



# FluoroCycle

**ANNUAL REPORT YEAR 3 (2015-2016)**



**PRODUCT STEWARDSHIP**  
Australian Government Accredited

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## Introduction



Mercury-containing lamps can be collected for recycling during scheduled maintenance.

Image source: CMA Ecocycle Pty Ltd

The FluoroCycle scheme is an accredited voluntary arrangement under the Product Stewardship Act 2011, concerned with the stewardship of waste mercury-containing lamps. All signatories to FluoroCycle are issued with the Australian Government Product Stewardship logo and style guide on approval.

The FluoroCycle scheme's operation is fully funded by a recycling levy which is paid by members of Lighting Council Australia. No other funding is currently received from any external parties.

FluoroCycle was officially recognised as an Australian Government accredited voluntary product stewardship arrangement on 27 June 2014. FluoroCycle was required to provide clearly defined outcomes for the scheme over a five year period within its application for accreditation including appropriate milestones and interim targets.

This report provides an update on the FluoroCycle scheme's achievements for Year 3 and refers to Year 3 milestones and outcomes. FluoroCycle is a facilitator and promoter of the recycling of mercury-containing lamps and uses appropriate milestones to track its progress.

At the commencement of the FluoroCycle scheme in July 2010, the estimated recycling rate of mercury-containing lamps was only 5%. A report commissioned by the Department of Environment and Energy in 2013 by an external environmental consultant, Netbalance, calculated the recycling rate to be 9.5% in 2012. The recycling rate at the end of Year 3 (2015/16) is estimated to be 12% .

Source: Appendix A - Netbalance FluoroCycle Data Report - Final Report - 23 August 2013

During Year 3 there were three lamp recyclers operating in Australia, CMA Ecocycle, EcoCycle Australia and Toxfree. Currently only CMA Ecocycle operates a mercury processor licenced and approved by the Victorian Environment Protection Agency (EPA). Ecocycle Australia ceased trading in October 2015.

The aggregated data on the total volumes of mercury-containing lamps collected and recycled during Year 3 has been provided by CMA Ecocycle and Toxfree. CMA Ecocycle has provided the data on the total volume of mercury recycled from mercury-containing lamps only. CMA Ecocycle also recycles mercury from other products such as dental and medical waste, mining and industrial equipment, batteries and electronic waste. The mercury recovered is used in the manufacture of dental amalgam in Australia. The total volume of lamps collected includes the glass, ballasts, metal and plastic fittings. The lamp recyclers separate the components of the lamps collected and can recycle and/or on sell most of the components for processing by other recyclers, such as metal recyclers.

FluoroCycle continues to require signatories to provide a signed Annual Statement of Compliance and to take part in random or risk based audits to help maintain the integrity of the scheme branding.

FluoroCycle maintains an active communication strategy to promote the scheme to existing and potential signatories and stakeholders.



Elemental Mercury – Image source: CMA Ecocycle

## Key outcomes for Year 3

- Estimated 12% national recycling rate of mercury-containing lamps in Year 3 (2015/16), up from 9.5% in 2012.
- 117 kilograms of mercury recycled in Year 3 (2015/16), up from 51 kilograms in Year 2 (2014/15).
- 1,200 tonnes of mercury-containing lighting waste collected during Year 3 (2015/16), up from 800 tonnes in Year 2 (2014/15).
- The FluoroCycle website unique monthly visitors range from 1,200 to 2,400 per month.

