ITEM 3. INCREMENTAL ORGANISATIONAL ENVIRONMENTAL TARGETS TO 2016

FILE NO: S121043

SUMMARY

In 2008, the City of Sydney launched Sustainable Sydney 2030 and committed Sydney to becoming a green, global and connected city. Central to this vision was the commitment to be internationally recognised as an environmental leader.

Through Sustainable Sydney 2030, the City has set a target of reducing greenhouse gas emissions from our own operations and services, and across the City's entire Local Government Area (LGA) by 70 per cent below 2006 levels. For water, a target to achieve 10 per cent mains water consumption reduction of 2006 levels by 2030 in the City's own operations is in place. There are currently no 2030 targets for waste.

The date for the previous incremental emissions target for Council's own operations of a 20 per cent reduction of 2006 levels by 2012 has passed and has been met. Incremental targets for diversion of waste from landfill and for fleet emission reductions are for 2014. There is now a need to set new incremental targets, for not just emissions and energy, but also for water and waste.

Incremental environmental targets will provide short term goals for the organisation to work towards and the ability to more accurately track progress towards 2030. Incremental targets provide a mechanism for assessing environmental performance and taking corrective or preventative action, where required. The achievement of incremental targets will also help to demonstrate to stakeholders our progress toward stated longer term targets. The City will retain its carbon neutral status through verification of carbon inventory and purchase of offsets.

It is recommended that the following incremental four-year environmental performance targets for 31 December 2016 be adopted by Council:

Emissions

- 26 per cent reduction of 2006 emissions;

Energy

- five per cent of electricity produced by renewables;

Water

- zero increase in mains water consumption based on 2006 levels;
- water usage in City parks of 180L per square metre of irrigated space;

Waste

- 54 per cent resource recovery of facilities waste;

- 98 per cent resource recovery of maintenance, construction and demolition waste; and

Fleet

- zero increase in emissions from the City's fleet of vehicles based on 2014 levels.

Projects needed to achieve these targets will be undertaken by various City Business Units such as Properties, City infrastructure, City Projects, Parks and Aquatic Centres. Funding for these projects has already been included in the draft 2014/15 budget and/or flagged in the future 2015/16 budget. Progress toward the targets will be reported to Council through the usual Corporate Reporting process, the City of Sydney's Green Report and annual State of the Environment Report.

To establish incremental targets for the City's own operations, workshops were held in February/March 2014 across the organisation to ensure input from appropriate stakeholders, in particular City Projects and Property, City Operations, City Life and the Chief Operations Office. A ten-step target setting process was followed. This process included measurement of the current status, a review of funded projects planned and underway, data collection and analysis, target setting and action plan design.

RECOMMENDATION

It is resolved that:

(A) the incremental environmental targets for 31 December 2016 for emissions, energy, water and waste for the City of Sydney's own operations, activities and services, as detailed in the Summary of the subject report, be endorsed;

(B) the incremental environmental targets contained in the subject report supersede any existing targets that relate to organisation-wide operational environmental performance;

(C) the incremental environmental targets for 31 December 2016 for emissions, energy, water and waste be incorporated into the Delivery Program following public exhibition and prior to the Delivery Program being brought back to Council in June 2014 for adoption;

(C) further incremental targets for the organisation and the City of Sydney Local Government Area to 2020 be developed through the 2014/15 and 2015/16 financial years and form the basis of a further report to Council;

(D) existing organisational waterfall charts be updated to include the 2016 incremental targets for the City's own operations; and

(E) progress against the 2016 incremental environmental targets be reported through existing reporting channels of the City's Corporate Report, Green Report and annual State of the Environment Report.

ATTACHMENTS

Attachment A: City of Sydney Waterfall Charts

BACKGROUND

1. Prior to the development of Sustainable Sydney 2030, Council endorsed an Environmental Management Plan (EMP) for the City of Sydney. The EMP included a target for the City's own operations of a 20 per cent reduction in emissions based on 2006 levels by 2012. This target has been met.

2. Aspirational targets for waste were included in the EMP based on NSW Government targets:

   (a) 66 per cent resource recovery of City of Sydney facilities waste by 2014; and

   (b) 76 per cent recovery of City of Sydney construction waste by 2014.

3. With the adoption of Sustainable Sydney 2030, targets in the EMP became incremental targets on the path to 2030.

4. In addition, Council has committed to a reduction in emissions from the City's own fleet of vehicles of 20 per cent by 2014.

