁴

The current and future challenges for Australia

Overall, Australia has a relatively high-performing education system when measured against international benchmarks.

The 2012 OECD report *Education at a Glance: OECD Indicators*¹⁰⁵ found that:

- Nearly 45% of Australians aged 25 to 34 had attained tertiary education in 2010.
- Australia hosts nearly 7% of the world's foreign students.
- Australian women have equalled or surpassed their male counterparts in upper secondary and tertiary education attainment.

The latest OECD Programme for International Student Assessment (PISA 2012)¹⁰⁶, which surveys the knowledge and skills of 15-year-olds in reading, mathematical and scientific literacy every three years, found that while Australia's 15-year-old students continue to perform above the OECD average, its scores have declined slightly. Australia was ranked 19th in mathematics, 16th in science and 13th in reading.

The *Sustainable Australia Report 2013*¹⁰⁷ found that overall Australia has experienced substantial improvements in levels of educational attainment

over the past 20 years, for example the proportion of Australians completing Year 12 or post-school vocational or higher education qualifications rose from 60% in 1994 to 79% in 2012. The gains have been particularly high amongst women.

However, the gains have not been uniform across the population, with lower educational attainment linked to low socio-economic background, Indigenous background and the remoteness of a school. The difference in the PISA results achieved by Australian students from disadvantaged and advantaged backgrounds is more marked than in other comparable OECD countries. The OECD report also highlighted the critical need for high quality schools and the challenge of ensuring Australia's educational system provides the skills for the current and future Australia.

The OECD ranked Australia 34th of 38 OECD and partner countries in relation to early childhood education enrolment rates. This ranking reflected the fact that pre-primary education is offered less systematically in Australia than in other, particularly European countries. In 2009 the Australian Government through the Council of Australian Governments released the *Investing in the Early Years – A National Early Childhood Development Strategy* that committed all Australian governments to ensure that by 2020 all children have the best start in life to create a better future for themselves and for the nation.¹⁰⁸

Aboriginal and Torres Strait Islander children are less likely to participate in early childhood education. Without preschool learning opportunities, Indigenous students are more likely to be behind from their first year of formal schooling. While most Indigenous students in metropolitan and regional areas meet the minimum reading standards, the proportion achieving at least the minimum standard of literacy and numeracy skills decreases as the level of remoteness increases. Australians who do not complete Year 12 are less likely to have the same opportunities as those who do. In 2006 Year 12 completions for Indigenous Australians were 45.3%, compared to 86.3% for other Australians. In June 2013 the Australian Government announced a new target to drive efforts to ensure 90% of enrolled Indigenous children across Australia attend a quality early childhood education program in the year before they start full time school.

In April 2013 the Australian Government released the National Education Reform Agreement that committed the Australian Government and State and Territory Governments to the objective that Australian schooling provides a high quality and equitable education for all students.¹⁰⁹ The Agreement provides that schools are funded according to the needs of students and

103 UN (2013) [Making education a priority in the Post-2015 Development Agenda](#).

104 See [Global Education First Initiative](#).

105 OECD (2012) [Education at a glance 2012: OECD indicators](#), Country Note for Australia

106 OECD (2012) [PISA 2012 results: What students know and can do: Student performance in mathematics, reading and science \(Volume I\)](#).

107 NSC (2013) [Sustainable Australia Report 2013: Conversations with the future](#).

108 COAG (2009) [Investing in the early years – A national early childhood development strategy](#).

109 COAG (2013) [National Education Reform Agreement](#).

commits to policies that are socially inclusive and address disadvantage, including for students who are Aboriginal or Torres Strait Islander, have disability, come from non-English language backgrounds or are socio-economically disadvantaged.

The 2013 National Education Reform Agreement includes the following national targets:

18. The Parties have agreed to the following existing national targets which are critical to the achievement of the objective and outcomes:
 - a. lift the Year 12 (or equivalent) or Certificate II¹¹⁰ attainment rate to 90% by 2015;
 - b. lift the Year 12 (or equivalent) or Certificate III attainment rate to 90% by 2020;
 - c. at least halve the gap for Aboriginal and Torres Strait Islander students in Year 12 or equivalent attainment rates by 2020, from the 2006 baseline; and

- d. halve the gap for Aboriginal and Torres Strait Islander students in reading, writing and numeracy by 2018, from the 2008 baseline.

19. The Parties have agreed new ambitious national targets with respect to Australia's international performance:

- a. Australia placed in the top 5 countries internationally in reading, mathematics and science by 2025; and
- b. Australia considered to be a high quality and high equity schooling system by international standards by 2025.

20. The Parties agree that further work be undertaken by Education Ministers, in consultation with Ministers responsible for Indigenous Affairs, to set a more ambitious target (with reference to provisions 22.c. and d.) to further reduce the gap for Aboriginal and Torres Strait Islander students in reading, writing and numeracy by 2025.

¹¹⁰ Australian Qualifications Framework (AQF) levels give an indication of the relative complexity and/or depth of achievement and the autonomy required to demonstrate that achievement. AQF certificate level 1 has the lowest complexity and AQF certificate level 10 has the highest complexity

Sustainable economy

Gross Domestic Product (GDP) has been widely adopted as the measure of a country's economic growth for more than half a century. However, over this time, GDP and economic growth have also become proxy measures of economic progress and general community well-being. This poses significant issues for sustainable development, as GDP is based on an incomplete picture of the system within which the human economy operates and ignores changes in the natural, social and human components of capital that drive well-being. In fact, in many cases, relying on GDP impacts alone to guide decisions would lead policy makers to encourage depletion and over-exploitation of important stocks of these types of capital rather than sustainable use.

Sustainable economic growth, including related concepts of 'green growth', 'green economy', 'low-carbon economy' and 'steady-state economy', is a model of economic growth based on sustainable development that optimises human well-being and social equity and while reducing environmental risks and degradation¹¹¹. The challenge is to understand the trade-offs among economic growth and social and environmental sustainability for current and future generations. In order to attain sustainable levels of economic growth the main indicators of economic performance need to be adjusted or replaced to deliver a new system of measuring and conceptualising growth that incorporates all components of human well-being, including social, environmental and economic factors, across generations. In the same way that economic growth is underpinned by GDP, sustainable economic growth needs to be driven by an alternative ensemble of measures that track the three pillars of sustainability, i.e., economic, social and environmental, for example, the Genuine Progress Indicator (GPI)

A number of alternative measures of progress have been proposed over recent years. In general, these can be grouped into four categories: (a) indexes that aim to correct GDP and national accounts, such as the Genuine Progress Indicator and Genuine Wealth; (b) indexes that measure aspects of well-being directly and do not use GDP, including the Ecological Footprint, subjective measures of well-being and Gross National Happiness; (c) composite indexes that combine a large number of variables into a single index including GDP, such as the Inclusive Wealth Index, Human Development Index, Happy Planet Index and the OECD Better Life Index; and (d) indicator suites that report many indicators separately but do not attempt to aggregate these into a final figure, for example the

111 UNEP (2011) [Towards a green economy: Pathways to sustainable development and poverty eradication](#).

Millennium Development Goals or the sustainability indicators adopted in the *Sustainable Australia Report 2013*¹¹².

The current and future global challenges

The global transition to achieving sustainable development will require a different economic model for development from that at present, which has led to environmental degradation and social inequities. In fact, given the pervasive nature of economic growth in driving human activity and the deficiencies of GDP regarding sustainability, it is unlikely that sustainable development could be achieved without such a change. As noted earlier this will require an ensemble of indicators that are a better measure of the "wealth of a nation", and can be used to complement GDP.

