

**MELBOURNE METRO RAIL PROJECT ENVIRONMENT EFFECTS STATEMENT
INQUIRY AND ADVISORY COMMITTEE**

MMRA TECHNICAL NOTE

TECHNICAL NOTE NUMBER: 077

DATE: 7 October 2016

PRECINCT: All Precincts

EES/MAP BOOK REFERENCE: EES Technical Appendix W: Sustainability Principles and Approach

SUBJECT: Approach to Sustainability in Melbourne Metro

NOTE:

1. This Technical Note sets out the details of the Melbourne Metro Sustainability Targets and provides context for each of the targets as referred to in the Sustainability Principles and Approach Report (Technical Appendix W) of the Melbourne Metro EES.

MMRA Response:


Context

2. The Melbourne Metro Rail Authority (“**MMRA**”) has defined Sustainability in the context of the project as follows:

‘Sustainability looks beyond the environmental stewardship component of the triple bottom line approach such as reducing waste, minimising carbon and water footprints, preventing pollution and conserving natural resources. A Sustainable Metro moves beyond, to integrate components of economic growth, social responsibility, and ensuring that infrastructure is maintainable, durable and operationally efficient’
3. MMRA has developed a Sustainability Vision and Sustainability Policy to guide the implementation of sustainability in the delivery of Melbourne Metro.

4. To enact the Sustainability Vision and Policy, MMRA has developed a Sustainability Strategy (“**the Strategy**”). The Strategy details commitments under three broad themes; environmental, social and economic. The Strategy will ensure that sustainability remains a focus for the delivery of the project and outlines actions and objectives for achieving the Sustainability Vision.
5. The Strategy includes nine key Sustainability Targets across the three focus areas that will be delivered by MMRA and its delivery partners.
6. The nine Sustainability Targets (“**Targets**”) are presented in this Technical Note and address the following key focus areas which can be grouped into the social, economic and environmental themes.

Sustainability Target	Intent	Corresponding Theme
Excellence 	Demonstrate leadership in the commitment to a prosperous and integrated economic, social and environmental sustainable future.	Social Economic Environmental
Urban Ecology & Vegetation 	Protect and enhance vegetation, functioning of ecosystems and maintain biological diversity.	Social Economic Environmental
Climate Resilience 	Respond to the challenges of climate change impacts through adaptation and resilience planning and design.	Social Economic Environmental
Supply Chain 	Demonstrate commitment to sustainable procurement.	Economic
Communities 	Support and enhances social, cultural and community wellbeing.	Social
Workforce 	Facilitate economic prosperity, development, and providing a resilient local workforce.	Economic Social
Energy 	Promote energy efficiency throughout design and delivery and implement innovative uses of renewable energy on site.	Environmental Economic
Materials and Waste 	Reduce the impact of materials over the lifecycle, and provide healthy environments through the reduction of emissions, pollution and waste.	Environmental

Sustainability Target	Intent	Corresponding Theme
<p>Water</p> 	Reduce water through an energy efficient design, identify, and use non-potable water from local sources.	Environmental

Setting Sustainability Targets

7. The Sustainability Targets have been developed based on global benchmarking and are aligned with best practice, with particular focus on rail infrastructure and the most up to date industry sustainability rating tools.
8. MMRA has undertaken robust analysis to ensure that the Sustainability Targets are achievable and practical whilst extending the delivery beyond 'business as usual' for major infrastructure projects in Australia.
9. MMRA is using the following sustainability rating tools to measure performance against the Sustainability Targets:
 - a. Infrastructure Sustainability Council Australia ("**ISCA**") Infrastructure Sustainability ("**IS**") Rating Tool
 - b. Green Building Council of Australia ("**GBCA**") Underground Stations Rating Tool
10. MMRA has mandated the achievement of an Excellent IS rating for the project and 5 star rating for the Stations using the GBCA rating tool. More information about the 'Excellence' target below is set out below.
11. Sustainability initiatives, sustainability rating tools and Targets (where applicable) have been integrated into all contractual documentation.
12. The Sustainability Targets apply to all procurement packages, although some targets may be amended to be specific to the package, where required.

Melbourne Metro Sustainability Targets

13. The Sustainability Targets are presented below and the objectives of each target are described. Where the Targets relate to specific Environmental Performance Requirements ("**EPRs**"), this has also been identified.

