RESOURCE EFFICIENCY STRATEGY 2016 TO 2023



NSW HEALTH

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Statement from the Secretary

The NSW health system faces many challenges, now and in coming years including those related to a changing climate and the rising cost of water, energy and waste management. As demand for health services continues to grow, responding to these challenges will require changes in the way health services are delivered. Now, more than ever, it is clear that our business must be undertaken in a way that maximises resource efficiency while minimising operational costs and impacts on the environment.

The NSW State Plan 2021 commits Government to a number of goals & objectives relevant to its own resource efficiency and is a key driver for our vision through the State Health Plan to provide 'the right care, in the right place, at the right time'. Resource efficiency assists our strategic goals by placing downward pressure on utility bills at our facilities resulting in increased investment in frontline services.

NSW Health is the largest general Government energy consumer in NSW. It operates several of Sydney's largest water consuming sites and generates a significant amount of waste. Through our leadership and influence, NSW Health can drive change on a scale to make a significant impact on the government's overall sustainability performance and operational costs.

NSW Health is committed to the strategic approach outlined in this *Resource Efficiency Strategy* to reduce our resource consumption and harmful air emissions and increase the resilience of Health assets. This Strategy sets out the NSW Health vision, identifies opportunities to incorporate resource efficiency into our business and proposes strategic priorities for action.

One of the key priorities in the State Health Plan is to work in partnership with key stakeholders. It is important to note that this resource efficiency strategy has been developed collaboratively with input from internal stakeholders including Local Health District Energy Managers and external partners such as the Office of Environment & Heritage.

We will build on the achievements, expertise and skills of NSW Health staff to continue to work together to achieve the scale of change required to realise the vision of this strategy.

Elizabeth Koff

Secretary, NSW Health

Contents

Statement from the Secretary	1
Executive Summary	3
Vision	3
Strategic context	8
Taking Action	9
Targets and Key Performance Indicators	10
Energy	11
Water	14
Waste	16
Clean Air and Climate Change Adapation	18

Executive Summary

This document establishes NSW Health's resource efficiency vision, strategic priorities, actions, indicators and targets for the next seven years (2016-2023).

NSW Health has developed this Strategy to strengthen its strategic approach to the challenges

of the rising costs of energy, water and waste management, mitigate the negative effects of Health's activities on air pollution and increase the resilience of Health facilities. This includes a plan of action to further improve the resource efficiency of Health's operations and deliver operational cost savings.

Vision

NSW Health's vision is for the right care, in the right place, at the right time (NSW State Health Plan). Resource efficiency helps us to meet our strategic goal by placing downward pressure on utility bills at our facilities to allow increased investment in frontline services and implement initiatives that improve air quality for patients, staff and the wider community.

The commitment is to a resource efficient health system to manage costs and reduce the impact on the environment. This will be achieved by concurrently improving the asset base to minimise resource use, increase resilience and by ensuring that we improve corporate services by standardising and integrating management systems across all NSW Health entities.

Actions will be delivered through policy promulgation, upgraded design standards for construction and refurbishments, improved maintenance delivery programs, better reporting platforms and forums, behaviour change initiatives for staff and market transformation initiatives for service providers and contractors.

Introduction

About this Strategy

This document sets out NSW Health's commitment to improve the resource efficiency of public health services in NSW. Guided by the NSW Government Resource Efficiency Policy (GREP), it provides a starting point for the development of key strategies to better manage and report on performance across the NSW Health cluster from now until to 2023.

This scope of action within this strategy covers all entities within the Health cluster of the NSW Government. The strategy will rely on the successful implementation of all operational polices and plans that are already in place to implement the clusters operations.

This Strategy outlines:

- the existing resource productivity of Health's activities
- planned resource efficiency strategies across relevant resource themes
- cost effective actions for key resource users including existing and new hospitals and health care facilities

The actions address the themes of energy, water, waste, fleet, clean air, climate change adaptation and have been developed to improve NSW Health corporate environmental performance and assist the Local Health District providers, and suppliers, to adopt environmentally sustainable practices.