## Governance arrangements

Lighting Council Australia as the FluoroCycle Administrator is responsible for the implementation and day-to-day management of FluoroCycle. Governance and organisational matters are included in the FluoroCycle Guidelines which is available for download, [http://www.fluorocycle.org.au/cms/files/FluoroCycle%20Guidelines\(1\).pdf](http://www.fluorocycle.org.au/cms/files/FluoroCycle%20Guidelines(1).pdf)

*The Administrator reports to the Governance Committee which, in turn, reports to board of Lighting Council Australia.*

### ***FluoroCycle Governance Committee***

*The FluoroCycle Governance Committee reports to the board of Lighting Council Australia and carries out the following functions:*

- *oversees the implementation of FluoroCycle and provides policy and strategic direction - oversees the financial management of the scheme*
- *reports regularly to the board.*

*In undertaking these functions, the Governance Committee:*

*1. approves:*

- *the processes that the Administrator employs in managing the scheme, other than as they relate to the internal operations of the Administrator development*
- *annual budgets and acquittals*
- *reports submitted by the Administrator, including Progress Reports*
- *financial reports and any additional reports and data the board requests*
- *the content and any amendments to key supporting documents, including the Signatory Guide to FluoroCycle Branding*

*2. determines whether amendments to the Guidelines are major or minor, approving minor amendments and progressing major amendments to the Board for approval*

*3. prepares reports to the Board, at least annually, on the progress and performance of the scheme (See*

*reporting protocol below.)*

*4. monitors the application of the FluoroCycle Guidelines, and*

*5. fulfils other roles as they arise.*

*As appropriate, day-to-day administrative matters may be dealt with by the Chair of the Committee. The agendas, agenda papers, reports and discussions that relate to meetings of the Governance Committee are confidential. Unless otherwise directed or permitted by the Chair, members must not distribute papers or discuss proceedings outside the Committee's membership. The Governance Committee reports to the Board at least annually and determines when additional reports are required.*

*Source: FluoroCycle Guidelines - July 2013.*

## **Update on the lamp recycling market**

Lighting Council Australia works closely with the national lamp recyclers and collectors in promoting the scheme. The two national lamp recyclers, CMA Ecocycle and Toxfree, have been pivotal to the ongoing success of FluoroCycle which has seen a 378% increase in the volume of mercury recycled. Prior to the launch of the scheme in June 2010 only 24.5 kilograms of mercury was recycled and by the end of June 2016 the amount of mercury recycled had increased to 117 kilograms.

It is estimated that 1,200 tonnes of lighting waste was collected during Year 3 - 2015/16. As at the end of Year 3 there were 291 FluoroCycle Signatories including many major corporates such as Ausgrid, John Holland Group, Kmart, National Australia Bank and Westpac Group as well as several federal government agencies such as the Department of Human Services. Peak bodies also supporting the scheme include the Facilities Management Association of Australia (FMA) and the National Electrical and Communications Association (NECA).

Many major utilities have become signatories to FluoroCycle and have made a commitment to recycle their end-of-life street lighting. Around 58% of street lighting is currently recycled in Australia, which is just over one million street lights. Street lighting generally contains the highest levels of mercury used across industry and has been a major priority for the FluoroCycle scheme. Recently Australian Standards have been amended to allow for the use of LEDs in street lighting. It is hoped that with the increased awareness of the importance of recycling mercury-containing lamps within local government and major utilities all decommissioned lamps will be recycled during this technology transition.

## **The recycling process**

All the elements in mercury-containing lamps can be recycled - mercury, aluminium, glass and phosphor powder. At the end of a lamp's life the majority of the mercury has been absorbed into the phosphor powder. It is essential that lamps are not broken while being transported to the recycler or collector. Once a lamp is broken the phosphor powder containing the mercury may be released. The lamps are crushed to extract the phosphor powder. As mercury is contained in the phosphor powder remaining once the lamps are crushed, this waste is sealed in steel drums. These drums are normally stored inside a warehouse to protect the drums from corroding.

The phosphor powder is then placed in a mercury retort or oven to recover the elemental mercury. The mercury is currently sold to a dental amalgam manufacturer in Australia.

## Lamp recycling options

There are currently several lamp collection options available in Australia depending on the facility or building's requirements - for example, stillage bins, prepaid cardboard boxes, boxes on site and collection by electricians during scheduled maintenance and re-lamping.