5. With the timeframe ending for current incremental targets for our own operations, the City has determined that there is now a need to set new incremental environmental targets.

6. Incremental environmental targets will provide short-term goals for the organisation to work towards, and the ability to accurately track progress towards, 2030.

Emissions and Energy

7. Sustainable Sydney 2030 (Community Strategic Plan) includes two targets relevant to emissions and energy:

   (a) Target 1: the city will reduce greenhouse gas emissions by 70 per cent compared to 2006 levels; and

   (b) Target 2: the city will have the capacity to meet up to 100 per cent of electricity demand by local electricity generation by 2030.

8. Council has made a commitment to mirror the carbon reduction target of 70 per cent by 2030 in the City's own operations – one of the most ambitious targets set by any government in Australia.

9. In order to determine the actions necessary to achieve these targets, the City has developed strategic Master Plans. The Decentralised Energy – Trigeneration Master Plan and the Decentralised Energy – Renewable Energy Master Plan have been endorsed by Council. The Energy Efficiency and Climate Change Adaptation Master Plans are in development.

10. A number of major projects have been implemented by the City within our own operations and facilities to drive performance towards meeting the targets for 2030. These projects have previously been endorsed by Council and include:

    (a) installation of energy-efficient light emitting diode (LED) street and park lighting, which will result in emissions reductions of 51 per cent in City-owned street and park lights;

    (b) building retrofits in City-owned buildings and facilities which will cut energy use by 6,641 megawatt hours (MWh), reducing greenhouse gas emissions by 23 per cent per year in City owned buildings and facilities; and

    (c) installation of solar photovoltaics (PV) on City-owned buildings and facilities is estimated to deliver 5.3 per cent of the City's current electricity demand, and 5.7 per cent of 2016 estimated electricity demand. The system is estimated to produce up to 1.7 gigawatt hours (GWh) annually when fully installed.

11. The City's targets are absolute and must accommodate increases in portfolio size. If more assets are acquired or created which consume energy, then greater efficiency or on-site renewable energy in the existing portfolio is required to achieve the 2030 target. Portfolio changes are shown on waterfall charts for emissions shown in the City of Sydney's Green Report.

12. Current emissions from the City's own operations are around 20 per cent below 2006 levels. This is despite increases in the property portfolio.

13. Emissions rose from 2005/06 (the City of Sydney's baseline year) to 2006/07, where they stabilized until 2007/08. Since 2007/08, emissions have decreased on average by approximately 3 per cent per year.

14. Following this trend, an incremental emissions target of 26 per cent below 2005/06 levels by 31 December 2016 is proposed. This would require savings of approximately 3,600 tonnes between now and the end of 2016.

15. The City of Sydney was the first local council in Australia to be certified as carbon neutral under the National Carbon Offset Standard. By measuring our greenhouse gas emissions, energy emissions, renewable energy and offsets, the City monitors progress and remains carbon neutral each year.

16. Childcare centres are the only new significant assets that we expect will increase emissions. This incremental target factors in assumed growth from new childcare centres expected to come online by 2016.

17. A 26 per cent target (3,600 tonnes) by 2016 is considered achievable based on continuing past trends, and the effects of remaining energy efficiency retrofits and the rollout of solar PV and LED lighting. The latest Green Report (Quarter 2 2013/14) shows these projects will reduce emissions for City operations by 3,037 tonnes per year, in addition to what has been installed to date.

18. A suite of initiatives implemented by the City Projects and Property Division should ensure that the 3,600 tonne per year target is achieved by 31 December 2016.

19. Potential savings from upgrades to Ausgrid lighting may also occur in this timeframe, but are not counted upon and would be additional.

20. This 26 per cent reduction target assumes that trigeneration is not operational within the City's property portfolio by December 2016. Inclusion of trigeneration will be considered in subsequent emissions target setting for beyond 2016.

21. The City's solar PV (renewable energy) tender is estimated to deliver 1.7 GWh per year when fully installed by 2016. This represents 5.3 per cent of current electricity demand, and 5.7 per cent of 2016 estimated electricity demand. An incremental renewable electricity target of 5 per cent by 31 December 2016 is, therefore, proposed.

22. Incremental targets for 31 December 2016 for energy and emissions for the City's own operations and activities are recommended for endorsement by Council as follows:

    (a) 26 per cent reduction of 2006 emissions; and

    (b) five per cent of electricity produced by renewables installed on City assets.

