



SCIENCE AND
INDUSTRY
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FUND



STEM Community Partnerships Program

Blacktown local scenario

Waste Management & Circular Economy

Waste management is important for the health, safety, and wellbeing of residents and the environment. The Central City District Plan (which covers the Blacktown area) identifies waste management as a serious concern in planning for Sydney's growth¹. Blacktown City Council is committed to working with other Sydney councils on safe, efficient, and cost-effective waste initiatives that maximise resource recovery.

There are many programs designed to encourage us to dispose of waste thoughtfully and correctly – for example, the Return and Earn program is one such initiative. This program started out as a litter reduction initiative and by 2020, NSW had collected more than 4 billion containers in less than two years.

The Return and Earn program is an example of a concept called the circular economy. The circular economy refers to changing the way we produce, assemble, sell, and use products to minimise waste, and as a result, to minimise the environmental impact. The circular economy can also be great for businesses through maximising the use of resources, and by contributing to innovation, growth, and job creation.

In 2012, Australia businesses spent roughly \$24.3 billion on materials that were discarded as part of the development of a product². Businesses in Western Sydney can benefit from developing a local hub where these resources are shared. By utilising new technologies businesses can turn their waste into a profit as well as provide cheaper resources to other businesses who can use the by-products and repurpose materials that would otherwise end up in landfill.

How your Council tackles the complexity of this issue impacts you and your community now and in the future.

Your task

Your task is to use the information above and resources provided below as a start to identify a local problem and design a STEM-focussed solution.

(Question, Design, Explore, Communicate)



Proposed Eastern Creek incinerator, Daily Telegraph
April 2016

Resources

CSIRO research

- Circular Economy and Waste Management, CSIRO, December 2020 <https://www.csiro.au/en/Research/Environment/Circular-Economy>
- Circular economy roadmap for plastics, glass, paper and tyres https://www.csiro.au/~media/News-releases/2021/circular-economy/20-00205_LW_CircularEconomySummary_WEB_210119.pdf

Reports

- ¹Central City District Plan – connecting communities, March 2018 https://gsc-public-1.s3-ap-southeast-2.amazonaws.com/s3fs-public/central-district-plan-0318_0.pdf?siilqec0u4q5gpW88nOeuVn68yyS3vYf
- ² Too Good To Waste, NSW EPA February 2019 <https://www.epa.nsw.gov.au/publications/recyclereuse/18p1061-too-good-to-waste-circular-economy-discussion-paper>
- Case Study: Sustainable Living Blacktown, December 2018 https://www.lgnsw.org.au/common/Uploaded%20files/Sustainability/Blacktown_Sustainable_Living_Blacktown.pdf
- Ecologically sustainable development <https://www.blacktown.nsw.gov.au/Community/Our-environment/Ecologically-sustainable-development>
- Local Strategic Planning Statement, August 2019 https://www.blacktown.nsw.gov.au/files/assets/public/draft-blacktown-lsps_30aug2019.pdf

Articles

- Western Sydney cafes choose to reuse, WSROC, November 2019 <https://wsroc.com.au/media-a-resources/releases/western-sydney-cafes-choose-to-reuse>
- Fighting food waste through the circular economy, KPMG, 2020 <https://home.kpmg/au/en/home/insights/2019/12/fighting-food-waste-through-the-circular-economy.html>
- Blacktown Waste Services Secure New EPA Licence to Grow Their Recycling Business, May 2020 <http://www.jacksonenvironment.com.au/blacktown-waste-services-secure-new-epa-licence-grow-recycling-business/>
- How to turn plastic waste in your recycle bin into profit, The Conversation, January 2021 <https://theconversation.com/how-to-turn-plastic-waste-in-your-recycle-bin-into-profit-147081>

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