One of the three national lamp recyclers, Ecocycle Australia, ceased operating in early October 2015 and most of its equipment and assets, including stillage bins, were transferred to CMA Ecocycle as part of a confidential legal agreement. It is understood that Toxfree received any remaining unprocessed lighting waste from Ecocycle Australia between 1 July 2015 and early October 2015. All lighting waste collected by Ecocycle Australia was combined with the lighting waste collected by Toxfree. The lighting waste was then part processed, crushed and separated, by Toxfree and the processed phosphor powder was sent to CMA Ecocycle to extract the mercury.

The remaining lamp recyclers, CMA Ecocycle and Toxfree, on-sell the treated glass from lighting waste. This creates a closed loop for the lighting waste by re-using the mercury, aluminium, glass and phosphor components in the manufacture of other products.

## The national lamp recyclers and collectors

### CMA Ecocycle

CMA Ecocycle's facility, under new ownership, was approved by the Victorian EPA to commence mercury processing in March 2014. CMA Ecocycle offers a national service. CMA Ecocycle currently operates the only mercury processor in Australia.

### Ecocycle Australia

Ecocycle Australia was offering lamp recycling to several major FluoroCycle signatories and other organisations until early October 2015. Ecocycle Australia ceased operating in early October 2015 and most of its equipment and assets, including stillage bins, were transferred to CMA Ecocycle as part of a confidential legal agreement. From 1 July 2015 all lighting waste collected by Ecocycle Australia was processed by Toxfree until the closure of Ecocycle Australia's operation in early October 2015.

### Toxfree

Toxfree is a foundation signatory to the FluoroCycle scheme. Toxfree part processes the collected lamps but does not currently have an operational mercury processor. Toxfree has an arrangement to pass on its part processed phosphor powder for mercury processing to CMA Ecocycle.

Lighting Council Australia was informed that Ecocycle Australia had entered into an agreement in April 2015 with Toxfree to receive all of Ecocycle Australia's collected lighting waste nationally. Lighting Council Australia understands that no processing of lighting waste was carried out by Ecocycle Australia during 2015.

The remaining lamp recyclers, CMA Ecocycle and Toxfree, on-sell the treated glass, aluminium, phosphor powder and mercury generated through the recycling process. This creates a closed loop for the end-of-life lamps by the reuse of lamp components in the manufacture of new products. For example, the distilled mercury is used by a Victorian dental amalgam manufacturer to create new dental products for local and export markets.

## Agreed milestones

Lighting Council Australia has agreed to the following milestones as a requirement for accreditation under the Australian Government Product Stewardship (Voluntary Arrangements) instrument 2012.

Total number of signatories.

- 95% of current signatories retained.
- 80% of all commercial users holding current commitments to implement recovery across all sites. FluoroCycle signatories numbered 185 at September 2013 and 63 were commercial users.
- Communication Plan in place by end of Year 1, updated annually and activities reported annually.
- In Year 1 identify organisations responsible for the greatest amounts of mercury-containing lamps and approach them to join FluoroCycle.

## Total number of signatories at the end of Year 3

Commercial users	Facilitators	Total
97	194	291

There has been a 57% increase in the total number of FluoroCycle signatories since the scheme received accreditation in September 2013. Although the numbers of commercial users joining the scheme during Year 3 had been lower than hoped this has been offset by the increasing numbers of facilitators promoting FluoroCycle and lamp recycling to their clients. Peak bodies such as the Energy Efficiency Certificate Creators Association Inc.(EECCA) applied for signatory status during Year 3 and has also actively encouraged its members to apply for signatory status. Its members are generally Accredited Persons providing commercial lighting upgrades through the Victorian Energy Efficiency Target (VEET) scheme and NSW Energy Savings Scheme (ESS). Both schemes have specified in their guidelines that decommissioned lighting must be recycled through a FluoroCycle affiliated lamp recycler. FluoroCycle will increase its focus during future years on encouraging more commercial users to apply as Signatories.