Excellence

- a. Achieve a minimum IS score of 70 (Excellent) 'Design' and 'As Built' certified rating under the ISCA IS Rating Tool.
- b. Achieve a minimum 5 Star Green Star certified rating under the GBCA 'Design' and 'As-Built' Melbourne Metro Rail Tool for all below ground stations.

- c. Publicly report sustainability performance on an annual basis.
 - d. Demonstrate the implementation of innovative and pioneering initiatives in sustainable design, processes or advocacy that is considered a first in Australia and/or the world through the achievement of:
 - innovative and pioneering initiatives during design and construction; and/or
 - a broader market transformation towards sustainable development.
14. This Target requires an excellent outcome in terms of sustainability for Melbourne Metro, and mandates the use of standard industry sustainability rating tools to measure the outcomes. The mandated implementation of sustainability rating tools provides a framework for measuring sustainable outcomes against the Targets and to achieve the projects environment, social and economic commitments. The sustainability rating tools also allow for independent verification of sustainability performance.
 15. Public annual reporting will provide robust and transparent communication in the delivery of the Sustainability Targets and provide an opportunity to knowledge share about sustainability initiatives and innovation with broader industry.
 16. Relevant EPRs include EM2, EM3, G1, G2, LU4

Urban Ecology and Vegetation

- a. Double tree canopy cover by 2040 compared to the base case through the reinstatement of lost trees, planting of new trees, and the creation of improved growing conditions.
 - b. Ensure that the total amount of vegetated surface permanently gained post construction will be greater than the total amount of vegetated surface area permanently lost.
 - c. At least 25% of the new and reinstated planting areas must consist of diverse, multi-story plantings for biodiversity.
17. Achieving this target will assist in addressing tree impacts and Melbourne's heat island effect. The Target is best practice, as it goes beyond a business as usual approach (1:1 tree replacement). The Target also contributes to Melbourne's livability through city greening, and is complements the City of Melbourne's Urban Forest Strategy.
 18. To achieve the Target, MMRA has prepared a draft Living (green) Infrastructure Plan and will consult with local councils to finalise the Plan.
 19. Prepared jointly by Loci Environment and Place and MMRA, the Living Infrastructure Plan considers ecosystem dynamics alongside landscape aesthetics. The Plan sets out key strategies for the establishment and

success of urban ecosystems including biodiversity, soil health, canopy planning, Biophillic design and water management in order to help protect the wider environment along with public health and wellbeing. The Plan provides guidance on size of tree pit and water sensitive urban design requirements, as well as outlining best practice outcomes for healthy soils.

20. Relevant EPRs include LU4, SC8, SC9, AQ3, AR1, AR2, AR3, SW2, AE1, AE2, CH12, CH17.

Climate Resilience

- a. Undertake a climate risk assessment and develop a climate change adaptation plan that addresses climate risks and implement measures that ensure infrastructure, stations and precincts are resilient to the impacts of a changing climate.
21. This Target ensures that the Melbourne Metro infrastructure is resilient to the challenges presented by a changing climate through appropriate design responses.
 22. Relevant EPRs are SW1, SW2.

Supply Chain

- a. Develop and implement a project wide Local Content Strategy that establishes the framework for meeting or exceeding specific significant, strategic local content targets and general local content considerations in accordance with the *Victorian Industry Participation Policy Act 2003*, including:
 - Collaborate with the Industry Capability Network to maximise opportunities for local Small and Medium Enterprise (“SME”) participation.
 - Develop bespoke local content targets for each delivery package within the project.
 - Identify local SMEs for potential participation in the Supply Chain for the project, and demonstrate how these local SMEs have been alerted to potential tenders and supply opportunities.
23. The Supply Chain Target is based on mandated State Requirements. MMRA will work closely with the Industry Capability Network to set targets and implement Policy requirements as set out in *Victorian Industry Participation Policy Act 2003*. The requirements aim to provide opportunities to small and medium enterprises for works tendered by our delivery partners.
 24. Whilst there are no specific EPRs that relate to this Target, implementation of all Sustainability Targets is required by EPR G1.

