



UNSW + SSROC Circular Economy Thinktank Series

Thinktank 1: Introduction to the series and a deep-dive into yellow bin material flows

Conversation Tracker

29 August 2019

AUSTRALIA | NEW ZEALAND | SINGAPORE | KENYA | USA



Introduction

About the project

The University of New South Wales Sustainable Materials Research and Technology (SMaRT@UNSW) Centre and Southern Sydney Regional Organisation of Councils (SSROC) are collaborating to run a series for three workshops aimed to catalyse innovation that will lead to waste avoidance and an increase in reuse and resource recovery. The series will bring together stakeholders from SSROC Councils, UNSW and the design, manufacturing, resource and charity sectors to establish collaborative ways of working, progress understanding and learn from like-minded organisations.

The first workshop held on 29 August 2019 had a strong Local Government focus, aiming to help Councils understand the purpose of the workshop series and the partnership between SMaRT@UNSW and SSROC. Workshop participants left the session excited, with a new understanding of what could be done with 'waste' and how their knowledge will contribute to developing the NSW circular economy.

Workshop two will be held in November 2019 and focus on textiles and clothing while the third, to be held in February 2020, is an opportunity for manufacturers and local government to collaborate.

Purpose of this document

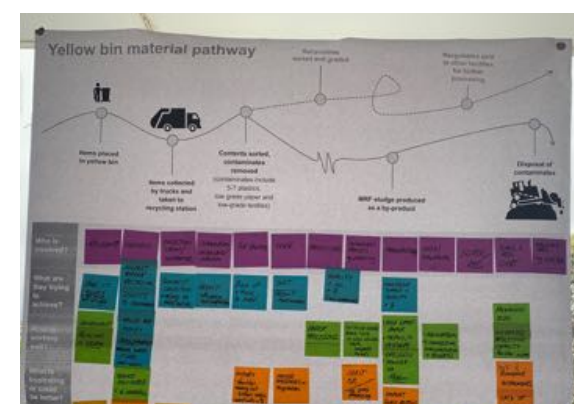
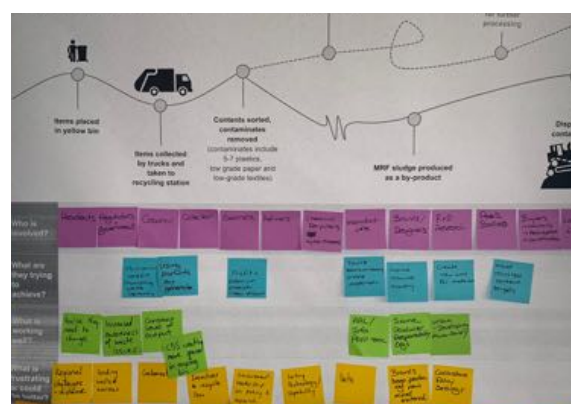
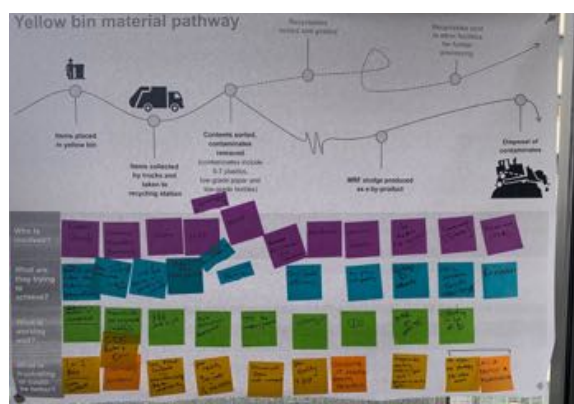
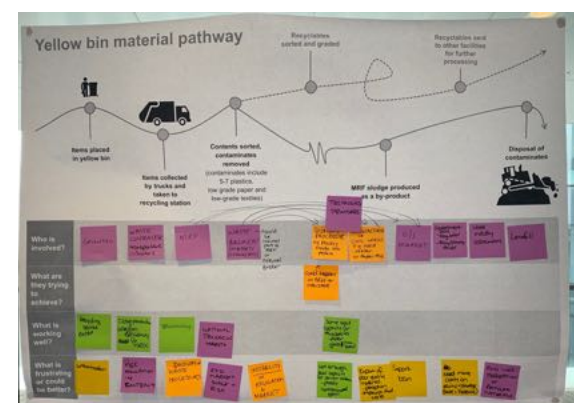
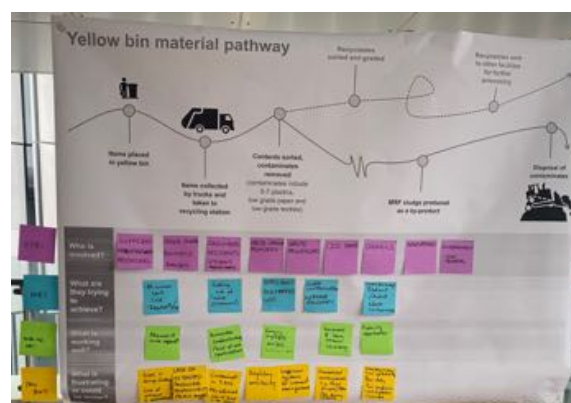
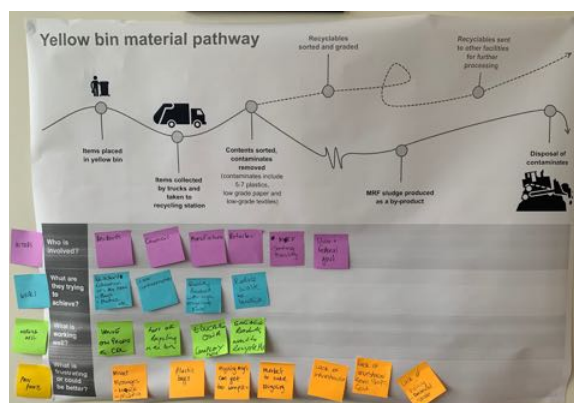
The purpose of this document is to capture a synthesised summary of the conversations and activities that took place during the first co-design workshop held on 29 August 2019. Please note, this document does not capture the conversation verbatim, rather it presents a snapshot of key discussion points and activities.

