

MEMOS

ORDINARY COUNCIL MEETING

TUESDAY 28 FEBRUARY 2023

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Memo

Ordinary Council Meeting

Environment & Sustainability

28 February 2023

To: Councillors
From: Acting Director, Environment & Sustainability
Date: 23 March 2023
Subject: Memo – Item No 18.5 – Response to Notice of Motion No. 38/2022 - Soft Plastics Recycling
Record Number: 2023/194193
Attachments: 1 **Soft Plastics Recycling - Report to Council Meeting held 28 February 2023 - with redactions**

I refer to Council Resolution 035/23, from the Ordinary Council Meeting held 28 February 2023, which resolved, in part, that Council prepare a redacted copy of the Soft Plastics Recycling report that removes the commercially sensitive information for the public to view.

Please find attached the redacted Council Report.

A handwritten signature in black ink, appearing to read 'Andrew Ward-Harvey', with a large, stylized flourish at the end.

Andrew Ward-Harvey
Acting Director, Environment & Sustainability



CONFIDENTIAL REPORT TO ORDINARY COUNCIL MEETING

ITEM NO. 18.5 - 28 FEBRUARY 2023

ITEM 18.5	RESPONSE TO NOTICE OF MOTION NO 38/2022 - SOFT PLASTICS RECYCLING
REPORTING MANAGER	EXECUTIVE MANAGER WASTE MANAGEMENT & CLEANSING
TRIM FILE REF	2022/610199
ATTACHMENTS	NIL

Confidential Item

That, in accordance with the requirements of Section 10A(2) of the Local Government Act 1993 and Council's Code of Meeting Practice this matter, Response to Notice of Motion No 38/2022 - Soft Plastics Recycling, is recommended to be considered in closed session on the basis that it involves the receipt and discussion of:

- (c) *information that would, if disclosed, confer a commercial advantage on a person with whom the Council is conducting (or proposes to conduct) business*

This report discusses/provides advice concerning options for soft plastics recycling. On balance, the public interest in preserving the confidentiality of the information about the matter outweighs the public interest in maintaining openness and transparency in Council decision-making because the disclosure of this information would confer a commercial advantage on a person with whom Council is conducting (or proposes to conduct) business.

SUMMARY

PURPOSE

To report on recommended options available to Council to facilitate soft plastics recycling on the Northern Beaches.

EXECUTIVE SUMMARY

Council staff have conducted an extensive investigation of collection, recycling and markets for post-consumer soft plastics in the 2 two years to see if there is a viable 'whole of supply chain' recycling solution in the market. The recent collapse of the REDcycle collection program has highlighted the significant challenges facing the viability of recycling and markets for recovered soft plastics in Australia.

There are a number of soft plastics collection schemes in place or under development, and some pilot recycling technologies. However, there are currently no viable large scale recycling solutions available in Australia to process the large volumes of soft plastic waste generated (industry estimates about 400,000 tonnes of soft plastic are consumed per year in Australia), and limited demand for recovered materials containing recycled soft plastic. On current available evidence, there is no guarantee that there will ever be sufficient capacity or demand to process such large volumes of soft plastic in Australia.

This is for a variety of reasons, including the difficulty and cost in recycling post-consumer soft plastics and the limited range of quality products that can currently be created from recycled soft plastics. In addition, these products are often not cost-competitive with products made from virgin plastics or other plastics which are easier to recycle.

In a recent survey conducted by Northern Beaches Council in December 2022, just after the collapse of REDcycle, 58% of residents surveyed stated that they are concerned that items are not being recycled, and that this is an obstacle to them recycling.

It is crucial that if Council is to offer a soft plastic collection option for the community, it manages expectations and does not undermine confidence in recycling. Council needs oversight to ensure

the materials collected are genuinely being recycled and turned into products which will be used back in the productive economy.

As a result, Council proposes a 2-stage approach to facilitate soft plastic recycling for the LGA:

1. **Stage 1: March-June 2023:** A small scale trial where Council arranges for a number of drop off days for post-consumer soft plastics at designated locations in the LGA for keen recyclers. Council would arrange processing [REDACTED], with sufficient oversight to ensure materials are recycled. Council could undertake to buy back a proportion of recycled products created from Northern Beaches soft plastics.
[REDACTED]
2. **Stage 2: Post July 2023:** Council officers will review the market situation for soft plastics and the success of Stage 1, including if REDcycle or a similar collection program has recommenced with viable and sustainable end markets. Should Council officers identify that there are viable end markets for materials collected, Council will consider seeking further external funding for a longer term and broader scale collection model.

Council staff also propose to continue to promote measures within the community and advocate to the State and Commonwealth Governments to minimize the use of unnecessary single use soft plastic packaging.