Successful transition to sustainable economic growth is partly hindered by the lack of an internationally agreed definition or universal principles for sustainability. This issue has been magnified by the emergence of interrelated but different terminology and concepts as well as a lack of clarity around the scope of sustainable economic growth and how it should integrate with national priorities and objectives relating to economic growth and poverty eradication.¹¹³ There is also a perceived lack of experience in designing, implementing and reviewing the costs and benefits of green economy policies in comparison to more mainstream economic policies.¹¹⁴ Finally, concerns about economic instability and impacts on trade, including declining demand for exports and changes to competitiveness, affect the support of policies promoting sustainable economic growth.¹¹⁵

Despite wide ranging recognition of the deficiencies of GDP as a measure of economic progress, there are barriers to developing, implementing and using alternative measures. These include data and methodology barriers, such as the reliability and timeliness of underlying data necessary for alternative measures of progress; data scope and scale issues

112 Costanza, R. et al. 2009. [Beyond GDP: The need for new measures of progress](#). The Pardee Papers, No. 4, Boston University

113 UN-DESA (2012) [A guidebook to the green economy issue 1: Green economy, green growth, and low-carbon development - history, definitions and a guide to recent publications](#).

114 Costanza, R. et al. 2009. [Beyond GDP: The need for new measures of progress](#). The Pardee Papers, No. 4, Boston University

115 UNCTAD and UNCTAD (2011) [Trade and green economy](#). Rio+20 Issues Briefs No. 1.

relating to the lack of expertise and institutional infrastructure for gathering environmental and social data around the world; and issues relating to methodology standardisation for gathering relevant data.¹¹⁶ There are also social and institutional barriers, which are predominantly caused by the widely held belief that GDP growth is a universal remedy. One problem is that sustainable economic growth has not received strong public attention, interest or support.¹¹⁷

Millennium Development Goals

While the Millennium Development Goals do not refer to sustainable economic growth directly, some of the targets under Millennium Development Goals 8 to “develop a global partnership for development” are relevant.

1. Develop further an open, rules-based, predictable, non-discriminatory trading and financial system
2. Address the special needs of least developed countries, landlocked countries and small island developing states
3. Deal comprehensively with developing countries’ debt
4. In cooperation with pharmaceutical companies, provide access to affordable, essential drugs in developing countries
5. In cooperation with the private sector, make available benefits of new technologies, especially ICTs

It is broadly agreed that Millennium Development Goal 8 has been the least successful goal in terms of implementation, however the trade climate continues to improve for developing and least developed countries. The developing country share of world trade rose to 44.4% in 2012. Average tariffs levied by developed countries continued to decline for developing countries in 2011. Debt service ratios are one-quarter less from their 2000 level, lessening the financial burden on developing countries. Better debt management, the expansion of trade and for the poorest countries, substantial debt relief have reduced the burden of debt service.

The global financial crisis and Euro-zone turmoil continue to take a toll on official development assistance (ODA). In 2012 ODA of \$126 billion was 4% less in real terms than in 2011, which was 2% less than in 2010. This is the first time since 1996-1997 that ODA fell in two consecutive years.

¹¹⁶ Costanza, R. et al. 2009. [Beyond GDP: The need for new measures of progress](#). The Pardee Papers, No. 4, Boston University

¹¹⁷ Costanza, R. et al. 2009. [Beyond GDP: The need for new measures of progress](#). The Pardee Papers, No. 4, Boston University

High Level Panel Report

The report of the High Level Panel of Eminent Persons (HLP) on the Post-2015 Development Agenda¹¹⁸ called for a global consensus around a single sustainable development agenda. The report included twelve “illustrative goals and national targets”. Illustrative Goal 12, relates to this goal.

HLP Goal 12: Create a global enabling environment and catalyze long-term finance

- Target 12a Support an open, fair and development-friendly trading system, substantially reducing trade-distorting measures, including agricultural subsidies, while improving market access of developing country products
- Target 12b Implement reforms to ensure stability of the global financial system and encourage stable, long-term private foreign investment
- Target 12d Developed countries that have not done so to make concrete efforts towards the target of 0.7% of gross national product (GNP) as official development assistance to developing countries and 0.15 to 0.20% of GNP of developed countries to least developed countries; other countries should move toward voluntary targets for complementary financial assistance
- Target 12e Reduce illicit flows and tax evasion and increase stolen-asset recovery by \$x
- Target 12f Promote collaboration on and access to science, technology, innovation, and development data

Sustainable Development Solutions Network

The report of the Sustainable Development Solutions Network (SDSN)¹¹⁹ included ten “proposed sustainable development goals and targets”. Goal 2 specifically related to sustainable economic development:

SDSN Goal 2: Achieve development within planetary boundaries

- Target 2b Countries report on their contribution to planetary boundaries and incorporate them, together with other environmental

¹¹⁸ HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

¹¹⁹ SDSN (2013) [An action agenda for sustainable development](#).

and social indicators, into expanded measures of GDP measures and national accounts

The current and future challenges for Australia

Australia has made significant progress in terms of managing the water and energy efficiency of its production.¹²⁰ Nevertheless, the promotion of more sustainable economic growth could be further improved by:

- building public awareness regarding the shortfalls of GDP as an indicator for national well-being;
- providing clear market signals to incentivise sustainable economic growth;
- providing increased knowledge on sustainable development;
- increasing innovation to support the decoupling of growth from natural capital depletion;
- reducing market failures in relation to environmental damage and social inequality;
- supporting ongoing research and the translating this into technologies and solutions to support more sustainable economic growth;
- improving the sustainability of the existing economy by increasing resource efficiency and implementing new production processes, business models, and communication strategies;
- supporting international efforts in relation to sustainable economic growth; and

- assisting capacity building in developing countries for more sustainable economic growth, including building relevant expertise and institutional infrastructure.

According to the *2011 Australian Innovation System Report*¹²¹, many businesses do not have the time or resources to adequately respond to the challenges and opportunities relating to sustainable economic growth. As a result, potential gains often remain unrecognised or unexplored, due to a lack of information, inadequate skills, or perception that it is peripheral to the bottom line.

In 2000, Australia accepted the Millennium Development Goal that all developed nations raise their national foreign aid budgets to 0.7% of gross national income by 2015. The target date has been twice deferred and is now projected to equate to just 0.3 per cent of Gross National Income. At \$5.2 billion in 2012-13, Australia's aid program accounts for only 1.4% of Australia's Federal Budget.¹²²

The Sustainable Australia Report 2013

The *Sustainable Australia Report 2013* noted the growing global consensus to look beyond conventional economic measures to see if life is getting better. The interest in broader-based measures of progress and wellbeing has been driven by recognition that traditional measures tend to be too narrowly focused to provide information across the multiple facets of societal progress or wellbeing, and are often used for purposes for which they were never designed or intended. Rather than attempt to aggregate a suite of indicators into a final figure to replace conventional measures such as GDP, the report reports separate indicators.

120 NSC (2013) *Sustainable Australia Report 2013: Conversations with the future*.

121 DIISR. (2011) *Australian Innovation System Report 2011*.

122 ACFID (2013) *The impact of aid cuts: Affecting real people and programs*.

Biodiversity and ecosystem services

The natural world, its biodiversity and its constituent ecosystems are critically important to our well-being and economic prosperity, but are consistently undervalued in conventional economic analyses and decision-making. Biodiversity refers to the degree of genetic, species and ecosystem diversity and richness within the world's terrestrial and aquatic (freshwater and marine) ecosystems. Resilient ecosystems support biodiversity by resisting damage, adapting and recovering quickly from natural extreme events and human activities. Humanity depends on services of ecosystems for its wealth and security, however humans have the ability to transform ecosystems, both positively and negatively, and render them unable to provide these services. Such negative shifts represent a loss of ecosystem resilience and have consequences for human livelihoods, vulnerability and security.¹²³

Biodiversity and resilient ecosystems are a critical component of sustainable development, supporting economies, human health, social cohesion and sustainable livelihoods through a combination of provisioning, regulating, supporting and cultural services.¹²⁴ Ecosystem goods and services are often referred to as 'natural capital', which can be defined as "the configuration (in time, space, functionality and/or with other capital) of natural resources and ecological processes that contributes through its existence and/or in some combination to human welfare. This has direct implications for combating food insecurity and malnutrition; developing efficient and sustainable production systems for agriculture, forestry and fisheries; increasing resilience of livelihoods against shocks and crises; improving rural economies and household incomes; and helping to reduce externalities that impact land degradation, water cycles and genetic diversity.