The breadth of external funding available to assist in implementing actions includes:

- The NSW Treasury Crown Finance through Office of Environment & Heritage,
- NSW Energy Saving Scheme

Progress of the Health Resource Efficiency Strategy will be measured by reporting publically on targets using indicators defined in this plan. The Strategy will be reviewed each year with revised targets, strategies or actions amended to reflect changes in technology, priorities, policies or funding opportunities.

Background

NSW Health comprises the Ministry of Health, 15 Local Health Districts (LHD) and 3 Specialty Health Networks, State Wide Health Services, Shared Services and the 6 Health Pillars.

The NSW Ministry of Health works for the people of NSW by leading system wide health policy, planning and regulation. The Ministry allocates resources, manages performance and supports health related whole-of-government initiatives.

NSW Health is one of the largest providers of health care in Australia and a major government facilities manager. In 2014/15 NSW public hospitals provided approximately:

- 1.84 million separations
- 26 million non-admitted patient services
- 2.69 million Emergency Department attendance
- 25 000 average available beds. These beds provide acute, non-acute, mental health, long stay and nursing home type services.
- The total number of Full Time Equivalent Staff (FTE) employed in NSW Health, as at June 2015 was around 108,000.

For more information about NSW Health, refer to the NSW Ministry of Health Annual Report 2014-15.

Environmental impact of our activities

The impact of NSW Health operations have on the environment is substantial. In 2014, the total cost to provide health care services was \$17.9 billion, with \$125.7 million spent on electricity.

By meeting the targets in this strategy, NSW Health will:

- Meet the challenges of the rising cost for energy, water and waste management
- Use purchasing power to drive down the cost of resource-efficiency technology and services and
- Show leadership by incorporating resource efficiency in decision-making.

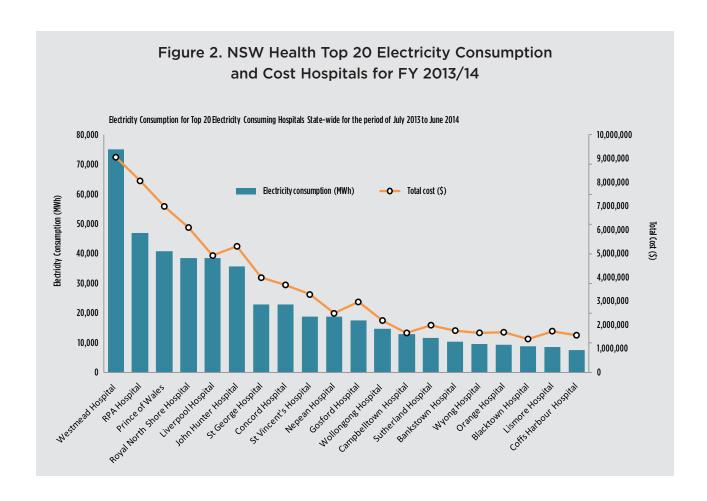
Energy Use

NSW Health is the largest NSW Government budget dependant agency consumer of energy in buildings. Figure 1 shows NSW Health rolling energy trend for the past three (3) financial years.

- The cost of the energy in 2013/14 has risen by more than twenty seven (27) per cent compared to 2011/12.
- In a similar trend, the consumption has risen over three and half (3.5) per cent for the same period.