RECOMMENDATION OF ACTING DIRECTOR ENVIRONMENT AND SUSTAINABILITY

That Council:

1. Enter into negotiations [REDACTED] to establish a small scale soft plastic collection and reprocessing trial for Northern Beaches residents, including buy back of suitable recycled soft plastic products by Council.
 2. Subject to reaching acceptable commercial terms with a recycler referred to at 1 above and the recycler demonstrating transparent markets for the recycled products, execute an agreement as soon as possible for the small scale soft plastic trial referred to at 1 to continue to 30 June 2023.
 3. Continue to monitor the market for recovered soft plastics to assess whether there are future viable opportunities for Council to scale up collections and recycling and seek external funding should viable opportunities arise.
 4. Provide a briefing to Council by August 2023 on the results of the soft plastics trial and future soft plastic recycling opportunities.
 5. Write to the NSW Minister for Environment and Heritage and Commonwealth Minister for the Environment and Water requesting action on phasing out the use of unnecessary single use soft plastics to the fullest extent possible.
 6. Delegate authority to the Chief Executive Officer to do all things necessary to give effect to this resolution.
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REPORT

BACKGROUND

At its meeting held on 22 November 2022 Council resolved (379/22) that:

1. *Council officers provide a briefing to Councillors before the December 2022 meeting regarding possible steps that can be taken by Council to facilitate soft plastics recycling pending the viability of current private sector operators.*
2. *A formal report be provided to the February 2023 Council meeting on options for Council to facilitate soft plastics recycling, including but not limited to:*
 - A. *Any immediate, further, measures Council can take to enable recycling of soft plastics, in light of the current suspension of activities by REDcycle.*
 - B. *What measures Council could implement or investigate in the longer term to:*
 - i. *Facilitate soft plastics recycling, including local processing capability; and/or*
 - ii. *Facilitate reduction and eventual elimination of use of soft plastics; and*
 - iii. *Opportunities for applying for external funding for these activities, including through the Australian Recycling Investment Fund.*

'Soft plastics' is a generic term which covers a variety of different 'scrunchable' plastics generally made from different types of polyethylene (LDPE or HDPE) or polypropylene (PP). Soft plastic is attractive to use as packaging as it is flexible, lightweight, and able to meet quality and safety requirements for food packaging. As a result, it is used in packaging ranging from bread bags, potato chip packets, cling wrap to food barrier bags.

Councils do not collect loose soft plastics in recycling bins as they can tangle around machinery at the materials recovery facility (MRF) which handles Council container recycling, which prevents the machinery from working effectively.

REDcycle

A convenient method for the separate collection of these soft plastics was provided by the REDcycle system which commenced around 2012. It operated in partnership with the major supermarkets, so residents had a convenient method for collection of soft plastics at Coles and Woolworths supermarkets.

REDcycle announced an immediate suspension of collections in November 2022, due to difficulties in finding recyclers to process the ever-increasing volumes of soft plastics being collected and finding markets for recycled products. It has since been discovered that in NSW alone there are more than 5,200 tonnes of soft plastic stockpiled at 15 sites across NSW. Similar volumes have been found in warehouses in Victoria. In early February 2023, Coles and Woolworths were issued with clean up orders by the NSW EPA.

Council's market investigations

Council officers have been thoroughly investigating options to recycle soft plastics since Council resolved (228/20), at its meeting held 29 September 2020, in response to Mayoral Minute No. 08/2020 - *Addressing our unwanted Waste on the Northern Beaches*:

That staff provide a briefing to Councillors within three months on opportunities for increasing the recovery of problem waste such as soft plastics and e-waste.

Specifically, Council carried out the following:

- **Microfactory visit:** Council staff visited the Centre for Sustainable Materials Research and Technology (SMaRT) at the University of NSW in early 2021 to view a pilot 'microfactory' to process problematic waste such as plastics and textiles, to consider whether Council could establish a soft plastic microfactory at Kimbriki Resource Recovery Centre (Kimbriki).

[REDACTED]

- **Request for Proposal and Councillor briefings:** Council conducted an open 'Request for Proposal' (RFP) in September 2021 to test the market for available 'whole of supply chain' solutions which could collect, transport, recycle and find end markets for recovered post-consumer soft plastics.

[REDACTED]

Council staff also provided initial Councillor briefings on soft plastics options in April and August 2021.

Request for Quotation: Council continued to investigate the market to see if a 'whole of supply chain' solution existed, and then issued an open 'Request for Quotation' (RFQ) in mid-2022 after refining specifications to ensure Council would have full transparency of all processing partners in any soft plastics trial.

[REDACTED]

[REDACTED]

[REDACTED]

Difficulties with recycling soft plastics

There are three main recycling approaches to recycling soft plastics in Australia.