Current and future global challenges

There is widespread agreement that the current global consumption, production and land-use patterns risk being ecologically unsustainable and reducing the long-term resilience of critical ecosystems. Many ecosystems are showing continued signs of decline due to pressures from habitat damage, overexploitation, pollution, invasive alien species and climate change. This decline

is likely to be exacerbated in the future as a result of population increases coupled with economic growth driving increases in consumption, and climate change.¹²⁵

The Millennium Ecosystem Assessment concluded that the flows of ecosystem services from 15 of the 24 ecosystems evaluated were in decreasing and 4 were increasing globally, and 5 were increasing in some parts of the world but decreasing in others. Current high rates of species loss are projected to continue to what is becoming the 6th mass extinction in Earth's history, but the first caused by human activities.

Dealing with ecosystem resilience and biodiversity loss at an international level is likely to require a multi-faceted approach, including:

- building measurement and monitoring capacity to improve understanding of resilience levels, biodiversity stocks and impacts of usage actions;
- building better understanding of the complex connections between people and the rest of nature and the factors necessary to maintain resilient functioning ecosystems;
- implementing more inclusive measures of human progress that incorporate better valuation of ecosystem function and health, improve the equity of access to natural resources and ensure users pay for environmental impacts of their actions;
- creating improved governance structures at ecologically meaningful scales to address global-scale drivers of biodiversity change;
- developing better trans-boundary management of ecosystems;
- dealing with climate change and other drivers of change that reduce ecosystem resilience (e.g. land use change, over-exploitation, pollution and invasive species); and
- improved integration of cultural practices and traditional management of natural resources in ecosystem management.

For many years, there has been an international agenda focused on managing biodiversity loss. In December 1993 the United Nations Convention on Biological Diversity entered into force. The Convention was inspired by the world community's growing commitment to sustainable development. It was a dramatic step forward in the conservation of biological diversity, the

¹²³ Folke, C. et al. (2002) Resilience and sustainable development: Building adaptive capacity in a world of transformations. *Ambio* 31(5): 437–440.

¹²⁴ SDSN (2013) *An action agenda for sustainable development*.

¹²⁵ Hajkovicz SA, Cook H, Littleboy A. (2012) *Our future world: Global megatrends that will change the way we live* (The 2012 Revision), CSIRO.

sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources.

In 2010, the Aichi Biodiversity Targets were developed under the UN Convention on Biological Diversity to inspire broad-based action in support of biodiversity by all countries and stakeholders over the next decade (i.e. by 2020).¹²⁶ The five strategic goals that unify the Aichi framework and its 20 targets¹²⁷ are based on:

1. addressing underlying causes of biodiversity loss and increasing consideration of biodiversity in decision-making across government and society;
2. reducing the direct pressures on biodiversity and promoting sustainable use;
3. improving the status of biodiversity by safeguarding ecosystems, species and genetic diversity;
4. enhancing the benefits to all from biodiversity and ecosystem services; and
5. enhancing implementation through participatory planning, knowledge management and capacity building.

More recently, in April 2012, the Intergovernmental Platform on Biodiversity and Ecosystem Services was established to provide a united international focus on assessing the state of the planet's biodiversity, its ecosystems and the essential services they provide to society.

Millennium Development Goals

Millennium Development Goal 7 is to ensure environmental sustainability. Millennium Development Goal 7B is to reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss. According to the *Millennium Development Goals Report 2013* significant progress has been made since 1990 in increasing the coverage of protected areas.¹²⁸ From 1990 to 2012, protected terrestrial areas grew from 8.9% to 14.6% of the world's land surface. Over the same period, marine protection has more than doubled in coastal waters up to 12 nautical miles, from 4.6% to 9.7%. Protection of marine areas of potential national jurisdiction (extending from the coastline to 200 nautical miles) increased from 1.2% to 5.3%. However, recognizing the importance of off-reserve conservation is critical.

¹²⁶ Global Environmental Change (GEC) Research Community (2012) [Rio+20 policy brief #4: Biodiversity and ecosystems for a planet under pressure](#).

¹²⁷ The goal of target 2 is integrating biodiversity measures into national accounts by 2020.

¹²⁸ UN (2013) [The Millennium Development Goals Report 2013](#).

However forests, which are a safety net for the poor, are continuing to disappear at an alarming rate. Deforestation is not only a serious threat to achieving sustainability, but also to progress towards hunger and poverty reduction and sustainable livelihoods, as forests provide food, water, wood, fuel and other services used by millions of the world's poorest people. Of all developing regions, South America and Africa saw the largest net losses of forest areas between 2000 and 2010.

Many species are at risk of extinction despite an increase in protected areas, partly because many protected areas are not well managed, and in addition most are fragmented and isolated, which is a real problem in the face of climate change where many species will try to adapt by moving significant distances. Nearly one-third of marine fish stocks have been overexploited and the world's fisheries can no longer produce maximum sustainable yields. More stocks have become overfished due to continuing expansion of the fishing industry in many countries. Fisheries are also threatened by climate change and ocean acidification.

High Level Panel Report

The report of the High-Level Panel (HLP) of Eminent Persons on the Post 2015 Development Agenda¹²⁹ included 12 "illustrative goals and national targets". Goal 9 directly addressed biodiversity.

HLP Goal 9: Manage natural resource assets sustainably.

Target 9a	Publish and use economic, social and environmental accounts in all governments and major companies
Target 9b	Increase consideration of sustainability in x% of government procurements
Target 9c	Safeguard ecosystems, species and genetic diversity
Target 9d	Reduce deforestation by x% and increase reforestation
Target 9e	Improve soil quality, reduce soil erosion by x tonnes and combat desertification

¹²⁹ HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

Sustainable Development Solutions Network Report

The report of the Sustainable Development Solutions Network (SDSN)¹³⁰ included ten “proposed sustainable development goals and targets”. Proposed Goals 9 and 2 address biodiversity.

SDSN Goal 9: Secure ecosystem services and biodiversity, and ensure good management of water and other natural resources

- Target 9a Ensure resilient and productive ecosystems by adopting policies and legislation that address drivers of ecosystem degradation, and requiring individuals, businesses and governments to pay the social cost of pollution and use of environmental services.
- Target 9b Participate in and support regional and global arrangements to inventory, monitor, and protect biomes and environmental commons of regional and global significance and curb trans-boundary environmental harms, with robust systems in place no later than 2020.
- Target 9c All governments and businesses commit to the sustainable, integrated, and transparent management of water, agricultural land, forests, fisheries, mining, and hydrocarbon resources to support inclusive economic development and the achievement of all SDGs

SDSN Goal 2: Achieve development within planetary boundaries

- Target 2b Countries report on their contribution to planetary boundaries and incorporate them, together with other environmental and social indicators, into expanded measures of GDP measures and national accounts (a high priority issue for all countries, including Australia, given that GDP is an inadequate measure sustainable economic performance)

The proposed Targets 9a and 9b, in conjunction with the other SDSN sustainable development goals and targets, cover many of the Aichi Biodiversity targets. The SDSN report stressed that these targets, and the sustainable development goals as a whole, are not designed to replace the Aichi targets or their successors. Instead, the sustainable development goals will complement the

¹³⁰ SDSN (2013) [An action agenda for sustainable development](#).

much more detailed Aichi targets. Biodiversity, just like almost every other area of sustainable development, has its own suite of detailed targets.