Water

23. Through the Decentralised Water Master Plan, Council has committed that by 2030, the City will reduce mains water consumption in our own buildings and operations to 10 per cent below 2006 levels by 2030 through water efficiency and connection of facilities to recycled water supplies.

24. In 2006, a baseline of water consumption was established at 413 megalitres (ML), and this total was based on the existing property portfolio at the time.

25. The City's operational water targets are absolute and must accommodate increases in portfolio size and green space. If more assets are acquired or created which consume water, then greater efficiency or recycled water provision in the existing portfolio is require to achieve the 2030 target.

26. Since 2006, the City has acquired new property assets including 343 George Street, Mountain Street, Ian Thorpe Aquatic Centre, 107 Redfern Street, TOTE, 277 Bourke Street and Joynton Park Kiosk, and undertaken several major upgrades to other assets such as Glebe Town Hall and the Eternity Playhouse, which included the addition of further ablution facilities.

27. A number of projects have been implemented in the City's own operations and facilities within the property portfolio to drive performance towards meeting water targets for 2030. These projects include:

    (a) engaging Ecosave to implement technologies and measures to reduce water consumption in 45 of the City's buildings by up to 56 ML per year. Initiatives introduced include:

        (i) flow control valves for taps and showerheads;

        (ii) dual flush toilets;

        (iii) sensor technology for urinals;

        (iv) Variable Speed Drives on cooling tower fans; and

        (v) sub-metering on various water lines;

(b) monitoring of STEvE (utility management system) reports ensures that any anomalies, such as leaks, elevated after hours flow rates or unusually high daily consumption, are promptly investigated and resolved; and

(c) installation of 14 rainwater tanks across the City's community portfolio. These tanks service toilet flushing and garden watering needs.

28. Since 2006, the number of parks and open spaces requiring irrigation in the City of Sydney Local Government Area (LGA) has increased by 36 per cent. These include Wentworth Park, Redfern Park, Redfern Oval, Pirrama Park, Harmony Park, Prince Alfred Park, Paddington Reservoir Gardens, Peace Park, Lillian Fowler Reserve and Coulson Street Reserve.

29. The increased requirement for irrigation has resulted in an increase in the usage of potable water in City's parks by 41 ML since 2006.

30. Water usage in parks and open spaces is dramatically impacted by changing weather conditions in Sydney, including reduced rainfall in some seasons, hotter summers, milder winters, more intense storms and more intense rainfall.

31. Wet winters and dry summers mean that rainwater tanks are sometimes not usable when required, necessitating the use of potable water for irrigation of parks to maintain amenity.

32. A number of projects have been implemented to drive performance towards meeting organisational water targets for 2030. These projects have resulted in efficiency gains of 12 per cent to 2013 from 2006 levels. Projects include:

(a) replacement and renewal of old and ageing irrigation infrastructure;

(b) benchmarking the irrigation performance of parks and sports fields to meet with best practice;

(c) implementing improved maintenance standards of irrigation and stormwater assets;

(d) installation of smart meters in 30 City parks to assist in the early detection and fixing of leaks; and

(e) park-based small scale water harvesting schemes are being implemented at a number of sites in the City's LGA. These include Pirrama Park, Alexandria Oval, Waterloo Oval, Beare Park, Solander Park, Paddington Reservoir and Harmony Park. Mains water savings from these projects is estimated to be up to 28 ML per year.

33. Precinct scale stormwater harvestings schemes at Sydney Park and Green Square Town Centre are in development. These schemes are estimated to result in mains water savings of up to 250 ML per year across the City's LGA by 2030. A proportion of the water from these schemes will be utilised in City parks and will contribute to organisational water savings. Savings from these projects will be incorporated into future incremental targets.

34. The City of Sydney predominantly uses absolute targets. An absolute target is a target defined by reduction in absolute emissions over time, for example; reduction in greenhouse gas emissions of 70 per cent compared to 2006 levels by 2030.

35. Intensity targets are set by a number of organisations and programs, such as the Better Buildings Partnership. Intensity targets ensure that business units who may otherwise struggle to contribute to organisation wide usage targets are still able to actively drive performance improvements and initiatives.

36. An intensity target is a target defined by the ratio of emissions or usage and a business metric over time.

37. The City Parks Unit have set an intensity target for water usage in City parks of 180L per m^2 of irrigated space by 2016. This will ensure that the City continues to drive improvements in water efficiency for irrigation towards absolute targets, regardless of portfolio increases, fluctuations in rainfall and changing weather conditions influenced by climate change.