## Proposed strategy to increase commercial users signatories.

- One of the lamp recyclers has recently offered to assist in promoting FluoroCycle signatory status to their existing clients already recycling.
- FluoroCycle recognition events planned for early 2017 may also assist in promoting the benefits of signatory status.

## 95% retention of signatories.

The number of signatories retained is very high, estimated at 95% retention. There have been a few Signatories who have ceased operation, which is to be expected; however no other signatories have opted out of the scheme during Year 3.



## Agreed outcomes

Lighting Council Australia has agreed to the following outcomes as a requirement for accreditation under the Australian Government Product Stewardship (Voluntary Arrangements) instrument 2012.

- Doubling of FluoroCycle recovery and recycling rate directly attributable to FluoroCycle over 5 years. The recycling rate directly attributable to FluoroCycle in 2012 was 1.7%.
  - 50% increase by end of year 3 equals 2.6% recycling rate directly attributable to FluoroCycle.
  - Remaining 50% increase by end of year 5 or 3.4%.
- Based on data provided by FluoroCycle and the two recycling organisations, CMA Ecocycle and Toxfree for a Netbalance study in 2013 it was estimated that:
  - The overall recycling rate for mercury-containing lamps was 9.5% in 2012.
  - The volume of mercury recovered from lighting waste was 26kg in 2012.



Signatories are not required to provide annual data on the volume of lamps recycled. As lamps can be collected from many sources and passed on to a recycler, there is very often no way to track volumes recycled by an individual signatory. Therefore mercury recycling directly attributable to FluoroCycle is not always possible for Lighting Council Australia to accurately calculate.

The assumptions contained in the Netbalance lamp recycling report prepared in 2013 provide a detailed analysis on the estimated lamp life for various mercury-containing lamps types. Lighting Council Australia surveyed its members during 2012 to source the number of imported lamps in each category of mercury-containing lamps which had entered the Australian market. Lighting Council Australia's secretariat also developed estimations on the lamp life of these lamps types in conjunction with members feedback. It can be assumed that many of the lamps imported into the Australian market during 2012 are likely to have been collected for recycling during 2015/16, at the end of their lamp life.

Based on this assumption a calculation of the current national recycling rate for mercury-containing lamps is estimated to be 12%.

Netbalance calculated that 5,513 tonnes of mercury-containing lamps were imported into Australia during 2012 and a large percentage of these may have been recycled during Year 3 (2015/16). By dividing the volume of lamps imported in 2012 by the volume of lamps recycled in 2015/16 we can estimate that 12% of mercury-containing lamps were recycled nationally.

Although the numbers of commercial user signatories has not increased significantly during Year 3, CMA Ecocycle has suggested that many of their new clients are being directed from the FluoroCycle website or through promotion of the FluoroCycle scheme at industry events. The volume of website unique visitors has increased up to 2,383 per month on average during 2015/16 which would point to the

increased importance of the website as an education and information source for business, government and the general public. In 2012/13, there were 1,525 unique visitors per month.

A letter of support for the FluoroCycle scheme from CMA Ecocycle is included at Appendix B.