Communities

- a. Implement initiatives that generate positive social outcomes to strengthen the economic, social and environmental well-being of the community.
 - b. Support the State's commitment to social procurement by implementing strategic procurement practices to generate social benefits beyond the products and services required.
 - c. Identify places of historical and cultural significance and minimise adverse impacts during construction and operation; develop and implement an interpretation plan that details initiatives to celebrate cultural connections and local identity.
 - d. Implement an independent design review process that enables technical experts to address key urban design aspects of connectivity, accessibility, safety and identity.
 - e. Provide timely and relevant information to the community on milestones, project designs and construction impacts; proactively identify and communicate opportunities for the community to participate in project planning and delivery.
25. The communities Target aims to positively influence communities through targeted programs designed to achieve positive social outcomes and ensuring impacted stakeholders and the broader public have opportunities to be involved in the project.
26. The Target takes a holistic approach to improving community interfaces by placing greater focus on urban design, culture, community resilience and wellbeing, the supply chain and engagement.
27. Relevant EPRs are LU4, CH6, CH7, NV4, SC3.

Work Force

- a. Identify and implement workforce initiatives that provide for the utilization of new workplace skills and contribute to relevant sectoral, state and national targets.
- b. Utilise Victorian registered apprentices, Victorian registered trainees or engineering cadets for at least 10% of the contract works' total estimated labour hours in accordance with the Major Project Skills Guarantee.
- c. Achieve the Aboriginal Employment Target of 2.5% of total labour hours on the project.
- d. Develop and implement nationally recognised accredited training and skill development programs and ensure that 20% of the

workforce participates in Nationally Recognised Accredited Training.

- e. Assess current and future workforce skill needs and develop a skills and labour gap plan and workforce profiles, including skill categories, required for the design and construction of major elements of the project.
 - f. Develop and optimise employment and training opportunities for economically and socially disadvantaged individuals during the construction and operational phase.
28. The Work Force Targets will help MMRA contribute to Major Projects Skills Guarantee Policy. The government's Major Projects Skills Guarantee initiative promotes a strong and sustained vocational training culture through the employment of apprentices, trainees and engineering cadets within the Victorian building and construction industry.
29. Undertaking workforce profiles will allow the project to identify gaps in industry and a competent and sustainable workforce builds skills providing for tailored, target training and development to ensure Metro Tunnel.
30. Seeking to increase the employment of Aboriginal and Torres Strait Islanders contributes to the culture of an inclusive workforce and helps Melbourne Metro contribute to the Victorian Aboriginal Employment Strategy 2016 - 2021.
31. Whilst there are no specific EPRs that relate to this Target, implementation of all Sustainability Targets is required by EPR G1.

Energy

- a. Achieve reductions in greenhouse gas emissions by a minimum of 20% below the base case (scope 1 and scope 2 emissions), excluding the use of renewable energy, for the infrastructure lifecycle.
 - b. Of the remaining greenhouse gas emissions footprint, source a minimum of 20% of energy from renewable sources for the infrastructure lifecycle through either:
 - generation of onsite renewable energy; and/or
 - use of alternative fuels; and/or
 - purchase of renewable energy from an Australian Government accredited renewable energy supplier.
32. This Target seeks to achieve an overall energy reduction over the infrastructure lifecycle of Melbourne Metro, with a focus on achieving best practice management measures in both construction and operation of the infrastructure delivered for the project.

33. Relevant EPRs are G1, G2

Materials and Waste

- a. Achieve a 15% reduction in materials lifecycle impacts (measured through EnviroPoints) below the base case.
 - b. Reduce Portland cement content in concrete by a minimum 36%, measured by mass, across all concrete used in the project compared to the GBCA reference mixes.
 - c. Source at least 95% of all timber products used for permanent works from re-used timber, post-consumer recycled timber or from Forest Stewardship Council.
 - d. Source at least 80% of steel used in construction from suppliers certified under Australian Certification Authority for Reinforcing Steels (ARCS) or similar international association or organisation.
 - e. Source at least 80% of fabricated structural steelwork from a steel fabricator/steel contractor which is accredited to the Environmental Sustainability Charter of the Australian Steel Institute (ASI) or similar international association or organisation.
 - f. Ensure that greater than 95% by volume of reusable topsoil and spoil (general fill), greater than 90% by volume of inert and non-hazardous waste and greater than 60% by volume of office waste is diverted from landfill.
34. The materials and waste Target seeks to require efficient use of resources and utilise best practice measures to maximise reuse and repurposing of materials, where practicable.
35. Suppliers accredited under the Environmental Sustainability Charter of the Australian Steel Institute are committed to demonstrating environmental responsibility through initiatives such as publishing sustainability policies, measuring carbon footprints and applying environmental practice criteria when establishing major sub-contractor and supplier lists.
36. An ambitious yet achievable Portland cement reduction target has been defined for Melbourne Metro, and sets a new standard for Victorian infrastructure projects. Portland cement is the component of concrete that is the most carbon intensive. Moreover, MMRA has made efforts to seek best practice outcomes, as concrete will be one of the most widely used materials on the project.
37. Relevant EPRs are G1, G2