Figure 1. NSW Health 3 Year Rolling Energy Cost and Consumption

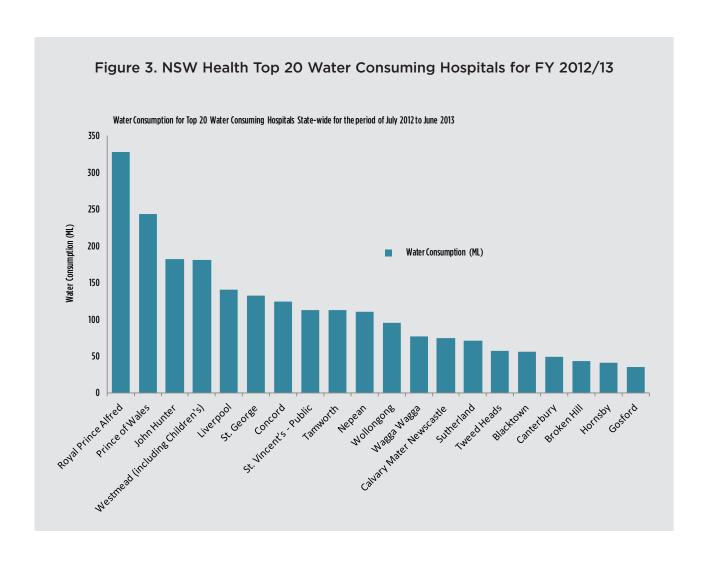
Year	Count of Contract Account ID	Total kWh	Electricity cost \$	Total Electricity Bill \$
2012-2013	422	743,563,525	\$37,019,132	\$119,451,769
2013-2014	429	739,837,254	\$39,758,680	\$125,744,994
2014-2015	445	749,954,063	\$38,165,203	\$105,402,913



Water Use

Likewise NSW Health is one of the state's largest water users.

 Sixteen (16) NSW Health sites (mostly hospitals and some linen services) are amongst the highest water users (sites using more than 50 megalitres per year) in Sydney Water's area of operations (Sydney, the Blue Mountains and Illawarra)



Waste

Like energy and water, NSW Health has a large waste footprint. Figure 4 shows waste stream performance for 2012/13.

Figure 4. NSW Health Waste Data Report FY 2012/13

Material	Total quantity disposed tonnes	Total quantity recycled tonnes	% recycled
Copy paper	1730	1789	100
Cardboard	778	603	78
Combined Paper/ Cardboard	501	495	99
Used toner cartridges	25302	25426	100
Co-mingled containers (office based)	44698	44674	100
Computer CPUs and laptops	3627	4798	100
Vegetation waste	435	224	51
Concrete	454	214	47
Fill / Virgin Excavated Natural Material	3792	2092	55
Asphalt	33	24	74
Timber	151	126	83
Bricks and roof tiles	512	315	61
Glass	9	6	70
Plasterboard	25	3	11
Steel	181	164	91
Non-ferrous metals	41	45	100
Mixed Waste Streams	1163	361	31
Contaminated: Asbestos	224	0	0

Strategic context

NSW Health has identified resource efficiency priority areas for action and integration with the Health Performance Management Framework.

Integration is proposed to occur at all levels with:

- · the State Health Plan
- NSW Health Business Plan
- · Annual Management Reviews
- Asset Management Planning
- Facilities Management Planning
- · Budget, maintenance, capital works planning
- · Local Health District hospital planning
- Corporate Planning

Externally NSW Health will:

- Link to national and international environmental policies and strategies for Health
- Maintain on-going relationships with other Government agencies.
- Build strategic relationships with the market to enable more effective and innovative ways of achieving resource efficiency

Underpinning strategic priorities

There are three primacies that underpin the Health Resource Efficiency Strategy:

- Building partnerships internally and externally with:
 - Government agencies and research organisations which promote the information and resource sharing, collaborative solutions and delivery of resource efficiency outcomes
 - Work with suppliers/providers and contractors to establish resource efficiency requirements

- Staff of all levels across NSW Health such engagement is vital to reduce our environmental impact and improve resource efficiency
- Sustainable asset management Innovation in building management and maintenance, thereby lowering operational costs, reducing environmental impact and increasing the resilience of assets to severe weather events
- Conservation of natural resources by reducing water and energy consumption and waste generation.