The current and future challenges for Australia

Australia's biodiversity is both rich and unique; between 7% and 10% of all species on Earth occur in Australia. A report prepared for the Australian Biological Resources Study in 2009 estimated that 566,398 species exist in the country. In 2013, 1340 species of plants and 445 species of animals were listed on the national threatened species list. Australia's biodiversity has developed largely in isolation over many millions of years, making it one of the world's megadiverse countries with a high level of endemism across a broad range of taxa. Australian biodiversity has been influenced by the range and diversity of environmental conditions in Australia, which are different from most other countries due to characteristics such as nutrient-poor soils, natural climatic variability, high fire frequencies and a generally flat topography.

The Sustainable Australia Report 2013

The *Sustainable Australia Report 2013* found that native vegetation extent in Australia as a whole has declined by 14% since 1750 and another 62% is subject to varying degrees of disturbance¹³¹. In areas inland from the east coast and in the far south-west of Australia, less than a quarter of pre-European settlement native vegetation remains.

In agricultural regions and around urban development, habitat has often been fragmented or removed entirely. Between 2007 and 2010, the area of forest regrowth surpassed the area of deforestation, meaning that there was a small net gain of forest in Australia for the first time since the early 1990s. However, as the Report notes, regrowth vegetation and its environmental values are generally different from the vegetation that has been cleared.¹³²

The *Sustainable Australia Report 2013* concluded that while some Australian ecosystems are well protected, many have little or no special protection. The Report also found that information on Australia's biodiversity is limited and suffers from a lack of consistent national reporting making it difficult to report on trends in

¹³¹ Australian landscapes were extensively modified by Indigenous peoples over 60,000 years and so were not “natural”. However, the degree and extent of European modification post-1750 has probably been at least a couple of orders of magnitude more profound than that of Indigenous Australians.

¹³² NSC (2013) [Sustainable Australia Report 2013: Conversations with the future](#), p. 174.

the conservation status of species and ecological communities is poor. While Native Vegetation Extent, Protected Areas and Ground Cover are good proxies for understanding the health of ecosystems, the status of species and ecological communities is major data gap. When countries are ranked by the proportion of their territory protected in 2010, Australia is near the middle for terrestrial areas and in the top 10% for marine areas. However, although the Great Barrier Reef is Australia's premier marine park, its coral cover has decreased by 50% over the last three decades.

The Environment Protection and Biodiversity Conservation Act 1999

The Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act)¹³³ is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places – defined in the EPBC Act as matters of national environmental significance. Nationally threatened species and ecological communities are one of the eight matters of national environmental significance (see information about species and ecological communities listed under the EPBC Act).

Australia's Biodiversity Conservation Strategy 2010–2030

In October 2010 the Australian Government approved *Australia's Biodiversity Conservation Strategy 2010–2030*¹³⁴. The vision of this Strategy is that Australia's biodiversity is healthy and resilient to threats, and valued both in its own right and for its essential contribution to human existence.

The Strategy recognises that currently Australia's biodiversity is in decline, and despite conservation efforts the extent and condition of many species and

ecosystems continue to deteriorate. It identifies the main threats to Australia's biodiversity as habitat loss, degradation and fragmentation, invasive species, unsustainable use and management of natural resources, changes to the aquatic environment and water flows, changing fire regimes, and climate change.

The Strategy identifies three priorities for action: (1) engaging all Australians in biodiversity conservation, (2) building ecosystem resilience in a changing climate, and (3) getting measurable results. Each of the priorities for action is supported by subpriorities, outcomes, measurable targets and actions.

The Strategy contains the following ten interim national targets for implementation in the first five-year period (i.e. by 2015): (1) Achieve a 25% increase in the number of Australians and public and private organisations who participate in biodiversity conservation activities¹³⁵; (2) Achieve a 25% increase in employment and participation of Indigenous peoples in biodiversity conservation; (3) Achieve a doubling of the value of complementary markets for ecosystem services; (4) Achieve a national increase of 600,000 km² of native habitat managed primarily for biodiversity conservation across terrestrial, aquatic and marine environments; (5) 1,000 km² of fragmented landscapes and aquatic systems are being restored to improve ecological connectivity; (6) Four collaborative continental-scale linkages are established and managed to improve ecological connectivity; (7) Reduce by at least 10% the impacts of invasive species on threatened species and ecological communities in terrestrial, aquatic and marine environments; (8) Nationally agreed science and knowledge priorities for biodiversity conservation are guiding research activities; (9) All jurisdictions will review relevant legislation, policies and programs to maximise alignment with Australia's Biodiversity Conservation Strategy; and (10) Establish a national long-term biodiversity monitoring and reporting system.

133 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

134 National Biodiversity Strategy Review Task Group (2010) [Australia's biodiversity conservation strategy 2010–2030](#).

135 This target is viewed by many to be of critical importance and can be stimulated through education, public engagement, recognition and possibly rewards.

Governance

Governance refers to the exercise of political and administrative authority at all levels to manage a country's affairs. It comprises the mechanisms, processes and institutions, through which citizens and groups express their interests, exercise their legal rights, meet their obligations and mediate their differences.¹³⁶

Good governance supports community participation in decision making at all levels and is a critical driver for sustainability in its own right. Drivers, and outcomes, of good governance can include respecting human rights and fundamental freedoms; upholding the rule of law; ensuring effective participation, especially by women; and promoting effective, transparent and accountable institutions.¹³⁷

Sustainable development requires good governance in every country – rich or poor – at local, national, and global levels, and by all sectors of society including governments, businesses, and civil society organisations.¹³⁸ Good governance is an important means to achieving the three other dimensions of sustainable development – economic, social, and environmental – but it is also an end in itself.

The current and future global challenges

At the international level, globalisation and the impact of the information and communication revolution have made the power relationships between nations more diffuse. No single country or even group of countries can impose its will on others. This has led to unprecedented transparency and growing demands for participation in key decisions from all segments of society in every country.¹³⁹

This diffusion of global governance makes it enormously challenging to tackle problems that require greater global cooperation. The situation is complicated by the increasing power of multinational corporations from both high-income and developing countries. Multinational corporations are now key players in the global economy. They are central to global trade, finance, production, and technological change. Globalization allows them to

take advantage of different tax rates across jurisdictions, undermining the effectiveness of national policies and underscoring the need for global cooperation on taxation and business regulation.

Traditional challenges for global governance include the management of corruption; removing barriers to participation in political processes; improving freedom of speech, association, peaceful protest and access to independent media and information; increasing legal identity for people in countries where births regularly go unregistered; addressing market failures; supporting reasonable taxation; and ensuring that private incentives become more fully aligned with public objectives.¹⁴⁰

Currently there are serious short-comings in the decision making systems at local, national and global levels on which we rely in government, business and society. The rules and institutions for decision making are influenced by vested interests, with each interest having very different access to how decisions are made. Effective change in governance demands action at many levels to establish transparent means for holding those in power to account. At the local level public hearings and social audits can bring the voices of marginalised groups into the forefront. At a national level, parliamentary and press oversight are key. Globally, we must find better means to agree and implement measures to achieve collective goals. Governance failures also occur because decisions are being made in sectoral compartments, with environmental, social and economic dimensions addressed by separate, competing structures.

In the context of sustainable development, governance of the global commons is an important issue.¹⁴¹ Current frameworks regarding shared resources are complex and fractured and developing appropriate global governance structures, based on cooperation across all stakeholders, mutual accountability and a common understanding and appreciation of sustainable development, are important for overcoming this. Such institutions must be thematically, geographically and politically appropriate to the environment and issues they seek to govern. Identifying appropriate ways of measuring good governance and financing strategies at the domestic and international levels are similarly important.¹⁴²

136 UN System Task Team on the Post-2015 UN Development Agenda (2012) [Thematic think piece: Governance and Development](#).