Water

- a. Reduce total water use by a minimum of 5% below the base case.
 - b. Replace 20% of potable water with local non-potable water below the base case.
 - c. Reduce railway station use of potable water by a minimum of 30%.
 - d. Use rainwater and/or stormwater to provide passive irrigation to all tree plots and vegetated areas to support soil moisture needs.
 - e. Manage stormwater runoff from new or reinstated ground surfaces and roof areas to achieve the best practice water quality performance objectives as set out in the Urban Stormwater Best Practice Environmental Management Guidelines (Victoria).
38. This Target seeks to reduce water consumption and use alternative (non potable) water sources during construction and in the operation of the five proposed stations, contributing to the overall aim to reduce Melbourne Metro's water footprint.
39. To provide for healthy trees and landscapes, as well as ensure waterways receive run off that meets EPA requirements, MMRA requires that all replacement tree plots have passive irrigation to provide for healthy growing trees that contribute to the City's canopy cover. Moreover, it is also required that best practice treatment is applied to stormwater runoff to protect local waterways.
40. Relevant EPRs are SW1, SW2.

Submissions to the IAC

41. Concerns have been raised in submissions to the IAC which relate to greenhouse gas emissions and other sustainability issues associated with Melbourne Metro. MMRA has addressed these specific matters in the attached table of responses (**Attachment A**).

CORRESPONDENCE:

No correspondence.

ATTACHMENTS:

- A. MMRA Responses to submissions relating to Green House Gas and Sustainability

Technical Note 077 - Attachment A

MMRA response to submissions relating to GHG and sustainability issues

7 October 2016

Issue raised	Submitter raising issue	MMRA response
<p>1. Request for further details on MMRA's specific sustainability targets and how they will be used to achieve the following minimum sustainability ratings:</p> <ul style="list-style-type: none"> • achieve an 'Excellent' (minimum score of 70) 'Design' and 'As Built' certified rating under the Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability rating tool; and • achieve a 5-star Green Star certified rating under the Green Building Council of Australia (GBCA) 'Design' and 'As Built' Melbourne Metro Rail tool for all underground stations. <p>City of Port Phillip notes the importance of maximising the potential for a high score in each credit category to prevent a contractor seeking 'easy wins' by compromising on certain areas.</p> <p>City of Stonnington notes that specific targets are not included in EES Appendix W and states that clear Project targets should be included which reflect the State Government's leadership in climate change action.</p>	<p>MM133 City of Port Phillip</p> <p>MM257 City of Stonnington</p>	<p>EPR G1 requires the development and implementation of a Sustainability Management Plan (SMP) to meet, as a minimum, the Metro Tunnel sustainability targets. The Metro Tunnel sustainability targets include a requirement to achieve the specified ratings under the ISCA IS rating tool and the GBCA Green Star Design and As Built Melbourne Metro Rail tool.</p> <p>The Metro Tunnel sustainability targets have been noted by the Minister for Public Transport and endorsed by the Major Transport Infrastructure Board and MM Leadership Team are attached presented in Technical Note 077.</p> <p>The sustainability targets can be grouped into nine key focus areas that address social, economic and environmental themes. The targets will be individually applied to each work package for the Metro Tunnel to ensure that the specified sustainability ratings are achieved for the Project.</p> <p>MMRA agrees with the City of Port Phillip about the importance of maximising the potential for high scores across categories so as to ensure that 'easy wins' do not drive implementation of sustainability initiatives. To ensure that this occurs, MMRA's specific targets require the contractors to score highly in particular credit categories under the IS rating tool. For example, specific measures are required in relation to the materials and waste target category including a requirement to achieve a 15% reduction in materials lifecycle impacts (measured through Enviro Points) below the base case and to reduce Portland cement content in concrete by a minimum 36% measured by mass across all concrete used in the Project compared to the GBCA reference mix. This aligns with best practice and means that contractors cannot simply implement the most cost effective initiatives to achieve the required sustainability ratings but must meet specific targets within particular credit categories.</p> <p>EPR G2 requires the monitoring and reporting on how each of the best practice GHG abatement measures and sustainability initiatives identified in the Concept Design will be implemented in the detailed design of the Project and whether any additional measures not included in the Concept Design are feasible. This EPR will be implemented by the</p>