Agenda

Session theme	Presenter
Welcome	Rodger Watson, <i>ThinkPlace</i>
Introduction from SSROC	Namoi Dougall, <i>General Manager SSROC</i> Annie Walker, <i>Regional Waste Projects SSROC</i>
How big is the problem?	Anne Prince, <i>Director APrince Consulting</i>
Update from SMaRT Centre	Professor Veena Sahajwalla, <i>Director SMaRT@UNSW</i>
Material pathways What are the current pathways of the materials in the yellow bin?	Facilitated group work
Opportunities Considering these products have little value and can cause problems, what else could be done with them?	Facilitated group work
Ideas What ideas can we generate to increase circularity of these materials in NSW?	Facilitated group work
Gallery walk through and voting Walk around the room, when you see an idea you like place a voting dot on it What ideas got the most votes? Why did these ideas get your vote?	Individual activity
What are the next steps?	Rodger Watson, <i>ThinkPlace</i> Annie Walker, <i>SSROC</i>

NSW Yellow bin material pathway

To gain a deep understanding of the current state of the materials in the yellow bins, workshop participants were invited to complete a material pathway outlining the key actors in the system, the goals the actors are working to achieve at each step, things that are working well that we need to keep doing and points of frustration. The following page outlines a synthesised version of the material pathway generated by the six groups.