137 SDSN (2013) [An action agenda for sustainable development](#).

138 SDSN (2013) [An action agenda for sustainable development](#).

139 SDSN (2013) [An action agenda for sustainable development](#).

140 SDSN (2013) [An action agenda for sustainable development](#).

141 UN System Task Team on the Post-2015 UN Development Agenda (2013) [Thematic think piece: Global governance and governance of the global commons in the global partnership for development beyond 2015](#).

142 SDSN (2013) [An action agenda for sustainable development](#); HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#).

The Extractive Industries Transparency Initiative (EITI) is an international standard that seeks to improve natural resource revenue transparency.¹⁴³ In countries participating in the EITI, oil, gas and mining companies are required to publish what they pay to governments, and governments are required to publish what they receive from companies. These figures are then reconciled by an independent body. A multi-stakeholder group that includes representatives from the government, industry and civil society oversees the EITI process in each country.

The EITI Standard contains the set of requirements that countries need to meet in order to be recognised as first, an EITI Candidate and ultimately, an EITI Compliant country. The Standard is overseen by the international EITI Board, with members from governments, companies and civil society. Over 80 of the world's largest oil, gas and mining companies have chosen to become EITI Supporting Companies. So far 16 companies are EITI Candidates and 25 are EITI Compliant and 35 countries have produced EITI reports.¹⁴⁴

The Resource Governance Index measures the quality of governance in the oil, gas and mining sectors of 58 countries. These nations produce 85% of the world's petroleum, 90% of diamonds and 80% of copper, generating trillions of dollars in annual profits. The Index is produced by the Revenue Watch Institute, a non-profit policy institute and grant making organisation that promotes the effective, transparent and accountable management of oil, gas and mineral resources for the public good. According to the Resource Governance Index, 80% of countries fail to achieve good governance in their extractive sectors. There is a major governance deficit in natural resources around the world, and the deficit is largest in the most resource-dependent countries, where nearly half a billion people live in poverty despite that resource wealth. The Revenue Watch Institute has identified some countries, including several emerging economies, that show satisfactory performance in resource governance is possible.

Millennium Development Goals

There was no specific governance Millennium Development Goal. However, governance and the Millennium Development Goals are linked indirectly, via the growth of a country, and directly through certain elements of governance that affect the attainment of Millennium Development Goals. Almost every dimension of governance is correlated with income, which is required to finance both public and private investments and recurring outlays to achieve the Millennium Development Goals. Millennium Development Goal 8 to "Develop a Global Partnership for Development"

143 Extractive Industries Transparency Initiative (EITI).

144 EITI Countries.

includes a target to "further develop an open, rule-based, predictable, non-discriminatory trading and financial system (including a commitment to good governance, development and poverty reduction) both nationally and internationally." The recent global financial crisis makes it very clear that there is long way to go before this target is achieved.

High Level Panel Report

The report of the High Level Panel of Eminent Persons (HLP) on the Post 2015 Development Agenda¹⁴⁵ called for a global consensus around a single sustainable development agenda. The report included twelve "illustrative goals and national targets". Illustrative Goal 10 relates to governance.

HLP Goal 10: Ensure good governance and effective institutions

- Target 10a Provide free and universal legal identity, such as birth registrations
- Target 10b Ensure people enjoy freedom of speech, association, peaceful protest and access to independent media and information
- Target 10c Increase public participation in political processes and civic engagement at all levels
- Target 10d Guarantee the public's right to information and access to government data
- Target 10e Reduce bribery and corruption and ensure officials can be held accountable

The Sustainable Development Solutions Network

The report of the Sustainable Development Solutions Network (SDSN)¹⁴⁶ included ten "proposed sustainable development goals and targets". Goal 10 specifically relates to governance.

SDSN Goal 10: Transform governance for sustainable development

The public sector, business, and other stakeholders commit to good governance, including transparency, accountability, access to information, participation, an end to tax and secrecy havens, and efforts to stamp out corruption. The international rules governing international finance, trade, corporate reporting,

145 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development.](#)

146 SDSN (2013) [An action agenda for sustainable development.](#)

technology, and intellectual property are made consistent with achieving the SDGs. The financing of poverty reduction and global public goods including efforts to head off climate change are strengthened and based on a graduated set of global rights and responsibilities.

- Target 10a Governments (national and local) and business commit to the SDGs, transparent monitoring, and annual reports – including independent evaluation of integrated reporting for all major companies starting no later than 2020.
- Target 10b Adequate domestic and international public finance for ending extreme poverty, providing global public goods, capacity building, and transferring technologies, including 0.7 percent of GNI in ODA for all high-income countries, and an additional \$100 billion per year in official climate financing by 2020.
- Target 10c Rules for international trade, finance, taxation, business accounting, and intellectual property are reformed to be consistent with and support achieving the SDGs.

The World We Want: Global Thematic Consultation on Governance

The *Final Report of the Global Thematic Consultation on Governance and the Post-2015 Development Framework* was the outcome of a consultation process that took place from September 2012 to March 2013.¹⁴⁷ The Report found there was groundswell of both grassroots and leadership support for incorporating governance-related elements into a new development agenda, either through specific governance-related goal(s) or by mainstreaming governance into the other goals, or both. It discussed the opportunity to use the post-2015 development agenda as an opportunity to formulate a new global social contract that takes into account emerging global challenges, such as climate change, rising inequality, increasing frequency of conflict and fragility, and threats to state credibility.

¹⁴⁷ The World We Want (2013) [Final report of the global thematic consultation on governance and the Post-2015 development framework](#).

The current and future challenges for Australia

Specific challenges for Australia can be split into domestic governance issues, and those relating to how Australia supports international processes for sustainable development.

Domestically, the management of an interdisciplinary and cross-cutting issue like sustainable development could pose challenges for Australia's traditional governance structures. Diffused responsibility across jurisdictions, and the interplay of policies and actions across various levels of government, challenge the implementation of sustainable development. This is further complicated by election cycles, which can affect long-term policy initiatives at all levels of government.

Australia's national development is dominated by the extractive industries which make up a large and growing segment of the Australian economy, accounting for 10% of gross domestic product in 2010. The Australian Government has committed to creating a policy framework to expand Australia's resource base, increase the international competitiveness of the resources sector and improve the regulatory regime, consistent with the principles of environmental responsibility and sustainable development.¹⁴⁸ For example, in 2011 the Australian Government established a pilot of the Extractive Industries Transparency Initiative (EITI) within Australia's resources sector to consider how Australia's existing financial and governance arrangements deliver outcomes consistent with EITI principles, and to test the applicability and usefulness of the EITI in the Australian context.¹⁴⁹ The governance of Australia's financial sector is recognised as a factor that helped Australia avoid the full impact of the 2008 global financial crisis.¹⁵⁰ Australian development assistance is increasingly being delivered through partner government systems in accordance with the Paris Declaration on Aid Effectiveness in 2005 and the New Deal for Engagement in Fragile States agreed in South Korea in 2011.

These factors present Australia with the opportunity to make a positive contribution to the international debate around global governance goals, targets and key performance indicators.

¹⁴⁸ <http://www.innovation.gov.au/resource/Pages/default.aspx>

¹⁴⁹ [Extractive Industries Transparency Initiative](#).

¹⁵⁰ Professor the Hon Stephen Martin (2012) [GFC and sovereign risk- Mitigating measures and solutions from down under](#), paper presented at the International Federation of Accountants Conference, March 19-20, 2012, Vienna, Austria.

Cities

Half the world's seven billion people live in cities. By 2050 an additional three billion people will be living in cities increasing the urban population share to almost 70%. Expansion of urban areas is on average twice as fast as urban population growth, and the expected increase in urban land cover during in the first three decades of the 21st century will be greater than the cumulative urban expansion in all of human history.¹⁵¹ Cities are responsible for three quarters of global economic activity and most of the new jobs and growth in the next twenty years will come from cities.