Issue raised	Submitter raising issue	MMRA response
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contracts for each work package for the Project.

2. City of Port Phillip suggest that achieving Passivhaus certification for each station would meet best practice and position the Metro Tunnel as a world leader.

MM133 City of Port Phillip

Passivhaus is a specific energy performance standard that seeks to deliver very high levels of energy efficiency. A Passivhaus *“is a building, for which thermal comfort can be achieved solely by post-heating or post-cooling of the fresh air mass, which is required to achieve sufficient indoor air quality conditions – without the need for additional recirculation of air.”* (www.passivhaus.org.uk/standard).

Passivhaus certification is not technically feasible for the Metro Tunnel stations. Passivhaus sets benchmarks for space heating, cooling and primary energy demands which cannot be achieved without a superior sealed building envelope including thermal bridge free design (i.e. there should be no areas which allow higher heat transfer than the surrounding thermal envelope), quality insulation and airtight construction. As such, Passivhaus certification is typically only applied to sealed buildings that are exposed to the elements of the surrounding environment and climate conditions. As the Metro Tunnel stations will be open at street level, and the majority of the station building envelope is located below ground, it is not possible to achieve the benchmarks required for Passivhaus certification.

However, MMRA has worked with the GBCA to customise the Green Star ‘Design’ and ‘As Built’ Melbourne Metro Rail rating tool for the underground stations. In customising the rating tool, benchmarks for thermal comfort, heating, cooling and primary energy demands have been set at a high level. Achieving a minimum 5-star certified rating for the underground stations under the customised ‘Design’ and ‘As Built’ tool, will meet best practice and will position the Metro Tunnel as a world leader in sustainable design, construction and operation. This minimum rating is required by EPR G1.

3. Request a commitment to net zero annual emissions in the operations phase or alternatively, an increase in the percentage of energy sourced from renewable sources beyond 20%. In particular:

- City of Port Phillip advocates for a target of net zero emissions
- the Clean Energy Council acknowledges the minimum 20% renewable energy target as a

MM133 City of Port Phillip

MM345 Clean Energy Council

MM337 (private submitter)

EPR G1 requires that, at a minimum, the Metro Tunnel sustainability targets be met. The sustainability targets have specific targets in relation to energy:

- Achieve reductions in greenhouse gas emissions by a minimum of 20% below the base case (scope 1 and scope 2 emissions) excluding the use of renewable energy, for the infrastructure lifecycle.
- Of the remaining greenhouse gas emission footprint, source a minimum of 20% of energy from renewable sources for the infrastructure lifecycle through either:
 - generation of onsite renewable energy and/or