38. Incremental targets for 31 December 2016 for the City's own water use across the organisation's operations and services are recommended for endorsement by Council as follows:

    (a) zero increase in mains water consumption based on 2006 levels; and

    (b) water usage in City parks of 180L per square metre of irrigated space.

Waste

39. The City's organisational waste arises from two very different activities:

    (a) Office-based operations in facilities such as community centres, Town Hall House, depots and libraries; and

    (b) operations that generate waste from maintenance activities around roads, pavements, and parks and gardens, together with minor works for construction and demolition of City assets.

40. The waste types are so different and of such a differing scale of generation that separate targets were deemed necessary. Also, City facilities waste crosses over with waste from the broader tenant portfolio, as base building waste collection does not provide separate collection or measurement of the originating source of waste.

41. The City of Sydney's Environmental Management Plan includes a waste targets for our own operations. These targets are aspirational based on NSW Government targets as follows:

    (a) 66 per cent resource recovery of facilities waste by 2014; and

    (b) 76 per cent recovery of construction waste by 2014.

42. Current resource recovery rates for the City's own facilities is at approximately 43 per cent, and resource recovery rates for maintenance, construction and demolition waste generated as a result of the City's own operations and services is at 98 per cent (zero waste).

43. Incremental targets for 31 December 2016 for the City's own waste generation across the organisation's operations and services are recommended for endorsement by Council as follows:

    (a) 54 per cent resource recovery of facilities waste; and

(b) 98 per cent resource recovery of maintenance, construction and demolition waste.

44. To achieve the incremental 2016 target for facilities waste, the City is preparing the following major actions:

(a) a weight based waste audit of facilities by property type;

(b) improvements to the collection contract to increase options for recycling; and

(c) a standardisation of waste systems across the facility portfolio.

45. These actions should achieve the projected 11 per cent incremental increase in recycling levels for City facilities. The data from audits and an improved waste collection contract will allow the development of future action to increase recycling rates.

46. Resources recovery actions for the City's maintenance, construction and demolition waste are proposed to stay similar to business as usual, as 98 per cent recovery already represents industry best practice.

47. The Advanced Waste Treatment Master Plan currently in development will enable the development of further targets to 2030 for the City's own waste and for the City's LGA.

Fleet

48. The City's four year target to reduce light and heavy vehicle emissions by 20 per cent before the end of 2013/14 is on track to be exceeded. Actions have included:

(a) use of sustainable biofuels;

(b) purchase of electric vehicles;

(c) driver education campaigns; and

(d) the use of hybrid and smaller vehicles.

49. These actions have achieved reductions of emissions from the City's own fleet of vehicles to 2,429 tonnes, against the target of a reduction of 2,700 tonnes.

50. Until new technologies are released, there are no further gains to be achieved. The City, therefore, intends to maintain current emissions levels at 2,425 tonnes of $C0_2e$ per year in the immediate term.

51. The incremental target for 31 December 2016 for the City's own fleet of vehicles is recommended for endorsement by Council as follows:

(a) zero increase in emissions from the City's fleet of vehicles based on 2014 levels.

Incremental target development process

52. To establish incremental targets for the City's own operations, workshops were held in February/March 2014 across the organisation to ensure input from appropriate stakeholders. A ten-step target setting process was followed as outlined below:

    (a) Step 1 - Review stakeholder expectations – critical areas the City needs to address were determined. These are emissions and energy, water and waste. These are the material areas for our own operations, those where the City has the greatest control and influence. These are also the areas where the greatest emission reductions and reductions in utility usage and cost can be achieved.

    (b) Step 2 - Strategic objectives clarification – the workshops held included presentations of the relevant Master Plans by the Managers Carbon Strategy, Water Strategy and Waste Strategy. These Master Plans include clear strategic objectives for the organisation. Presentation to stakeholders ensured clarification of these objectives.

    (c) Step 3 - Success map – the City of Sydney's waterfall charts provide a success map. A success map is a visual tool that shows how lower level objectives link to higher level strategic objectives. It further shows where each part of the organisation contributes to achieving these goals.

    (d) Step 4 - Objectives prioritisation – prioritisation of objectives assists in providing focus for the coming year. Key City Business Units were asked to prioritise objectives and include these in their Business Plans for 2014/15. Incremental targets to 2016 will also enable Business Units to achieve this prioritisation for the 2015/16 financial year.