Cities have driven much of the reduction in poverty but also much of the growth in greenhouse gas emissions and resource use. The Sustainable Development Goals must be relevant to cities and city-dwellers. Indeed as the High Level Panel of Eminent Persons on the Post-2015 Development Agenda has said: "cities are where the battle for sustainable development will be won or lost"¹⁵². Cities, with the support of national policies, will need to be productive, resilient and inclusive.

Australia is a highly urbanised country. Most of Australia's growing population will be settled in urban areas. Effective and timely planning will be needed to reduce the pressure on natural resources associated with urban growth and to ensure that infrastructure and services meet the needs of the growing population. The ageing of Australia's population will have implications for where and how people live in urban areas.

Current and future global challenges

Cities are home to extreme deprivation and environmental degradation with about one billion people living in slums. Rapid urbanisation will add to the number of slum dwellers and put massive pressure on urban infrastructure.

Cities are massive users of resources including water and energy. New energy, water, and transportation infrastructure for cities will last many decades, as will

choices around land use and spatial structure. These decisions will be vital in determining, along with other decisions, the future trajectory of greenhouse gas emissions.

Most countries and city governments are inadequately prepared for this massive increase in the urban population. Slums are expanding; infrastructure is inadequate and outmoded; environmental hazards and climate risks are rising significantly. Meeting these challenges will require increased capacity and skills and a partnership between different levels of government. Good governance and giving city residents a real say in decisions that affect them will be critical.

Millennium Development Goals

The Millennium Development Goal Target 7D to achieve a significant improvement in the lives of at least 100 million slum dwellers, has been achieved, but worldwide the absolute number of slum dwellers continues to grow and is estimated to be 863 million in 2012¹⁵³.

As of 2012, the lives of more than 200 million slum dwellers had been significantly improved. However, demographers had seriously underestimated the dynamism of urban growth and magnitude of demographic expansion. In retrospect, formulating this target in terms of absolute numbers rather than the overall proportion of a dynamic and changing total was problematic.

UN-Habitat's Proposed Sustainable Cities SDGs

At the 2012 conference "Making Slums History: a Worldwide Challenge for 2020", more than 20 UN Member States emphasised the positive role of urban planning and sustainable urban configuration.

Following the conference UN-Habitat proposed an SDG on sustainable cities and human settlements as follows:¹⁵⁴

151 IPCC (2013) Human settlements, infrastructure and spatial planning, Chapter 12 in the Final Draft of Working Group III contribution to the IPCC 5th Assessment Report [Climate Change 2014: Mitigation of Climate Change](#).

152 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development](#), p. 17.

153 UN (2013) [The Millennium Development Goals Report 2013](#).

154 UN-Habitat's Proposed Sustainable Cities SDGs, see <http://www.unhabitat.org/content.asp?cid=11858&catid=312&typeid=34&subMenuId=0>

Overall Goal

To promote cities that are environmentally sustainable, socially inclusive, economically productive and resilient.

Targets:

National Urban Policies By 2030, increase to 50% the number of countries adopting and implementing inclusive national urban policies to coordinate ministerial and sectoral efforts at different levels of government for sustainable urban development, territorial cohesion and urban-rural linkages.

Urban Sprawl By 2030, halve the rate of increase of global urban land cover.

Public Space By 2030, increase by half the number of cities engaging in place-based, gender-responsive urban design, land use and building regulations to increase public space to 40% of urban land area.

Housing & Slums By 2030, halve the proportion of people living in slums at the city level as part of incrementally achieving the right to adequate housing without resorting to forced evictions.

Citizen Participation By 2030, increase the proportion of urban residents voting in local elections to 60% or more and increase the proportion of towns and cities using participatory approaches in public affairs.

Urban Safety By 2030, halve the rate of urban violent crime.

Urban Job Creation By 2030, increase by 50% the number of cities adopting and implementing specific and inclusive policies to improve the lives of urban dwellers through urban job creation focused particularly on youth and women.

Urban Mobility By 2030, halve the average time and expenditure of urban dwellers on travel within urban areas, double the proportion with access to safe, affordable public transport and safe, attractive facilities for walking and bicycling, halve the number of traffic accidents resulting in death or serious injuries and halve the number of annual premature deaths from exposure to vehicle-source air pollution.

Urban Energy

By 2030, increase by 30% the share of renewable energy sources in cities, increase by 40% the share of municipal waste that is recycled, ensure sustainable energy access for all and improve energy efficiency in all public buildings by 50% and all residential buildings by 20%.

Urban Water and Sanitation

By 2030, achieve universal and equitable access to safe drinking water and halve the proportion of untreated waste water and unmanaged solid waste in cities.

Urban Resilience

By 2030, increase to 20% the number of cities adopting and implementing policies and plans that integrate comprehensive and multisectoral measures to strengthen resilience.

High Level Panel Report

The report of the High-Level Panel (HLP) of Eminent Persons on the Post 2015 Development Agenda¹⁵⁵ doesn't have a specific 'city' related "illustrative goal" although a number of national targets across the 12 illustrative goals are relevant to cities and urbanisation.

The Panel noted that cities are the world's engines for business and innovation. "With good management they can provide jobs, hope and growth, while building sustainability."

The Panel also recognised that city governments have great responsibilities for urban management and have important roles to play managing poverty, slum up-grading, solid waste management, service delivery, resource use, and planning. While the Panel argued that cities are where the battle for sustainable development will be won or lost, it stressed the need to pay attention to rural areas, where three billion near-poor will still be living in 2030.

Sustainable Development Solutions Network Report

The report of the Sustainable Development Solutions Network (SDSN)¹⁵⁶ included 10 "proposed sustainable development goals and targets". SDSN Goal 7 specifically addresses cities.

155 HLP (2013) [A new global partnership: Eradicate poverty and transform economies through sustainable development.](#)

156 SDSN (2013) [An action agenda for sustainable development.](#)

SDSN Goal 7: Empower inclusive, productive, and resilient cities

Make all cities socially inclusive, economically productive, environmentally sustainable, secure, and resilient to climate change and other risks. Develop participatory, accountable, and effective city governance to support rapid and equitable urban transformation.

- Target 7a End extreme urban poverty, expand employment and productivity, and raise living standards, especially in slums.
- Target 7b Ensure universal access to a secure and affordable built environment and basic urban services including housing; water, sanitation and waste management; low-carbon energy and transport; and mobile and broadband communication.
- Target 7c Ensure safe air and water quality for all, and integrate reductions in greenhouse gas emissions, efficient land and resource use, and climate and disaster resilience into investments and standards.

The current and future challenges for Australia

Australian cities are ranked as among the most liveable in the world, but they lag behind in some aspects of sustainability, particularly energy consumption, car dependence and equity. Australian cities are growing fast by developed world standards, bringing urban sprawl, increased pressure on natural assets, more congestion and greater demand for infrastructure and services¹⁵⁷.

The rapid growth of development on the fringe of major Australian cities has displaced farming and had impacts on waterways and biodiversity. At the same time there is a growing divide between the residents of inner and outer urban areas, with lower access to jobs and services in outer areas. Housing is expensive in Australia and the gap between underlying housing demand and houses available continues to increase. More diverse housing types will be needed to provide affordable housing and meet the needs of an ageing population.

Urban amenity and air quality is good in Australian cities, but energy consumption and greenhouse gas emissions are very high by world standards. Australian cities are highly car-dependent and traffic congestion is growing.

Australia's cities have experienced devastating climate related events in recent years including bushfires and floods. Building resilience and adapting to climate change will be a high priority for Australian cities.

The Sustainable Australia Report 2013

The *Sustainable Australia Report 2013* contains data on key indicators for Australian cities¹⁵⁸.