Mechanical recycling involves processing plastic waste into a recycled raw material without significantly changing the chemical structure of the material. In this process, soft plastics are generally cleaned and pelletised and reused in niche products such as fence posts, bollards, garden edging, wheel stops and electrical cable covers. To ensure quality of the recycled product, the recycled soft plastic often has to be mixed with virgin plastic. There are a small number of small-scale mechanical recyclers (eg processing less than 5,000 tonnes of soft plastics per annum) in Australia.

Another process involves using recovered soft plastics as an *additive and binding agent* for asphalt. This process has been used by 'Close the Loop' in Victoria, and Council has trialed use of this asphalt in some local roads. Whilst this process has potential for potentially larger volumes of soft plastic recycling than current mechanical recycling, a fire in the factory last year halted production until mid-2023. This has contributed to the REDcycle stockpiling issues.

Chemical recycling is the other main recycling process for soft plastics. This involves breaking down plastic waste into its chemical building blocks, to then be converted back into plastics (including potentially as food grade packaging). There are however no commercial facilities currently offering this solution in NSW, and only a small-scale plant in Victoria.

The challenges facing all these recycling technologies for post-consumer soft plastics include:

- **Contamination:** post-consumer soft plastics are often contaminated with food, which reduces the quality and requires extensive cleaning, adding to costs

- **Printed ink:** often soft plastics contain printed ink, which is volatile and can degrade the product, again impacting on its quality and potentially risking fires
- **Multiple polymers/Colours:** the inconsistency in colours and polymers make it less desirable for processors to recycle. Most plastics can only be recycled in pure and consistent form; separating the colours and polymers adds to costs and difficulties
- **Uneconomic:** Invariably products or materials containing recycled soft plastics are significantly more expensive than their virgin plastic/oil or other recycled plastic product competitors, making the recycled product often uncompetitive.

Immediate options for Council

There are a number of options available to Council for collection of soft plastics.

This includes [REDACTED] a program in which residents place their soft plastics into a QR coded plastic bag which they drop into their yellow recycling bin. The bag would then be separated from other containers in the yellow bin stream [REDACTED]

Another collection option is [REDACTED] a program where residents can place their soft plastics in a package to be collected at their front door by a [REDACTED]/collector. [REDACTED]; they drop off soft plastics at storage locations or to third party facilities.

Alternatively, Council could provide drop off events or opportunities for residents at Kimbriki or Council run events at which soft plastics could be dropped off and collected by Council.

However, there are very few available recycling options currently available in Australia for any new post-consumer soft plastics collected. All currently available options are small scale and 'niche', and we understand that they are all near capacity and receiving multiple requests from companies and other councils to process used soft plastics. Some companies now have very strict quality control to ensure only clean soft plastics are collected so that they do not compromise quality of recycled products, and often require 'buy back' of the recycled products created.

The following table sets out our understanding of the current available recycling options in Australia:

Table 1: List of processors

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

If Council chooses to commence collections of soft plastics for one or more of the above recycling options, it will be important to start at a relatively small scale, with limited volumes collected. For example, Council could arrange for designated drop off days manned by trained staff at Kimbriki. This will enable Council to closely monitor the quality of soft plastics collected and viability of recycling and purchasing the recycled products created. This will help manage community expectations, regain community confidence and ensure the success of the collection program.

[REDACTED]

As a result, for the purpose of Stage 1, it is proposed that Council directly negotiate with the preferred recycler in the table below, or the 'reserve recycler's if negotiations prove unsuccessful:

Table 2: Direct Negotiation

Longer term options

There is currently only recycling capacity for a very small portion of the large volumes of post-consumer soft plastics generated in Australia. However, in light of the shutdown of REDcycle, there is significant corporate and government interest in finding a longer-term recycling 'solution' to the problem.

IQ Renew was recently awarded a grant to establish a facility in Victoria to recycle 30,000 tonnes of soft plastics into food-grade packaging materials. There are also some pilot projects overseas for mechanically recycling larger volumes of soft plastics and for de-inking soft plastics, but these are not yet at full commercial scale. In addition, Close the Loop plans to reopen later in 2023, which will bring back capacity to process soft plastics into additives for asphalt production.

However, it is extremely unlikely that in the next few years there will be sufficient capacity to process the majority of soft plastics consumed in Australia (about 400,000 tonnes per year according to industry estimates).

Even with increased capacity, the recycled products need to be cost competitive with virgin plastics and other packaging or materials. Large scale recycling plants require significant capital investment; if there is limited demand for recycled product the incentive to invest is reduced. It is therefore distinctly possible that there will never be capacity to recycle soft plastics at the rate they are currently consumed.