Consultation

NSW Health is committed to collectively working with all levels of stakeholders in the development and implementation of the NSW Health Resource Efficiency Strategy.

This Strategy has been developed in consultation with:

- Local Health Districts
- Members of the Health Sustainability Roundtable Network (this comprises: Energy Managers, and other Managers with an interest in sustainability from the LHD's)
- Asset Managers, Energy Managers, Facilities Managers, Environmental and Procurement officers
- The Office of Environment & Heritage (OEH).

Ministry of Health Sustainability Unit will also meet with LHD sustainability committees to reinforce the importance of the changes proposed and to promulgate local action.

Taking Action

Resource Efficiency Implementation Reporting (REIR)

Health NSW will report publically on performance against targets using the indicators outlined in this strategy on an annual basis. The Ministry of Health (MOH) will assist LHDs to report on their resource efficiency performance by:

- Facilitating the implementation of strategies to align with targets
- Develop project registers detailing opportunities, funding, resources and timeframes
- Develop strategies to monitor, report and track performance for waste and water
- Developing templates to facilitate the collation of Cluster wide resource efficiency performance data. Completed templates are to be submitted to the Ministry of Health on an annual basis to enable completion of a comprehensive Health NSW resource efficiency annual report
- Designing a skills development program to aid relevant LHD Managers in closing knowledge gaps in resource efficiency reporting and further develop skills in sustainability planning

AFM Online

NSW Health has rolled out Assets and Facilities Management (AFM) Online, a database management system, enabling NSW Health to take a proactive approach in managing, monitoring and reporting energy consumption across all facilities.

The current phase of the system development deals exclusively with state 777 and 776 electricity modules however the system will be extended to cover other utilities to enable efficient tracking and analysis of electricity, gas, water and waste.

The key objectives of AFM Online are:

- To enable complete visibility of energy consumption at three levels - State-wide, LHD & Facility
- To enable web based utility bill reporting and tracking
- To provide reports with visual graphs that help identify consumption patterns and bill discrepancies
- To provide reports in line with GREP requirements

Expected benefits include:

- Increased visibility of utility costs resulting in tailored projects to reduced expenditure
- Establishing a complete management system for all NSW Health sites across all utilities
- Tracking and reporting internally on the success of sustainability projects
- Increasing the ease of reporting to meet GREP requirements

Targets and Key Performance Indicators

The Health Resource Efficiency Strategy uses the following structure:



Targets and Key Performance Indicators (KPI) are enablers for NSW Health to not only measure and disclose but be accountable to internal and external stakeholders for organisational environmental performance. The KPIs proposed should be seen as an initial estimate to be refined over time as the Strategy is validated.

NSW Health will use 2012/13 as the baseline upon which all reporting will be compared to in the future. The targets will be modified as necessary in light of changes such as:

- where targets are achieved, new targets may be set
- changes in technology or priorities may modify, or add to, existing strategies
- changes in Commonwealth or State Government funding priorities or policies
- the emergence of new risks relating to climate change

Energy

Goals

- Putting downward pressure on energy bills.
- Demonstrating leadership in energy management.
- Constructing new facilities that are energy efficient.

Targets

- 1. Implement energy efficiency projects at sites that represent 90% of billed energy use by 2023
- 2. Achieve 4.5 star NABERS ratings for office buildings and data centres
- 3. Purchase energy efficient electrical equipment
- 4. Achieve a minimum 4.5 star NABERS rating for all new buildings
- 5. Explore options to increase renewable energy production by all LHD's
- 6. Purchase light vehicles to comply with the latest Euro and US EPA emissions standards
- 7. Purchase 6 % Greenpower for all non LHD facilities

Indicators

- 1. Money saved on energy bills, number of energy efficiency projects implemented
- 2. Number of corporate office buildings with NABERS ratings 4.5 stars or higher
- 3. Statements of compliance