The indicators demonstrate Australia's car dependence. In the last twenty years the proportion of people driving to work has increased from 75% to 78%. While the proportion of workers who caught public transport has increased slightly from 9.5% to 10.5%, the proportion walking or cycling to work has decreased from 7.4% to 5.4%. The time each worker spends travelling to and from work each week has increased from an average three hours and 33 minutes in 2002 to four hours and eight minutes in 2011.

The indicators also demonstrate the crucial role of cities in the Australian economy, generating around 80% of gross domestic product and employing 75% of Australia's workforce.

¹⁵⁷ NSC (2013) *Sustainable Australia Report 2013: Conversations with the future*.

¹⁵⁸ NSC (2013) *Sustainable Australia Report 2013: Conversations with the future*.

Annex 2. Measures of Australia's Progress

[This annex, provided by the Australian Bureau of Statistics (ABS), summarises the results of the ABS' Measures of Australia's Progress consultation and 2013 report in relation to the topic areas considered in this report.]

Measures of Australia's Progress (MAP) is produced by the Australian Bureau of Statistics (ABS) to help address the question 'is life in Australia getting better?' Since it was first published in 2002, MAP has been bringing together selected statistics to describe societal, economic, environmental and (in 2013) governance trends to provide insight in the nation's progress.

In 2011-12, the ABS undertook a broad-ranging national consultation that asked Australians 'what is important to you for national progress?' During the MAP Consultation, the ABS received comments through a variety of channels, including through formal submissions, topic advisory panels and workshops, and through a social media campaign (including a MAP 2.0 blog). The ABS received feedback from a range of audiences, including government agencies and local councils, community groups, business councils, academics, prominent Australians, and the general public.

The ABS used the results from the MAP Consultation to develop aspirations for Australia's progress. These were the basis of a refreshed MAP product in 2013, complete with a new suite of indicators that informed on progress.

More information on MAP and the consultation process is available from:

- Australian Bureau of Statistics, 2013, [Measures of Australia's Progress](#), (cat. no. 1370.0)
- Australian Bureau of Statistics, 2012, [Measures of Australia's Progress – Aspirations for our nation: A conversation with Australians about progress](#), (cat. no. 1370.0.00.002)

Food security and agriculture

Through the MAP consultation, Australians told the ABS that sustainable food production is important to them. Access to fresh food was raised in the context of reducing waste, equity and the future security of our natural resources. People felt that how we use the environment's resources affects our present wellbeing and the wellbeing of future generations. In relation to this, people told the ABS about the importance of environmental resources that provide the basis for food and industrial production. Australians supported the development of adaptive technologies and strategies to enable environmental sustainability.

'The idea of increasing population growth to fuel economic growth ignores the natural limits of the environment in which we live. We need to first acknowledge then implement change to adapt more sustainable methods of energy production, food production and renewable based infrastructure (solar and wind).' Alice¹⁵⁹

'There is a need to adapt more sustainable methods of agriculture to sustain food production for the population without causing irreversible damage to our resources.' Sophie

Measures of Australia's Progress 2013 includes several elements related to food security and agriculture.

Theme	Aspirations: 'Australians aspire to...'	Elements	Indicators
Health	Good health for all.	Healthy lifestyles	Overweight or obesity
A fair go	A fair society that enables everyone to meet their needs.	Meeting basic needs	Experience of financial stressors.
Healthy natural environment	A healthy natural environment.	Land and vegetation	Data gap*
Sustaining the environment	Manage the environment sustainably for future generations.	Resource use Land use Waste	Natural capital Data gap Disposed waste

* The ABS currently does not have measures for all elements as yet. However, MAP is an evolving product and the ABS will seek to fill data gaps as suitable measures become available.

¹⁵⁹ These quotes were chosen from the broad range of comments gathered during the MAP social media campaign as being representative of the diverse views expressed. The comments were posted on the ABS blog.

Energy security and the transition to a low-carbon economy

Through the MAP Consultation, Australians told the ABS it was important that Australia's economy and population grow sustainably, so the natural environment and its resources are protected for future generations. This includes the use of more renewable energy. Australians also told the ABS that they wanted an economy that meets the needs of Australians today without compromising the needs of future generations. This means sustaining resources, services and infrastructure that underpin social functioning, and protecting, managing and using these sustainably with reduced wastage (e.g. energy). Australians thought innovation was important to the economy to improve productivity and to find solutions to economic, social and environmental challenges.

Measures of Australia's Progress 2013 includes several elements which indirectly relate to energy security and the transition to a low carbon economy.

Theme	Aspirations: 'Australians aspire to...'	Elements	Indicators
Sustaining the environment	To manage the environment sustainably for future generations.	Technology and strategies	Data gap
Enhancing living standards	An economy that sustains and enhances living standards.	Environmental resources Innovation	Data gap Innovation-active businesses
A resilient economy	An economy that is resilient to shocks and which allows people to manage risks.	Flexibility Insurance Stability Prudent finance Information	Multifactor productivity Unemployment duration Consumer Price Index Capital base ratio

Water security

People depend on the environment; it provides us with air, water, food and other things that we need to live. Through the MAP Consultation, Australians told the ABS that they want their natural environment to become healthier rather than degraded over time. This includes improving the health of all the components of the environment. Until recently there has been a tendency to take clean water, clean air and natural attractions such as the Great Barrier Reef for granted. However, increasing population and economic pressures have caused many people to be increasingly concerned about the state of both the Australian and wider global environment. It is important to sustain Australia's resources, services and infrastructure that underpin social functioning; protecting, managing and using these sustainably with reduced wastage (e.g. food and water).

ABS Measures of Australia's Progress 2013 includes several elements which relate to the concept of water security.

Theme	Aspirations: 'Australians aspire to...'	Elements	Indicators
Sustaining the environment	To manage the environment sustainably for future generations.	Water use	Data gap
Healthy natural environment	A healthy natural environment.	Inland waters	Data gap
Health	Good health for all.	Healthy environments	Air quality
Home	To have secure places to live that provide a sense of belonging and home, and are adequate to their needs.	Adequate housing	

Human health

Through the MAP Consultation, Australians told the ABS that being healthy was one of the most significant factors affecting an individual's wellbeing. While health conditions and disabilities will always exist, people felt that it was still possible for people to optimise their health and have a feeling of wellness. Health was seen as multidimensional,

relating not just to someone's physical condition but also to their mental, emotional and social wellbeing. Lifestyle factors and the living, working, urban and natural environments also play an important role in health for Australians. Many people in the consultation saw society as having a collective responsibility to plan for the costs of providing adequate health care.

Measures of Australia's Progress 2013 includes a theme focused on human health.

Theme	Aspirations: 'Australians aspire to...'	Elements	Indicators
Health	Good health for all	Physical health Mental health and wellbeing Quality health services Healthy lifestyles Healthy environments	Life expectancy Disability free life expectancy Psychological distress Data gap Overweight or obese Air quality

Social inclusion and gender

Through the MAP Consultation, Australians told the ABS that all people should have an equal opportunity to establish, improve and maintain their wellbeing, and have access to the services and opportunities that support these efforts. Many Australians shared concerns about disadvantage and inequity and want to ensure all Australians have a basic standard of living. In particular, there is a feeling that people should have opportunities to improve their wellbeing, regardless of differences in education, socioeconomic background or other factors. The idea of an equal opportunity, or a fair go, was seen as particularly important for those who are at vulnerable points in their lives or who are marginalised or disadvantaged.

Measures of Australia's Progress 2013 includes three themes focused on social inclusion and equity, emphasising its importance to Australians. While there are no themes focused specifically on gender, indicators are presented with a gender disaggregation where possible.