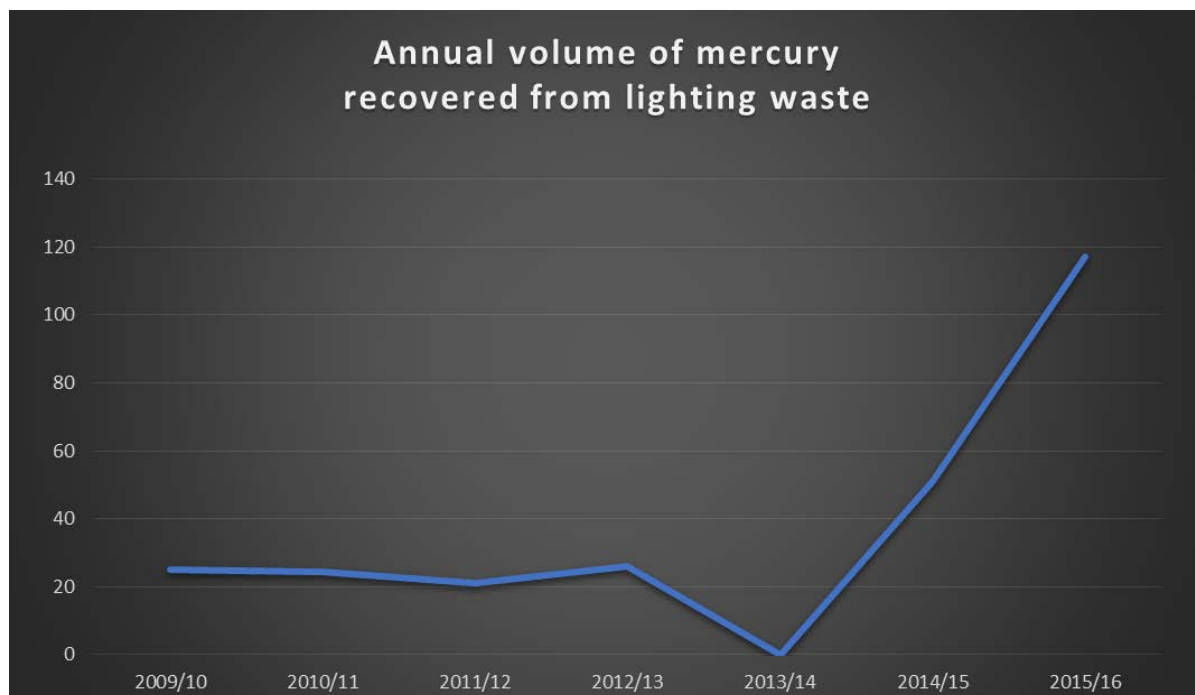
FluoroCycle has been in contact and presented to large numbers of corporates and government agencies during Year 3 and many of these organisations are now introducing lamp recycling into their maintenance contracts. It is expected that once these changes are implemented these organisations will apply for commercial user signatory status.

### Mercury recovered during Year 3

Mercury-containing lamps are collected by licenced recyclers and collectors. At the end of a lamp's life the bulk of the mercury contained in the lamp has been absorbed into the phosphor powder lining the lamp. The lamps are crushed so that the phosphor coating can be retrieved more easily and the other components are separated including glass and aluminium. The crushed product is collected in large sealed metal drums. The drums containing the phosphor powder are delivered to or collected by a recycler or collector.

Data supplied by CMA Ecocycle has highlighted that there has been a 378% increase in the volume of mercury recycled from lighting waste since the launch of the FluoroCycle scheme. In June 2010 only 24.5 kilograms of mercury was recycled from lighting waste. At the end of June 2016 the amount of mercury recycled from lighting waste had increased to 117 kilograms.

During Year 3 there was a 129% increase in the volume (kilograms) of mercury recovered from lighting waste in comparison to Year 2. 117 kilograms of mercury were recovered in 2015/16 in comparison to 51 kilograms of mercury recovered in Year 2, as highlighted in the following graph.



Source: CMA Ecocycle.

As the previous CMA Ecocycle was placed under administration in August 2013, data on the volume of mercury recovered during 2013/2014 was not available for Year 1.

Please note: The lamp recyclers have only provided mercury data on recycled mercury-containing lamps not total mercury recycled. Mercury is recycled from other products including dental and medical waste, mining and industrial equipment, batteries and electronic waste.

### Lighting waste collected in Year 3

Key data on mercury volumes collected and recycled during the reporting period was supplied directly to Lighting Council Australia by the individual lamp recyclers and the data was aggregated. It should be noted that Toxfree began receiving lighting waste from Ecocycle Australia in April 2015 and some of the total lighting waste collected and processed during Year 3 includes a small volume of Ecocycle Australia’s lighting waste. Ecocycle Australia ceased operations in early October 2015.

