



**LEGISLATIVE ASSEMBLY**  
FOR THE AUSTRALIAN CAPITAL TERRITORY

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STANDING COMMITTEE ON ENVIRONMENT, CLIMATE CHANGE AND BIODIVERSITY  
Dr Marisa Paterson MLA (Chair), Ms Jo Clay MLA (Deputy Chair), Mr Ed Cocks MLA

## Submission Cover Sheet

Inquiry into the waste management of absorbent hygiene products

**Submission Number: 17**

**Date Authorised for Publication: 15 November**

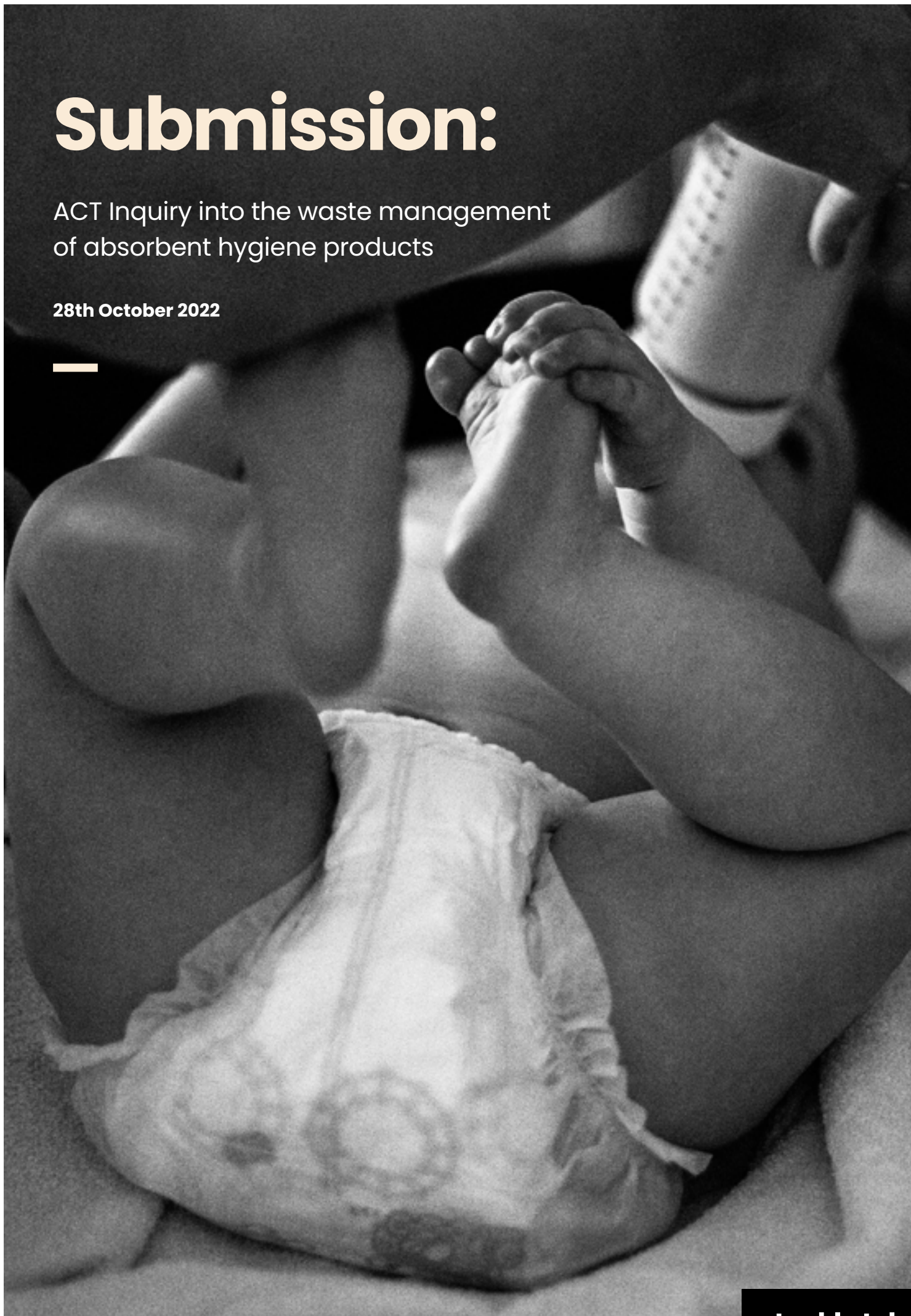
**2022**

# Submission:

ACT Inquiry into the waste management  
of absorbent hygiene products

28th October 2022

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Standing Committee on Environment, Climate Change and Biodiversity,  
ACT Legislative Assembly,  
GPO Box 1020,  
Canberra ACT 2601

To whom it may concern,

## **Tackle Lab Pty Ltd Submission to the Inquiry into the waste management of absorbent hygiene products**

Tackle Lab welcomes the opportunity to comment on the Standing Committee on Environment, Climate Change and Biodiversity's Inquiry into the waste management of absorbent hygiene products. Tackle Lab is committed to finding circular economy solutions for daycares, childcare centres and nursing homes to divert nappy and incontinence product waste from landfill.