ACTION	HOW	INDICATORS	WHO
1. Undertake energy efficiency projects: Implement energy efficiency projects that	All asset owning Health entities are to identify sites that represent 90% of consumption with an interim target of 55% and develop an action plan or undertake audits to prioritise projects at targeted sites. Record all projects completed to date (or being implemented) with details	Ministry is developing a report using AFM Online to list energy consumption per site in a descending order. LHDs to maintain a database and update fields relating to: • Projects implemented	WHO Local Health Districts Ministry of Health
represent 90% of billed energy use by 2023, with an interim target of 55% by 2017.	such as savings (kWh) and Cost (\$). All projects implemented since 2012/13 are to be captured by reporting. A project is defined as a measure or a series of measures that combine to amount to at least 10% of a site's energy consumption, or all measures identified through a full building energy audit at the site that would deliver an internal rate of return of 12% p.a. over the life of the project. Energy is defined as total electricity and gas usage.	 Savings (\$ and kWh) Project value Status % of savings over total site consumption LHD's to report indicators to MOH on annual basis using a baseline of FY 2012/13. 	

ACTION	HOW	INDICATORS	WHO
2. Minimum NABERS Energy Ratings for Office and	Develop and maintain a property register with NABERS relevant data such as: • Net Lettable Area	NSW Health to maintain a register for NABERS Ratings of all relevant properties. The register will	Government Property NSW
			Ministry of Health
Data Centres	 Net Lettable Area Current NABERS ratings Leasing duration Occupying agency A baseline NABERS rating is to be 	detail: Result of NABERS rating Future Intention – Short medium and long term	Office of Environment and Heritage
	completed by July 2015 for relevant buildings.	Property details – address, occupying floorsNLA	
	NABERS ratings can be improved through the following activities:	• Tenancy lighting results (w/m²)	
	 Complete a tenancy lighting assessment and implement findings Migrate decentralised data centres to the central government datacentres. Implement green lease clause by 	Tracking of number of ratings completed • Annual tracking of ratings improvements • Lease tracking	
	participating in Building Management Committee (BMC) meetings with Government Properties NSW	LHD's to report statements of compliance outlining: • How NABERS ratings of 4.5 stars are being	
	 Implement activity based workstations into the planning principles of any new office fit outs. Implement activity based achieved for office spaces over 2000m2 How NABERS ratings 	spaces over 2000m2 • How NABERS ratings are being achieved for data	
3. Minimum	All new electrical equipment	The NSW Health resource	Ministry of Health
Standards for new electrical	r electrical market average star rating as outlined to include compliance statement confirming	statement confirming	Local Health District
appliances and equipment			Health Share
сущритель		Health Infrastructure	
	Health procurement guidelines are to be updated to reflect new minimum standard requirements for new appliances and equipment, including medical equipment, purchased by June 2016.		
	The IT procurement policy is to be updated to reflect the efficiency ratings of electronic equipment.		