Theme	Aspirations: 'Australians aspire to...'	Elements	Indicators
A fair go	A fair society that enables everyone to meet their needs.	Meeting basic needs Services Education Employment Income Infrastructure & assistance for vulnerable people	Financial stressors Data gap Participation of 18-24 year olds Employment rate Disposable household income Data gap
Fair outcomes	An economy that supports fair outcomes.	Living standards Equity Disadvantage Contribution	National disposable income Household income comparison (low & middle income groups) Resident tax rate
Economic Opportunities	To have the economic opportunities they need to thrive.	Employment Business Standard of living Capabilities Reduced complexity	Qualified workers in skilled employment Employment rate New business entry rate National disposable income Qualifications Data gap

Education

Through the MAP Consultation, Australians told the ABS that learning, gaining knowledge and developing skills are important throughout people's lives. Children's development from infancy through schooling and into higher education and training is considered to be important to both individuals wellbeing, and to society overall. Society

benefits from the increase in people’s knowledge and abilities through increased productivity, innovation and cultural identity. Basic life skills, such as literacy and numeracy, are also vital to wellbeing and to full participation in society. People also felt it is important for society to support ongoing learning, whether for research, re-training or for personal development, and to support the creation of knowledge through scientific inquiry. Inter-generational learning, or the knowledge that is passed down from one generation to another, provides crucial links across generations and helps contribute to the cultural fabric and strength of Australian society.

‘For me the number of people in public education matters. My grandparents didn’t finish primary school, my parents didn’t finish high school and I had the opportunity to go to university. It changed my life. It wasn’t that I was smarter, it was because the access was better. I think if the numbers in public schools goes backwards then access to education will go backwards.’ Jules¹⁶⁰

Measures of Australia’s Progress 2013 includes a theme specifically focused on education and learning.

Theme	Aspirations: ‘Australians aspire to...’	Elements	Indicators
Learning and knowledge	A society that values and enables learning.	Early learning Schooling Further education Lifelong learning Research Inter-generational learning	Data gap Year 12/Cert.III Qualifications Data gap R&D expenditure Data gap

Sustainable economic growth

Through the MAP Consultation, Australians told the ABS that sustaining economic performance over the long term was important. People said they wanted an economy that meets the needs of Australians today without compromising the needs of future generations. This means sustaining resources, services and infrastructure that underpin social functioning, and protecting, managing and using these sustainably. Australians thought innovation was important to the economy to improve productivity and to find solutions to economic, social and environmental challenges.

Measures of Australia’s Progress 2013 includes a theme focused on sustainable economic growth:

Theme	Aspirations: ‘Australians aspire to...’	Elements	Indicators
Enhanced living standards	An economy that sustains and enhances living standards.	Buying power Government finances Economic resources Environmental resources Human resources Innovation	Disposable income Government savings rate Non-financial assets Data gap Labour force participation rate Innovation-active businesses

Biodiversity and ecosystem services

Through the MAP Consultation, Australians told the ABS that biodiversity is important to Australia’s progress. They told the ABS that they want their natural environment to become healthier rather than degraded over time. Australians aspired to protect, care for and avoid damage to the environment, for example through protecting native flora, fauna, and wilderness areas. This involves careful management and restorative measures to improve the state of the environment and support healthy environmental function. Throughout the consultation, there was strong support for the idea that caring for the natural environment can occur through individual or group initiatives and through business and government programs. Increasing population and economic pressures have caused many people to be increasingly concerned about the state of both the Australian and wider global environment.

Measures of Australia’s Progress 2013 includes references to biodiversity in two themes:

¹⁶⁰ This quote was chosen from the broad range of comments gathered during the MAP social media campaign as being representative of the diverse views expressed. The comments were posted on the ABS blog.

Theme	Aspirations: 'Australians aspire to...'	Elements	Indicators
Healthy natural environment	A healthy natural environment.	Biodiversity	Data gap
Protecting the environment	To look after and protect our natural environment.	Protect Prevent and minimise further damage Restoring our natural environment Effective programs	Protected areas Protected areas on agricultural holdings Data gap Data gap

Governance

In the context of MAP, the idea of governance goes beyond the functions of Government to the systems, processes and institutions which govern, run, protect and regulate our activity and the way people are included in making decisions about things that affect their lives.

Through the MAP consultation, Australians told the ABS they wanted a free society where everyone is able to participate in decisions that affect their lives. This includes access to information that supports participation and informed public debate, freedom of media and freedom of expression. Governance systems, processes and organisations should enable societal progress, by being easy to interact with and access, open, honest, unbiased and accountable, so that they are trusted by society. People wanted these systems to uphold people's rights, allowing them access to justice and providing and supporting laws that protect all Australians.

Measures of Australia's Progress 2013 includes a governance domain (along with society, economy and environment) with 5 themes. Other domains also include governance-related themes.

Theme	Aspirations: 'Australians aspire to...'	Elements	Indicators
Trust	Institutions and governance processes they can trust and hold to account.	Trust Integrity Transparency Accountability Processes and systems	Generalised trust Data gaps Informal votes
Effective governance	Governance that works well.	Effective Interactions Protection Interactions Balance Resilience	Data gaps
Participation	Have the opportunity to have a say in decisions that affect their lives.	Participation Involvement Awareness Access and opportunities Responsibility	Voting enrolment Voter turnout Data gap Civic or political group participation Citizenship rate
Informed public debate	Well-informed and vibrant public debate.	Open and informed debate Freedom Free media Regulation	Data gaps
People's rights and responsibilities	A society where everyone's rights are upheld and their responsibilities fulfilled.	Rights and responsibilities Laws and standards Justice Freedom of expression International conventions and laws	Data gap Data gap Remand for unsentenced prisoners Able to have a say within community Data gap

Cities

Through the MAP Consultation, Australians told the ABS that they care about the liveability of urban environments. People said that built environments should be well planned, provide adequate housing and access to services, and support health and safety. People also felt that these environments should be somewhere that people enjoy living and being, and should support positive social interaction and inclusion. Built environments have practical value, as well as heritage, social and aesthetic aspects which contribute to wellbeing. People also aspired to be able to support the health of the natural environment both within their urban setting and beyond.

Measures of Australia's Progress 2013 includes a Healthy Built Environment theme related to cities:

Theme	Aspirations: 'Australians aspire to...'	Elements	Indicators
Healthy built environment	Healthy built environments.	Quality People friendly Cultural and heritage friendly Access to natural areas Ecologically friendly Access to services and amenities	Satisfaction with good roads and traffic. Data gaps

Sustainable Consumption and Production¹⁶¹

Through the MAP Consultation, Australians told the ABS that they want an economy that meets the needs of Australians today without compromising the needs of future generations. This means sustaining resources, services and infrastructure that underpin social functioning, and protecting, managing and using these sustainably. People identified the importance of environmental resources that provide the basis for food and industrial production. Many thought it was important to be aware of the impact of human activities or lifestyles on the environment, particularly those that either moderate resource depletion or threaten long term sustainability.

Measures of Australia's Progress 2013 includes three themes related to sustainable consumption and production.

Theme	Aspirations: 'Australians aspire to...'	Elements	Indicators
Enhancing living standards	An economy that sustains and enhances living standards into the future	Buying power Government Economic resources Environmental resources Human resources Innovation	Disposable income Government savings rate Non-financial assets Data gap Employment Innovation-active businesses
Sustaining the environment	To manage the environment sustainably for future generations	Resource use Land use Water use Waste Technology and strategies Climate	Natural capital Data gap Data gap Waste disposed Data gap Greenhouse gas emissions
A fair go	A fair society that enables everyone to meet their needs	Meeting basic needs Income Infrastructure & assistance for vulnerable people	Financial stressors Disposable income Data gap

¹⁶¹ Based on the definition: Sustainable consumption and production (SCP) is about "the use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of further generations" <http://sustainabledevelopment.un.org/index.php?menu=204>

Further information

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