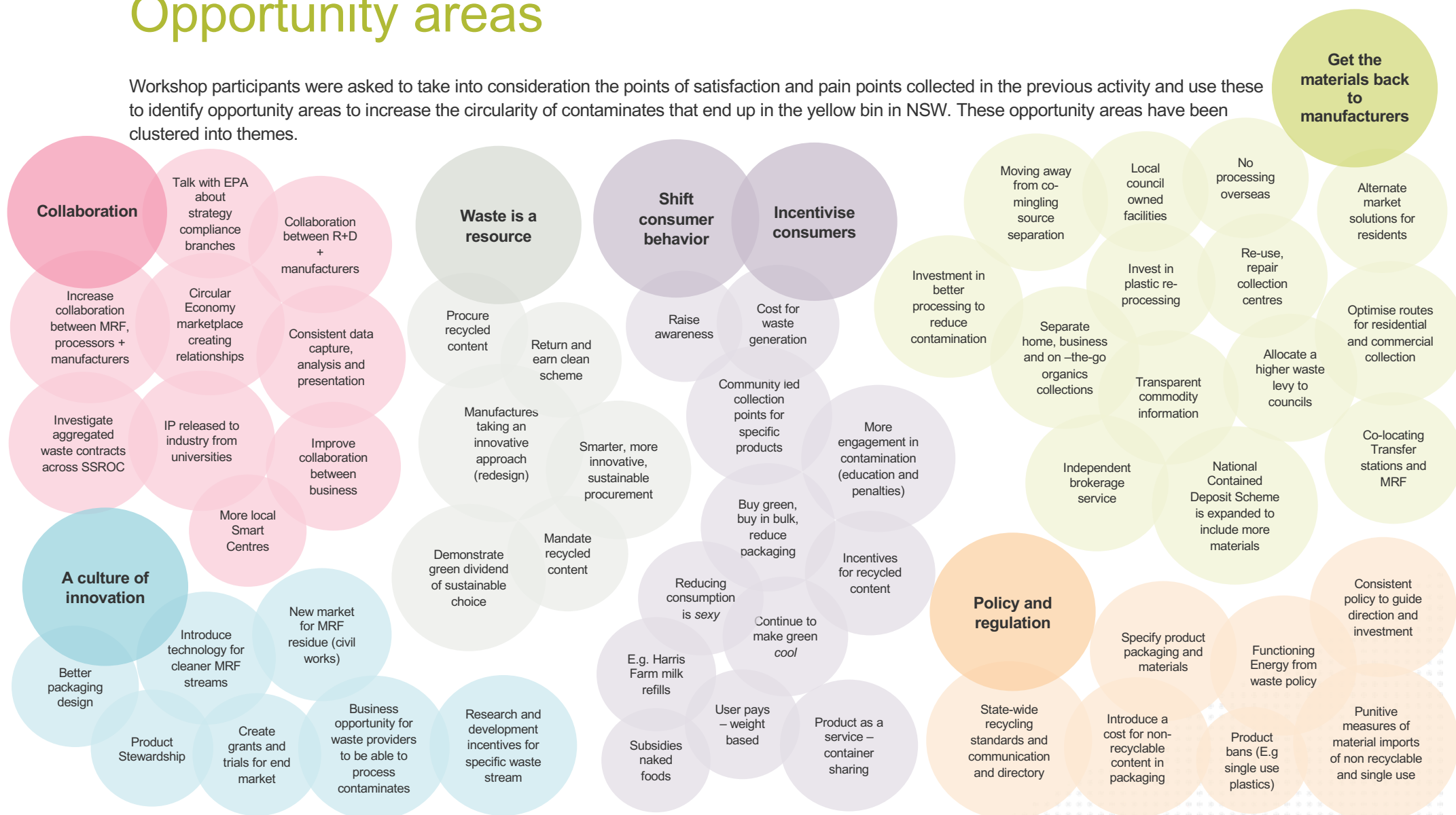


NSW Yellow bin material pathway

ACTORS Who is involved?	Residents Businesses	Local councils	Collectors Transporters	MRF Landfill	Technology providers	Local and international re-processors	Container Deposit Scheme Depots	Manufacturers Civil works	Wholesalers Retailers	R+D SMaRT @UNSW	The media Advertising industry	State and Federal Government
GOALS What are they trying to achieve?	Take it away, recycle out of sight - out of mind	Reduce litter and associated costs Service the community and provide value for money Increase efficacy and reduce contaminants Find a use for generated products Be transparent about where the waste goes	Efficient collection Maximise profit Deliver resources to MRF and transfer stations Reduction in competition	Maximise resources Maximise profit Find an end market Lower contamination	Create new use for materials	Maximise resources (quality, volume and recovery) Maximise profit Lower contamination	Lower contamination Increase recovery	Maximise profit Improve resource recovery Produce quality products with high recycling rates Maintain a consistent supply Reputation maintenance	Maximise profit - source economically viable materials Source the best quality Reduce waste to landfill	Find new use for materials Reduce waste to landfill	High ratings Attract advertisers to bring in revenue	Re-election Policy Strategy Targets Levies
POINT OF SATISFACTION What is working well?	High level of participation and care taken Collection system is convenient Recycling is seen as <i>normal</i>	Opportunity exploration Collection system is convenient Regional thinking and proximity of collection	Employment opportunities	Material and resource collection	Technology capability	Emerging recyclables markets Auditing and data collection Local capacity for recyclables (paper + glass)	Increase and clean stream recovery Create more space in recycling bins	Volume Alternative reuse exploration Recycled content being used in civil construction	Contained Deposit Scheme	Innovation Connecting manufacturers and resources	War on Waste	Revenue Packaging 2025 Increased processing capacity of facilities
PAIN POINTS What is frustrating or could be better?	Plenty of confusion and misinformation – the recycling message can be complex Contamination is common Lack of trust in the recycling system	Lack of guidelines Lack of data input and transparency Poor compliance Inconsistencies across NSW Long contracts - risk allocation in contracts	Lack of infrastructure and policy Lack of economic instruments More flexibility needed due to uncertainty Long fixed contracts	Instability in regulation and market Inefficient systems for contamination management Poor quality materials Reduction in markets Duopoly of processors End market scale and risk		Procurement process needs improving Not enough local capacity for certain streams (plastics and contaminated glass) Lack of infrastructure Lack of investment from State Government	Unexpected consequences (illegal dumping, litter, bin diving)	Gaps in design understanding Lack of pressure from stakeholders Lack of extended producer responsibility Poor quality Increase cost Impact on developing countries	Complexity if recyclability of materials is reduced Brand continue to produce new mixed materials		Irresponsible reporting Existing systems being undermined	More clarity needed on vision, strategy and policy Lack of foresight and incentivization