Year 2	Year 3
849 tonnes	1,200 tonnes

Source: CMA Ecocycle and Toxfree.

Apart from mercury, this volume includes glass, ballasts, metal and plastic fittings. The lamp recyclers separate the components of the lamps collected and can recycle and/or on sell some components for processing by other recyclers, such as metal recyclers.

### Lighting waste recycled in Year 3

Year 2	Year 3
800 tonnes	1,200 tonnes

Source: CMA Ecocycle and Toxfree.

## Energy efficiency schemes

*“Electrical contractors involved in commercial lighting upgrades under the New South Wales Energy Savings Scheme (ESS) need to know about a recent change to its rules. As of 15 May 2016, all lighting equipment containing mercury that is replaced as part of this program must be recycled. It stipulates that mercury-containing lighting “must be recycled in accordance with the recycling requirements of a product stewardship scheme such as ‘Fluorocycle’ or equivalent.”*

**Source:** <http://www.cmaecocycle.net/lighting-and-electrical/lighting-containing-mercury-recycled-nsw-energy-savings-scheme/>

With the increase in state based energy efficiency schemes such as the Victorian Energy Efficiency Target (VEET) scheme and the NSW Energy Efficiency scheme, the lamp recyclers have highlighted the increasing volumes of halogens and incandescent globes collected nationally during Year 3.

CMA Ecocycle reported that apart from increasing numbers of mercury-containing lamps, they also received large numbers of halogens and incandescent lamps mainly collected by contractors working within the Victorian scheme.

## The Queensland EXITCYCLE initiative

The Queensland Government, in partnership with Lighting Council Australia, launched a recycling initiative for emergency and exit lighting batteries in late 2015. EXITCYCLE aims to increase the recycling rate of end-of-life emergency and exit lighting batteries in commercial applications. The scheme was designed to complement Lighting Council Australia’s existing FluoroCycle scheme for mercury-containing lamps. The additional promotion of this complementary scheme has greatly assisted to raise awareness of the toxic elements contained in some lighting products.

About 90% of batteries used in emergency and exit lighting are either nickel cadmium (Ni-Cd), nickel metal hydride (Ni-MH) or sealed lead acid (SLA). About five million of these batteries are sent to landfill each year which equates to about 90 tonnes of cadmium. Cadmium, lead and nickel are toxic heavy metals that need to be carefully managed to minimise their impact on humans and the natural environment. Private and government sector organisations in Queensland are being approached to become signatories to EXITCYCLE. It is hoped that the scheme will be extended nationally following the completion of the Queensland pilot.

Lighting Council Australia members supplying emergency and exit lighting have the opportunity to be members of an Emergency Lighting Sub-industry Group (ELSiG). This Sub-industry Group addresses issues such as standards, technology developments and environmental responsibility for emergency and exit lighting. Members of ELSiG have been strong advocates for the development of a recycling initiative for emergency and exit lighting batteries. Lighting Council Australia has also worked closely with the Australian Battery Recycling Initiative (ABRI) in developing the EXITCYCLE initiative.

Australian regulations require that emergency and exit lighting be tested every six months and often the batteries are replaced during this maintenance. Only licensed electrical contractors are authorised to remove and replace these batteries. EXITCYCLE Signatories commit to recycle at least 95% (and preferably all) of their end-of-life emergency and exit lighting batteries at their nominated sites.

Queensland organisations are encouraged to review their maintenance agreements and to include emergency and exit lighting battery recycling. There is no fee to apply for signatory status.

Battery recyclers operating in Queensland include CMA Ecocycle, MRI and PF Metals and their contact details are available from the EXITCYCLE website. Collection options for these batteries include plastic buckets and cardboard boxes. The recyclers collect the batteries and then separate them into their different chemistries. The batteries are partly processed in Australia with the final battery recycling process completed offshore.