    (e) Step 5 - Operationalisation (measurement) – A "straight line" approach out to 2030 was put forward as a basis for the development of the incremental targets. Key Performance Indicators have been determined by each relevant Business Unit and included within their Business Plans for 2014/15. Progress against these targets will be monitored through Performance Planning and reported to Council and publicly through the biannual Green Report and annual State of the Environment Report.

    (f) Step 6 - Data collection – in addition to the data collected through the Master Plans, Business Units implementing key environmental actions have maintained their own data.

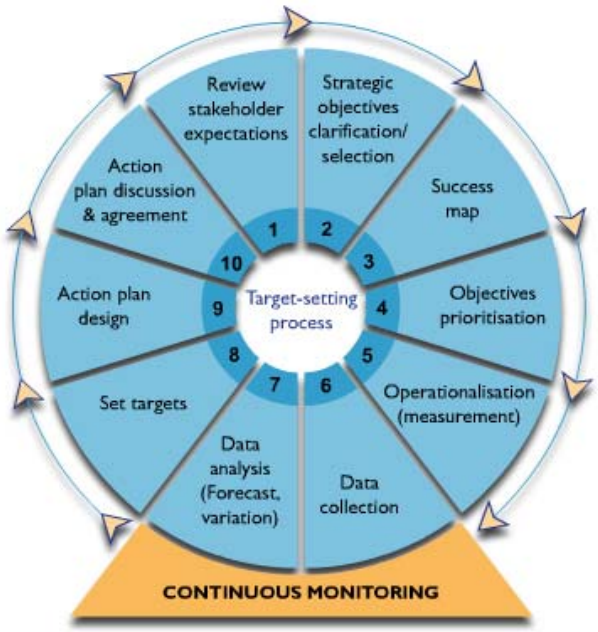
    (g) Step 7 - Data analysis – relevant Business Units in City Operations, City Life and City Projects and Property assessed the feasibility of the proposed draft "straight line" targets throughout March. This analysis was based on the available data, and an understanding of the capability of each Business Unit to achieve the actions required to meet the targets.

    (h) Step 8 - Set targets – incremental targets have now been determined and these are recommended for Council endorsement.

(i) Step 9 - Action plan design – Business Units have included relevant projects to assist in achieving these incremental targets within their 2014/15 Business Plans, and these will be presented to Council through the Corporate Reporting Process. Environmental Action Plans included as part of the business planning process will list these projects, and tracking of progress will occur through the Corporate Report, Green Report and annual State of the Environment Report.

(j) Step 10 - Action plan discussion and agreement – it is an important step in the target setting process to include City staff. Once endorsed by Council, the incremental targets will be communicated to City staff through the City of Sydney Green Champions, the Green Report and other internal communication methods. City staff will be encouraged to discuss further actions that may be taken towards meeting the incremental targets.

53. The ten-step target setting process is illustrated below:



Communication of progress

54. Progress of the actions noted in this report has been communicated to Council and the public through the City of Sydney's reports, including the Green Report.

55. The Green Report provides a snapshot of the City's progress against targets. The Green Report was issued quarterly until January 2014. The Green Report is now issued twice per year in January for progress from July to December and in July for progress from January to June.

56. The Green Report contains waterfall charts. As part of the consultation for Sustainable Sydney 2030, waterfall charts were developed to demonstrate how the City believed we could make the 2030 target of a 70 per cent reduction in emissions against a 2006 baseline.

57. Modelling, researching, meeting with stakeholders and development of the suite of strategic Master Plans have enabled the City to refine the original waterfall chart, and develop further waterfall charts.

58. Waterfall charts have now been developed for water and waste actions. Waterfall charts have been communicated to Council and the public via the City of Sydney's Green Report.

59. Current waterfall charts for environmental targets for the City's own operations and City's LGA are shown at Attachment A.

60. Following Council endorsement of the incremental environmental targets proposed in this report, these waterfall charts will be updated and the changes referenced in the Green Report.

KEY IMPLICATIONS

Strategic Alignment - Sustainable Sydney 2030

61. *Sustainable Sydney 2030* is a vision for the sustainable development of the City to 2030 and beyond. It includes 10 strategic directions to guide the future of the City, as well as 10 targets against which to measure progress. These targets are aligned with the following strategic directions and objectives:

    (a) Direction 2 provides a road map for the City to become A Leading Environmental Performer – Council has committed to ensuring that the City demonstrates leadership in environmental performance, and has taken a leadership position by setting environmental targets for our own buildings and operations for 2030. The 2016 Incremental Environmental Targets provide a sound mechanism with which to measure progress towards 2030.