Opportunity areas

Workshop participants were asked to take into consideration the points of satisfaction and pain points collected in the previous activity and use these to identify opportunity areas to increase the circularity of contaminants that end up in the yellow bin in NSW. These opportunity areas have been clustered into themes.





Ideas for improvement

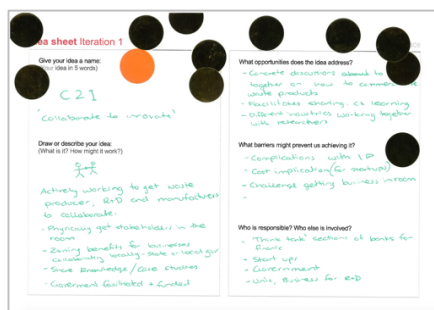
Following lunch, participants worked in pairs to build in some detail into the opportunity areas. Worksheets prompted participants to name their idea, describe it, consider the opportunity it addressed, the barriers and the stakeholders involved. Participants were asked to vote for their favourite idea, each participant was given three votes. Details of the ideas that received the most votes can be seen on the following pages.

Scans of the full set of the idea cards can be [viewed and downloaded here](#).

Idea #	Idea theme	Idea name	Votes	Idea #	Idea theme	Idea name	Votes
01	Collaboration	Collaborate to innovate	12	14	Shift consumer behavior	Cash in on your recyclables	6
02	Collaboration	Consistent and available data	3	15	Shift consumer behavior	Household weight watchers, weight-based charging	1
03	A culture of innovation	Product as a service revolution	3	16	Shift consumer behavior	BYO bottle grog shop and restaurant	1
04	A culture of innovation	Embed product stewardship in all levels of the product and process	2	17	Shift consumer behavior	Community recycling hub	0
05	A culture of innovation	Product stewardship	1	18	Shift consumer behavior	Free the fruit BYO container	0
06	A culture of innovation	Research and development innovation incentive	1	19	Shift consumer behavior	Transform the perception of the recycling and resource industry – celebrate recycling champions	0
07	Waste as a resource	Smart, innovative, sustainable procurement	6	20	Shift consumer behavior	Higher level waste and resource messaging	0
08	Waste as a resource	Commodity pricing hot desk – create an online resource to help decide where materials can go and the commodity price of each	3	21	Get the materials back to manufacturers	Unlock processing capacity and end of market opportunities	3
09	Waste as a resource	Incentivise recycled content in manufacturing	2	22	Get the materials back to manufacturers	Source separation – move away from co-mingled separation bins for key streams	1
10	Waste as a resource	Trash cash – create a currency out of resources/waste	1	23	Get the materials back to manufacturers	Recycled content hub - link MRF materials including rejects with markets	1
11	Policy and regulation	Mandate recycled content in products	10	24	Get the materials back to manufacturers	Rethink what else could be included in the yellow bin	0
12	Policy and regulation	Product bans	6	25	Get the materials back to manufacturers	Revolutionise the way we collect to ensure the product delivered can be recovered at a molecular level	0
				26	Get the materials back to manufacturers	Reduce the amount of colors in glass – brown only	0



Most popular ideas for improvement



Collaborate to Innovate (12 votes)

Actively working to get waste producers, research and development and manufacturers to collaborate. Physically getting stakeholders in the room. Zoning benefits for businesses to collaborate locally. Sharing knowledge. Creating case studies. Government facilitated and funded.

What opportunities does the idea address?