Importantly, Lighting Council Australia has recently developed a timeline for the reduction in the use of environmentally hazardous batteries in emergency and exit lighting. This transition has been agreed with ELSiG members and has been communicated to the Australian Government. The industry will move to the newer lithium iron phosphate (LiFePO<sub>4</sub>) battery technology.

### **Lithium iron phosphate batteries**

Recent developments in battery technology have led to the move away from nickel cadmium, nickel metal hydride and sealed lead acid batteries in emergency and exit lighting. Batteries using lithium iron phosphate are more technologically effective and offer a better environmental alternative. The batteries are also smaller and lighter. There has been strong interest in this new battery technology from facility managers at larger corporates and government agencies even though the newer emergency and exit light solutions are currently a more expensive option. Building managers are recognising that the newer technology may offer better long-term outcomes.

For more information please visit [www.exitcycle.org.au](http://www.exitcycle.org.au)

## Overview of FluoroCycle audit and compliance

<p>The FluoroCycle Governance Committee and the Administrator have key roles in managing the audit program for the scheme and for putting strategies in place to improve compliance. A summary of these key roles is provided as background.</p>	
<p>The FluoroCycle Governance Committee approves audit programs</p>	<p>The FluoroCycle Governance Committee:</p> <ul style="list-style-type: none"> <li>- approves the audit programs prepared by the Administrator</li> <li>- considers Administrator's reports of outcomes of audit programs</li> <li>- takes account of lessons learnt.</li> </ul>
<p>Administrator manages audit programs</p>	<p>The Administrator:</p> <ul style="list-style-type: none"> <li>- manages the auditors</li> <li>- implements audit programs</li> <li>- analyses the findings of each audit program.</li> </ul>
<p>Administrator reports on audit outcomes</p>	<p>At the end of each audit program, the Administrator reports to the FluoroCycle Governance Committee providing:</p> <ul style="list-style-type: none"> <li>- the numbers and types of signatories audited, without identifying the signatories</li> <li>- information on the levels of compliance and the nature of any non-compliance</li> <li>- an analysis of the findings and any conclusions</li> <li>- recommendations on any follow-up action to strengthen the scheme or achieve a higher level of compliance.</li> </ul>

## Annual Statement of Compliance

Timely return of the Annual Statement of Compliance from signatories has dramatically improved since implementation of an automated reminder in late 2012.

## Random audit Year 3

FluoroCycle has completed a random audit of 5% of signatories. This was a desktop audit and there wasn't a need to do follow up on-site audits. The audit highlighted that one of the signatories randomly selected, a local government organisation, had amalgamated with another council during the previous twelve months. The new organisation is reviewing its interest in applying for signatory status. The signatories audited complied with all requirements.

The purpose of a FluoroCycle audit is to determine whether a signatory complies with the commitments

they have made to the scheme. The audit also provides an opportunity to encourage signatories to promote their signatory status by displaying the FluoroCycle logo in conjunction with the Australian Government accreditation logo.

The audits also have a role in achieving the following objectives:

- Ensuring the desired environmental outcomes of the scheme are being achieved;
- Ensuring risks of the scheme to human health and the environment are minimised;
- Identifying and promoting best practice for the management of waste mercury-containing lamps;
- Maintaining the integrity of the FluoroCycle scheme.

## **The FluoroCycle risk register**

The FluoroCycle Risk Register has been updated during the reporting period. After the closure of one of the three lamp recyclers operating during Year 1 and 2, the lamp recycling market appears to have stabilised. The increase in commercial lighting upgrades through the VEET and NSW ESS have also increased the volumes of lighting waste being decommissioned and recycled appropriately. Both schemes have included requirements in their guidelines for any mercury-containing lamps collected during lighting upgrades to only be recycled with recognised FluoroCycle recyclers.