Organisational Impact

62. The setting or incremental organisational environmental targets will:

    (a) provide clarity for the organisation regarding the magnitude of the actions required in the short term to ensure the City meets stated long-term environmental targets;

    (b) provide clarity for the organisation regarding the required budget and human and other resources required to ensure stated long-term environmental targets are met;

    (c) provide a mechanism for assessing short-term organisational environmental performance, and taking corrective or preventative action to positively impact on long-term performance; and

    (d) provide an opportunity to build the capacity (skills and experience) of the organisation to undertake environmental actions.

Risks

63. There is a reputational risk associated with the potential of the City not meeting stated environmental targets to 2030. The setting of incremental environmental targets will enable City Businesses Units to effectively plan and design projects to move towards achievement of both incremental and 2030 targets.

Social / Cultural / Community

64. City staff are essential to the success of the organisation in meeting environmental targets. Clear environmental targets assist staff in understanding the role they can play in reducing emissions through actions to reduce their use of energy and water and creation of waste to landfill. Incremental targets will further assist staff in understanding their contribution to Council's stated commitment to environmental performance and emissions reductions in the short-term

65. A number of environmental behaviour change actions and projects are in place, including the City of Sydney Green Champions program. These actions and projects utilise the organisation's targets to increase staff awareness and understanding of the need for action. Incremental targets will provide staff with a further focus point for action and targeted campaigns.

Environmental

66. The incremental environmental targets for 2016 for the City's own operations and activities will provide short-term goals for the organisation to work towards, and the ability to more accurately track progress towards, 2030. The achievement of incremental targets will also help to demonstrate to internal and external stakeholders progress toward stated longer-term targets.

Economic

67. Actions towards meeting environmental targets for 2030 include:

    (a) installation of 6,448 energy-efficient LED street and park lights, saving nearly $800,000 per annum in bill and maintenance costs;

    (b) building retrofits have increased efficiency while reducing maintenance costs and utility charges. Payback is estimated within nine years;

    (c) solar PV has increased the generation of renewable energy and will result in decreases in utility charges. Indicative figures based on current analysis suggest that the cost per tonne of carbon abatement for sites where panels are already installed is approximately $10 per tonne with a payback period of approximately 13 years;

    (d) solar PV from Sydney Town Hall is used to offset energy used to charge the City's fleet of Mitsubishi iMiev electric vehicles, reducing fuel costs; and

    (e) use of stormwater capture and water recycling, as well as efficiency measures implemented in the City's parks and buildings, are contributing to reductions in mains water usage, reducing utility charges.

BUDGET IMPLICATIONS

68. While there is no additional operational budget associated with the delivery of the project, the setting of environmental targets for December 2016 could impact on budget and work program priorities for some City Business Units. Any such implications will be addressed through existing organisational processes, including the annual business planning and budget setting processes. Relevant projects will be presented to Council for consideration through the Corporate Reporting process.

RELEVANT LEGISLATION

69. The Kyoto Protocol to the United Nations Framework Convention on Climate Change is an international treaty that sets binding obligations on industrialised countries to reduce emissions of greenhouse gases.

70. As part of the Kyoto Protocol, Australia has agreed a target to reduce its greenhouse gas emissions by 25 per cent compared with 2000 levels by 2020, if the world agrees to an ambitious global deal capable of stabilising levels of greenhouse gasses in the atmosphere at 450 parts per million (ppm) carbon dioxide equivalent (CO2-e) or lower.

71. Australia will unconditionally reduce its emissions by 5 per cent compared with 2000 levels by 2020 and by up to 15 per cent by 2020, if there is a global agreement that falls short of securing atmospheric stabilisation at 450 ppm CO2-e under which major developing economies commit to substantially restraining their emissions, and advanced economies take on commitments comparable to Australia's.

72. In addition, Australia will reduce greenhouse gas emissions by 80 per cent compared with 2000 levels by 2050.

73. In line with the Australian Government’s commitments to national greenhouse gas emission reductions, the City has set a range of environmental targets for the City of Sydney Local Government Area and, as outlined in this report, for the organisation of the City of Sydney for 2030 based on 2006 levels.

74. The incremental targets in this report will enable the City of Sydney to more effectively work towards meeting these long-term environmental targets.

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