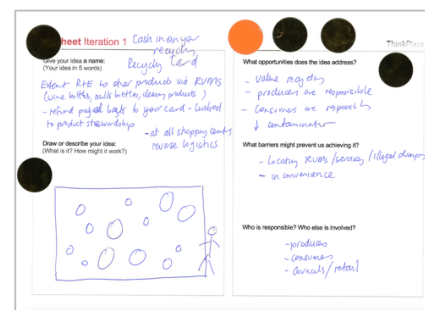
Concrete discussions together on how to commercialise waste products. Facilitates shared learnings. Different industries working together with researchers.

What barriers might prevent us achieving it?

Complications with IP. Cost implications for startups. A challenge to get business in the room.

Who is responsible? Who else is involved?

- ThinkTank sections of banks for finance
- Start-ups
- Government
- Universities
- Business for research and development



Cash in on your recyclables (6 votes)

Extend Return and Earn scheme to other products (wine bottles, milk bottles, cleaning products). Refund paybacks to consumers cards. Provide at all shopping centers.

What opportunities does the idea address?

- Value recycling
- Producers are responsible
- Consumers are responsible
- Reduce contamination

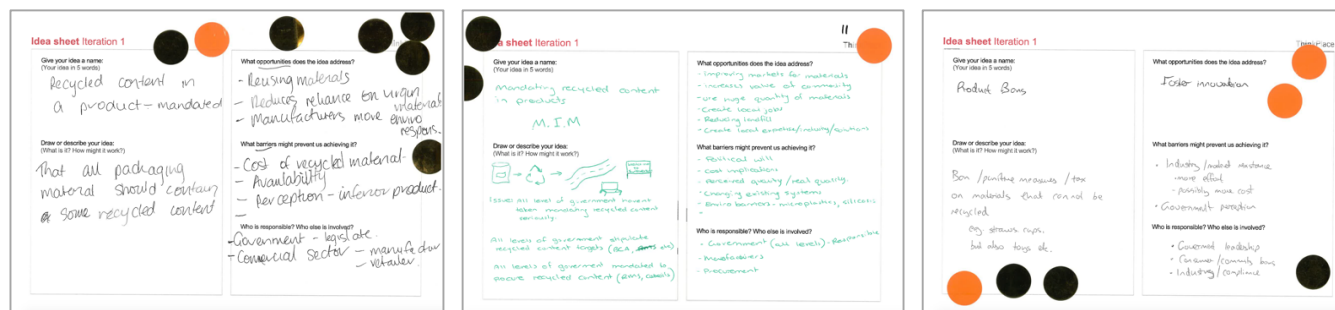
What barriers might prevent us achieving it?

- Locating RUMs/services
- Illegal dumping
- Inconvenience

Who is responsible? Who else is involved?

- Producers
- Consumers
- Councils
- Retail

Most popular ideas for improvement



Mandate recycled content in a product (10 votes)

All packaging material should contain some recycled content. Government stipulates recycled content targets. Governments mandate to procure recycled content.

What opportunities does the idea address?

- Reuse materials, reduce landfill and reducing reliance on virgin materials
- Improve markets for materials
- Increase value in commodities
- Create local jobs, create local expertise

What barriers might prevent us achieving it?

- Cost implications
- Availability
- Perception that recycled products are inferior
- Political will
- Environmental barriers

Who is responsible? Who else is involved?

- Government (legislators)
- Commercial sector (manufacturers and retailers)

Product bans (6 votes)

Tax, punitive measures, ban on materials that cannot be recycled (e.g. straws, cups and toys).

What opportunities does the idea address?

Foster innovation

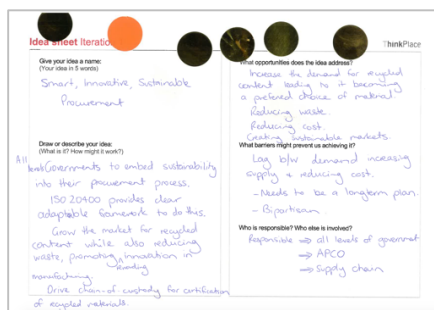
What barriers might prevent us achieving it?

- Industry and market resistance (increased effort, could be increased costs involved)
- Government perception

Who is responsible? Who else is involved?

- Government leadership
- Consumer. Community
- Industry
- Compliance

Most popular ideas for improvement



Smart, innovative, sustainable procurement (6 votes)

All Governments to embed sustainability into their procurement process. ISO20400 provides clear adaptable framework to do this. Grow the market for recycled content while also reducing waste, promoting and rewarding innovation in manufacturing. Drive chain-of-custody for certification of recycled materials.

What opportunities does the idea address?