It is therefore critical that the industry which creates the soft plastic waste take ownership of the solution. Australia's food and grocery manufacturing industry has obtained Federal Government funding to establish the 'National Plastic Recycling Scheme' (NPRS). This 'product stewardship' scheme is designed to set up networks to collect post-consumer soft plastics from residents and turn them back into new food grade packaging (mainly through chemical recycling).

This may assist with collection, but again chemical recycling of soft plastics is not proven at scale in Australia and staff are not aware of chemical recycling of soft plastics currently operating at a large scale overseas (although some projects are in the pipeline). As a result, if this scheme is not strategically designed, it risks leading to more stockpiling and eventual landfilling of soft plastics.

It is therefore critical that any product stewardship scheme also investigates alternatives to single use soft plastic packaging. This is because soft plastics are currently effectively not recyclable at scale, due to limited recycling capacity and end markets. More attention needs to focus on reusable and renewable packaging alternatives. Council has an opportunity to advocate for this shift in focus as part of the NSW Government's review of its Plastics Action Plan in the next year.

Council can also educate and lead the community in changing behaviour to avoid using unnecessary soft plastics where possible and to lobby their suppliers to choose products which minimise or avoid soft plastic use.

Staff will also continue to explore opportunities and emerging technologies for recovery and recycling of soft plastics and investigate those which appear to have transparent end to end systems of useful products with a market.

External Funding



The Australian Recycling Investment Fund (ARIF) is administered through the Clean Energy Finance Corporation (CEFC) and provides debt and equity finance to commercial projects capable of delivering a positive return and has a particular focus on large-scale projects using proven clean energy technologies.

Seeking ARIF funding is not considered a suitable option for Council at this stage given the current uncertainty about the ongoing feasibility of soft plastic recycling and lack of proven 'at scale' processing options. The manufacturers and suppliers of soft plastic packaging, including food and grocery manufacturers and supermarkets, need to take the lead as product stewards to seek to avoid creation of unnecessary single use soft plastics and invest in appropriate technologies to recycle soft plastics where no alternate packaging is possible.


However, Council staff will continue to investigate the suitability of seeking NSW EPA and Federal Government funding packages for any local processing capability for soft plastics. Should there be significant advancements in technologies to process soft plastics, Council staff will investigate the feasibility of partnering with industry or Kimbriki Environmental Enterprises to trial local processing of soft plastics.

CONSULTATION

As part of Council's RFP and RFQ process for a soft plastics solution, Council conducted numerous workshops with industry and the Australian Food and Grocery Council to better understand available collection, transport, and recycling options for soft plastic, together with markets for recycled products containing soft plastics.

Officers from Council's Environment and Sustainability Division have also consulted with officers from Council's Transport and Assets Division to explore opportunities for Council to buy back products from recyclers containing recycled soft plastics.

TIMING

Stage 1 is expected to commence in March 2023 subject to resolution of the issues with partnering agencies, such as collection site and methodology and potential purchase of products made from the collected soft plastics. 

LINK TO STRATEGY

This report relates to the Community Strategic Plan Outcome of:

- Protection of the environment - Goal 3 Our community is well-supported in protecting and enhancing the environment to ensure safe and sustainable use
- Environmental sustainability - Goal 4 Our community is supported in the transition towards net zero emissions and a local circular economy

FINANCIAL CONSIDERATIONS





SOCIAL CONSIDERATIONS

Following the collapse of the REDcycle soft plastics recycling scheme the community has been contacting Council to find alternatives. The reporting of the shutdown of the REDcycle scheme in various media has also undermined confidence in recycling. Providing an interim small-scale solution where the soft plastics can be purchased back by Council in a demonstration project provides an opportunity to rebuild confidence in recycling. Volumes collected need to be managed so that Council can ensure the collected materials are genuinely recycled and not stockpiled or sent to landfill.

A trial also provides an opportunity for recycling of soft plastics for members of the community who wish to do this until a more permanent solution is found.

ENVIRONMENTAL CONSIDERATIONS

Implementing a small-scale recovery trial of soft plastic will avoid landfill of the plastic collected. It is also important that Council advocate for measures to reduce the amount of soft plastic generated as the vast majority of soft plastics are now being landfilled. Soft plastics can also enter the natural environment (including oceans) as they are lightweight and can travel. This can lead to environmental consequences for marine life and terrestrial animals.

GOVERNANCE AND RISK CONSIDERATIONS

There is significant current media attention on recycling of soft plastics. Council staff will ensure any promotion of soft plastic collection and recycling by Council will manage the community's expectations. This will emphasise that there are significant difficulties in the recycling of soft plastics, Council has an interim collection program to recycle limited volumes, and that consumers and businesses need to minimise their consumption of soft plastics in the longer term.