ACTION	ном	INDICATORS	WHO
4. Minimum standards for new buildings	Review and update current engineering design standards for new facilities to align with minimum standards required to achieve a predicted performance of at least 4.5 stars NABERS energy rating. Sample tender document to ensure minimum standard requirements are flowing through to projects.	Compliance statement to be provided by LHD's to MOH for development of the annual report.	Health Infrastructure Local Health Districts Ministry of Health
5. Enable renewable energy opportunities	There are significant renewable energy opportunities available to Health NSW. Such opportunities will reduce reliance on the domestic electricity market and increase resilience during electricity outages caused by extreme weather events. Strategies to increase renewable energy production will include identifying sites for: • Outright purchase of renewable energy projects. • Solar Leasing and Power Purchase Agreement (PPA).	LHDs are to report to MOH on an annual basis updating a list of sites suitable for renewable energy production and completed projects. The list of sites suitable for renewable energy production is to include: • Geographical location; • Associated cost (where quotes exists) LHDs are to complete at least one renewable energy installation per year if an internal rate of return of 12% of higher can be achieved.	Local Health Districts Ministry of Health Office of Environment and Heritage
6. Minimum fuel efficiency standards for new light vehicles	Improve minimum fuel efficiency standards for new light vehicles so that the average Health Vehicle purchase is at least the market average fuel efficieincy.by vehicle NSW Health to confirm if state fleet contract is currently in place for fleet vehicles. If state contract is not in use then determine number of fleet improvement plans submitted and the number of health entities achieving 12/20 score or better.	Compliance statement to be provided by LHD's to MOH for development of the annual report.	State Fleet Local Health Districts Ministry of Health
7. Purchase a minimum of 6% Green Power	To demonstrate alignment with the strategic objectives of the NSW Renewable Energy Action Plan, NSW Health will purchase 6% GreenPower for all non-LHD facilities to encourage generation of renewable energy by the market. This will be managed through the delivery of central energy supply contracts with the NSW Office of Finance and Services.	Compliance statement to be provided by LHD's to MOH for development of the annual report. A dataset will be delivered from OFS pertaining to NSW Health sites currently purchasing GreenPower and percentage (%) quantity per site.	Department of Financial Services and Innovation (DFSI) Ministry of Health Local Health Districts

Water

Goals

- Becoming more resilient to future water shortages
- Demonstrating leadership in the procurement of water efficient products
- Constructing new facilities that are water efficient

Targets

- 1. Report annually on water consumption with a view of stabilising water use
- 2. Achieve a minimum 4 star water NABERs rating for all health office buildings to demonstrate water efficiency
- 3. Health purchases water efficient equipment and fixtures

Indicators

- 1. Water performance to be reported annually in terms of KL used and \$ spent
- 2. Statements of compliance

ACTION	ноw	INDICATORS	WHO
1. Report on water use	Health will report on water use where data is available. Health will provide the Office of Environment and Heritage with water meter numbers from NSW Government-owned sites in Sydney, the Hunter and the Central Coast. The Office of Environment and Heritage will work with water companies to gather consistent information available on water use in these areas to inform water consumption baseline information. Health will identify and implement specific actions to reduce annual water usage.	LHDs to maintain a database quarterly by updating fields relating to: • Water use in (KL) • Billing information e.g. water meters • Water spend (\$) LHD's to report annually on key performance Indicators to MOH using a baseline of FY 2014/15.	Office of Environment and Heritage Government Property NSW Ministry of Health Local Health Districts
2. Minimum Water Standards for Office Buildings	All new and refurbished owned office buildings and leased office buildings with a net lettable area of over 2000 m2 will achieve a whole building NABERS Water rating of 4 stars where cost-effective. NSW Health to maintain a register for NABERS water ratings of all relevant properties. The register will detail: Result of NABERS water rating Future Intention - Short medium and long term Property details - address, occupying floors Tracking the number of ratings completed: Annual tracking of ratings improvements Lease tracking	LHD's to report statements of compliance outlining: • How NABERS water ratings of 4 stars are being achieved for office spaces	Office of Environment and Heritage Government Property NSW Ministry of Health Health Infrastructure Local Health Districts
3. Minimum standards for new water- using appliances	All new water-using appliances, shower heads, taps and toilets purchased by NSW Health must be at least the average WELS star rating by product type. The Office of Finance and Services will update specifications in standard supplier contracts in NSW ProcurePoint. Appliances and equipment in the following categories with star ratings under the Water Efficiency Labelling Scheme (WELS) must have at least the following star ratings: Showerheads – 3 stars Toilets and urinals – 4 stars Washing machines – 4 stars Dishwashers – 4 stars	Compliance statement to be provided by LHD's to MOH for development of the annual report.	Office of Environment and Heritage Office of Finance, Services & Innovation Ministry of Health Health Infrastructure Local Health Districts

Waste

Goals

- Encouraging strategies to reduce waste volumes and costs
- Encouraging the use of recycled and sustainably sourced materials