- Increase the demand for recycled content leading to it becoming a preferred choice of material.
- Reducing waste
- Reducing cost
- Creating sustainable markets

What barriers might prevent us achieving it?

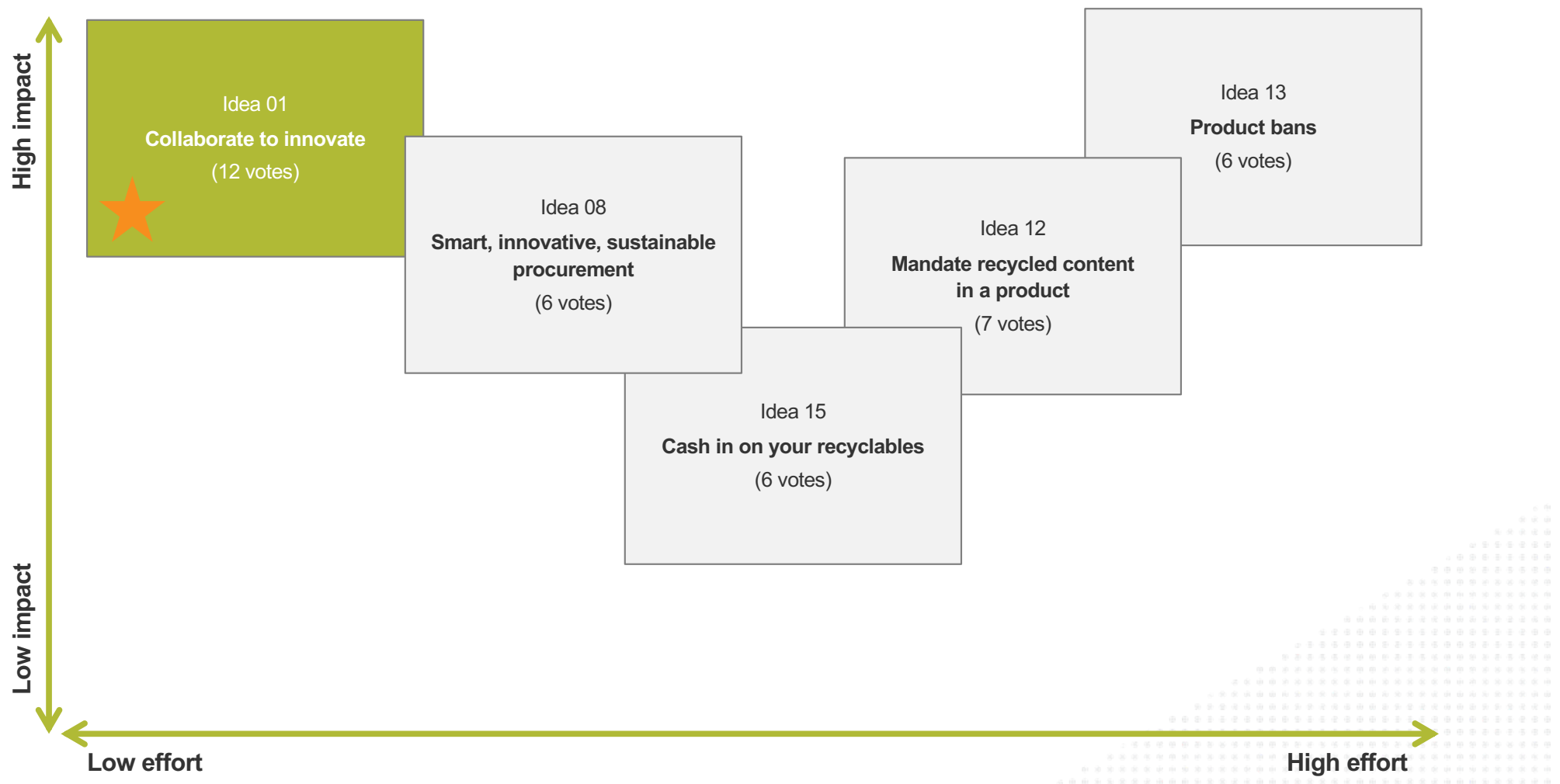
- Lag between demand increasing supply and reducing cost
- Needs to be a long-term plan
- Bipartisan

Who is responsible? Who else is involved?

- All levels of government
- APCO
- Supply chain

What is the estimated impact and effort required?

After the workshop, the project team considered the most popular ideas and estimated the effort required and the expected impact, benefit or reward in order to identify the **quick win that could be delivered in 2020**.





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