Issue raised	Submitter raising issue	MMRA response
<p>positive step but encourages more ambitious renewable energy targets in line with the Victorian government targets of 25% by 2020 and 40% by 2025</p> <ul style="list-style-type: none"> MM337 calls for 100% green energy 		<ul style="list-style-type: none"> use of alternative fuels; and/or purchase of renewable energy from an Australian Government accredited renewable energy supplier. <p>Taken together, these targets effectively reduce GHG emissions by a minimum of 36% during the Project lifecycle.</p> <p>MMRA submits that the renewable energy targets are one element of the sustainability targets for the Project. Regard must also be had to the many other positive sustainability measures that will be realised by the Project including in relation to sourcing of materials and reducing waste; reductions in water use and management of stormwater and its re-use; measures directed to workforce participation and training and achieving a minimum of an Excellent Design and As Built certified rating under the ISCA rating tool and a minimum 5 star Green Star certified rating under the GBCA Design and As Built Melbourne Metro Rail Tool for all below ground stations.</p>
<p>4. A cost effective way of purchasing renewable energy is through a public tender process (i.e. ACT reverse wind auction, Melbourne Renewable Energy Project) or by purchasing Large Generation Certificates.</p>	<p>MM133 City of Port Phillip</p> <p>MM345 Clean Energy Council</p>	<p>All options for the purchase of renewable energy will be considered as part of the strategy to meet the specific Metro Tunnel energy targets.</p>
<p>5. The City of Port Phillip suggests prescribed targets for each potential source of GHG emission.</p>	<p>MM133 City of Port Phillip</p>	<p>Specific energy targets require reductions of Scope 1 and 2 GHG emission by a minimum of 20% below base case (excluding the use of renewable energy) for the Project lifecycle.</p>
<p>6. The Project should demonstrate best sustainable practice in construction and design, including by:</p> <ul style="list-style-type: none"> Using the hot air from the tunnels for a secondary use. Incorporating renewable energy such as solar panels on station structures Minimising use of potable water during the 	<p>MM274 Melbourne Anglican Trust Corporation – St Paul’s Cathedral</p>	<p>Agreed. EPRs G1 and G2 will ensure that the Project incorporates best sustainable practice in construction and design.</p> <p>EPR G1 requires that, at a minimum, the MMRA sustainability targets be met. These include specific water, materials and waste reduction targets.</p> <p>EPR G2 requires monitoring and reporting on how each of the best practice GHG abatement measures and sustainability initiatives identified in the Concept Design is implemented in the detailed design of the Project and whether any additional measures not included in the Concept Design are feasible.</p>

Issue raised	Submitter raising issue	MMRA response
<p>construction process</p> <ul style="list-style-type: none"> Stormwater harvesting and reuse Recycling of demolition materials Provision of bicycle parking at stations 		<p>Best practice GHG abatement measures have either been captured in the Concept Design, or are required to be further investigated during the Detailed Design phase. Initiatives included in the Concept Design include use of regenerative braking (trackside and on lifts and escalators), LED lighting, lighting sensors, solar PV, water sensitive design and specific materials reduction strategies (i.e. reduction of Portland cement content and use of steel fibres instead of rebar to reinforce concrete).</p> <p>Additional GHG abatement measures that are to be investigated during detailed design include kinetic energy harvesting at ticketing gates and turnstiles and use of fibre optic technology to introduce daylight from ground level onto the concourse or platform levels. MMRA is also collaborating with the University of Melbourne to undertake a feasibility study into the application of geothermal heating and cooling at railway stations as an energy saving measure.</p>
<p>City of Melbourne recommend that a new EPR be included which seeks to minimise the impacts associated with waste collection and storage in the Project construction area.</p> <p>City of Melbourne also recommends that the Metro Tunnel sustainability targets address:</p> <ul style="list-style-type: none"> diversion of waste from landfill during Project construction and operation minimisation of impacts associated with waste management during Project construction and operation 	<p>MM365 City of Melbourne section 10.9</p> <p>EWS of Melanie Oke</p>	<p>MMRA has agreed a new waste management EPR with the City of Melbourne which requires the development and implementation of a plan in consultation with local councils and private waste collection services to manage changes to waste collection and storage in the construction area (see EPR TB).</p> <p>MMRA notes that the sustainability targets include specific materials and waste management targets that are required to be met under EPR G1. The specific materials and waste targets are:</p> <ul style="list-style-type: none"> Achieve a 15% reduction in materials lifecycle impacts (measured through Enviro Points) below the base case. Reduce Portland cement content in concrete by a minimum 36% measured by mass across all concrete used in the project compared to the GBCA reference mix. Source at least 95% of all timber products used for permanent works from re-used timber, post-consumer recycled timber or from Forest Stewardship council. Source at least 80% of steel used in construction from suppliers certified under Australian Certification Authority for Reinforcing Steels or similar international association or organisation. Source at least 80% of fabricated structural steelwork from a steel fabricator/steel contractor which is accredited to the Environmental Sustainability Charter of the Australian Steel Institute (ASI) or similar international association or organisation.

Issue raised

Submitter
raising issue

MMRA response

- Ensure that greater than 95% by volume of reusable topsoil and spoil (general fill) greater than 90% by volume of inert and non-hazardous waste and greater than 60% by volume of office waste is diverted from landfill.
-