Appendix D - FluoroCycle Risk register - Updated December 2016.

## **Current environmental, health and safety policies**

The FluoroCycle Signatory Commitment requires all signatories to commit to:

- Maintain adequate and suitable occupational health and safety policies that apply to the safe handling, collection, and transport of mercury-containing lamps.
- Provide induction and training of staff necessary to ensure adherence to this commitment.

A FluoroCycle fact sheet on safe handling and transport procedures for mercury-containing lamps has been added to the website and is distributed to new signatories and/or to individuals making enquiries. Appendix C - FluoroCycle Fact Sheet - Safe Handling of Mercury-Containing Lamps.

Instructions for the public on the safe disposal of a broken mercury-containing lamp is included on the FluoroCycle website.

As long as a lamp remains intact during handling, collection and transport, the mercury vapour will not be released. Often lamps are collected in cardboard boxes or large metal stillage bins. There may be circumstances where a small number of lamps could be broken during handling, collection and transport. Unfortunately due to the current cost to collect and transport lamps, ensuring no lamp breakage during collection and transport may be cost prohibitive to the lamp recyclers and collectors.

## **Environment Protection Authority (EPA) licence to recycle lamps**

Lighting Council Australia does not have a contractual agreement with the lamp recyclers to oversee their licence, management and operations. Licences to collect and/or recycle mercury-containing lamps are issued and monitored by the EPAs in each state and territory. Lighting Council Australia has met

with or been in contact with senior representatives of the EPAs in NSW, Victoria and Queensland during the past few years.

Currently mercury-containing lamps are not classified as a hazardous waste in all state and territories and can be disposed of in general waste. However, South Australia introduced legislation in 2012 to ban commercial quantities of mercury-containing lamps being sent to landfill. Lighting Council Australia has requested that all EPAs consider changing the classification of mercury-containing lamps to a hazardous waste, particularly for commercial quantities. This reclassification could stop large quantities of mercury-containing lamps being disposed of in unmonitored or un-licensed landfill sites.



### **Recruitment strategy for largest users of mercury-containing lamps**

The recruitment strategy during Year 3 continued to focus on the largest users of mercury-containing lamps to encourage them to introduce lamp recycling and to apply as signatories.

As the primary aim of communication is to secure organisations as signatories, direct one-on-one communication is most commonly used. Using email, phone calls and meetings, FluoroCycle engages directly with potential signatories and stakeholders to promote understanding of the scheme and encourage participation.

The one-on-one communication is enhanced and supported by a range of communication tools including:



- Website
- Fact sheets
- Signatory Guidelines
- Newsletters.
- Email marketing campaigns
- Recognition
- Events and functions

## **Email marketing campaigns**

Ongoing email marketing campaigns have been used to target potential signatories. The email software used gives FluoroCycle the ability to monitor and rank organisations who display interest in the scheme. Individuals contacted through the email campaign may click on web links embedded in the FluoroCycle “call to action” email several times. FluoroCycle follows up with phone calls to these organisations to encourage participation in the scheme. Embedded links direct those contacted to the “How to Apply” page or to the FluoroCycle homepage. Email marketing campaigns have proved to be one of the most effective channels to promote FluoroCycle.

## **Conclusion**

The results for Year 3 highlight the substantial increase in the volume of mercury recycled and the upward trend in the national recycling rate.

FluoroCycle continues to actively promote lamp recycling and the FluoroCycle scheme through a targeted communication plan to the largest users of mercury-containing lamps. Ongoing promotion of the FluoroCycle scheme through email marketing campaigns at industry events and through ongoing contact with product stewardship stakeholders appears to be influencing the increased take-up of lamp recycling nationally. The increasing number of unique visitors to the FluoroCycle website each month and the increasing number of phone enquiries seeking the contact details for lamp recyclers highlights the importance of the FluoroCycle scheme website as a tool to promote the recycling of mercury-containing lamps to business, government and to the general public.