Targets

- 1. Report annually on waste performance of the top three waste streams by cost and volume
- 2. Stabilise the generation of top three waste steams

Indicators

- 1. Waste reported annually by volume and cost for top 3 waste streams. The top three waste streams for NSW Health are as follows:
 - Clinical waste
 - General waste to landfill
 - Comingled recycling

ACTION	ном	INDICATORS	WHO
1: Report on top three waste streams by total volume and by total cost	Annual reporting of waste to landfill will help save money through encouraging strategies to reduce waste volumes and costs and encourage improved recycling practices across all waste streams. While the segregation of waste streams at the workplace can be hindered by facility space design, the adoption of behaviour change initiatives and the adoption of procurement targeted reductions in packaging will aid in volume reduction.	Compliance statements from LHDs to be sent to the Ministry of Health for inclusion in annual report which includes: Cost and volumes of waste disposed for top three waste streams Comparison with the previous two years	Local Health Districts Ministry of Health
2: Increase the use of recycled and sustainably sourced materials	NSW Health will help drive growth and innovation in the market for recycled and sustainably sourced material by purchasing: • Construction materials with recycled content to comply with relevant Environment Protection Authority exemptions and reference design specifications for re-use (such as the specifications from the Institute of Public Works Engineering Australia for pavements, earthworks and drainage) • Copy, stationery and print publication paper with post-consumer recycled content as defined under AS14021 or certified as lifecycle carbon reduced under the National Carbon Offset standard; or non-recycled paper from sustainable sources accredited under the PEFC, FSC or equivalent.	The cost and amounts of recycled content materials purchased are to be recorded at the discretion of Health entities.	All Health entities

Clean Air and Climate Change Adaptation

Goals

- Minimising the impacts of Health operations on air quality and public health
- Ensuring the resilience of Health services and assets in times of extreme weather conditions

Targets

- 1. Contractor supplied and Health purchased non road diesel plant and equipment complies with the latest EU or US EPA air emissions standards
- 2. All surface coatings and paints will comply with the Australian Paint Approval Scheme (APAS) where fit for purpose
- 3. Health will endeavour to undertake Climate Change risk assessments and adaptation planning

Indicators

1. Statements of compliance.

ACTION	HOW	INDICATORS	WHO
1: Air emission standards for mobile non-road	The Office of Finance and Services will update standard contract specifications for subcontractor and lease agreements and specifications	Compliance statement to be provided by LHD's to MOH for development of the annual report.	Ministry of Health
			Office of Finance, Services & Innovation
diesel plant	for products purchased through	·	Health Infrastructure
and equipment Contractor-	ProcurePoint. Where goods are high value and		Local Health Districts
supplied and government- purchased equipment will	purchased through another route other than ProcurePoint, NSW Health will apply the same minimum standards.		
standards	NSW Health will incorporate new standard specifications in contracts using sub-contractors or when mobile non-road diesel plant and equipment is leased.		
2: Low-VOC surface	Update procurement policy to incorporate low-volatile organic compound (VOC) requirement for refurbishment/fit out and construction projects. Review existing procedure, processes and procurement guidelines to ensure that Low - VOC paints are specified in practice.	Compliance statement to be provided by LHD's to	Office of Finance, Services & Innovation
coatings		MOH for development of the annual report.	Ministry of Health
All surface coatings will comply with the Australian Paint Approval Scheme (APAS) where fit for purpose.		the annual report.	Health Infrastructure
3: Seek	Climate change is projected to affect climatic extremes in different ways depending on location with	The recommended completion of climate change risk assessments	Ministry of Health
opportunities to implement			Local Health Districts
Climate Change risk assessments and adaptation planning for LHD's.	mate consequent impacts on Health assets, infrastructure and services. To help sessments manage such risks it is recommended that LHD's plan to undertake climate change risk assessments and		Office of Environment and Heritage