### **OUR ORGANISATION**

Tackle Lab is an Australian sustainability social enterprise that is committed to finding localised solutions to divert incontinence products, nappy and wipe waste from landfill. We are currently conducting a compostable nappy and wipe collection trial in a childcare facility located within the City of Sydney. Tackle Lab's submission will focus on nappy and wipe waste.

# The Problem:

## **SINGLE USE PLASTIC NAPPIES**

Single use plastic nappies made from petrochemicals place a significant strain on our environment and resources at every stage of their life-cycle. From their production using one cup of crude oil per nappy to their current end of life disposal rotting in landfill slowly emitting harmful gases. It is estimated more than five million disposable nappies end up in landfills across Australia every day. Without sunshine and oxygen each nappy can take anywhere from 150-500 years to decompose.

Childcare centres are some of the biggest consumers of disposable nappies. To follow policies, they will change a child's nappy 4-5 times a day creating a lot of waste. Currently there are no disposable nappy systems that fit the circular economy model. If a childcare chooses to switch to compostable nappies, they have no way to safely convert their waste into compost.

Tackle Lab believes the best option to reduce nappy waste at scale is to switch to compostable nappy products that can be successfully composted to standard.

Cloth reusable nappies are often perceived to be the most sustainable choice however, they have their own drawbacks, especially around the amount of water needed to clean them. They are also generally considered to be inconvenient which is a prohibitive factor for many people.

To change waste habits relating to nappies the convenience of single use plastic nappies cannot be overlooked. Further in our submission we will detail a first hand account of child care centres in the ACT using cloth nappies and how they are not suited as a scale solution.



# Discussion & Recommendations

The first part of our submission relates to what regulatory approaches might be useful to improve nappy products. The second part will focus on regulatory approaches that might be useful for diverting nappies from landfill and disposing of them in an environmentally conscious way.

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# Nappies

## DISPOSABLE NAPPY PRODUCT REGULATIONS

The most effective action to take against nappy waste is to **design the harmful plastics out of nappies from the start.**

Tackle Lab's first recommendation to the inquiry is to suggest that the ACT Minister for the Environment advocate to federal counterparts for greater oversight and regulation of early-stage design standards and standards relating to feedstock/raw materials and call for a review into the development of new standards at all stages of the plastics supply chain.

The CSIRO<sup>1</sup> recently reviewed plastic standards and found that out of the 95 plastics standards only 9 were Australian suggesting there are significant opportunities to improve plastic supply chain standards from design to reuse. Similarly a 2021 United Nations Environment Programme report stated that, **"the greatest reductions in environmental impacts of single-use nappies can be achieved through the design of lighter products"**<sup>2</sup> The report suggests it is the material production of nappies that causes the most environmental impacts. Changing a nappys components and materials will significantly reduce the complete life cycle impact of nappies.

Tackle Lab also recommends adding single use petrochemical plastic nappies by regulation to the prohibited plastic products listed in the Plastic Reduction Act 2021. This would provide sufficient impetus for manufacturers to move into making compostable products. Extensive consultation, similar to what was done when developing the Act, with the public and with industry would be needed to determine how long a transition period is sufficient and what exemptions are required.

Ms Brooke Donnelly, Chief Executive Officer, at the Australian Packaging Covenant Organisation highlighted how crucial it is that governments play a role in the reduction of plastics. When giving evidence to the NSW Inquiry into the Waste Avoidance and Resource Recovery Amendment (Plastics Reduction) Bill 2021 she said;



**The role of government is crucial. APCO strongly supports the role of governments in setting priorities and driving action within their jurisdictions, including through the regulatory funding and other approaches."**<sup>3</sup>

1. Link to article Standards as a tool for reducing plastic waste <https://www.mdpi.com/2071-1050/14/17/10876/htm>

2. United Nations Environment Programme (2021). Single-use nappies and their alternatives: Recommendations from Life Cycle Assessments

3. Evidence, Ms Brooke Donnelly, Chief Executive Officer, Australian Packaging Covenant Organisation, 31 May 2021,p50

<https://www.parliament.nsw.gov.au/lcdocs/transcripts/2578/Transcript%20-%2031%20May%202021%20-%20UNCORRECTED.pdf>

Improving design standards and banning plastic nappies are two important regulatory approaches the ACT government could take. Imposing end of life or mandatory product stewardship requirements upon nappy manufacturers is also an effective method to improve nappy waste. Product stewardship has been successful in other areas of problem waste such as MobileMuster<sup>4</sup> the mobile phone industry's recycling program that keeps mobile phone products out of landfill and recycles them in a safe, secure and ethical way.

Advocating to federal counterparts for an excise on single use petrochemical plastic nappies similar to the increasing excise on tobacco products would substantially and immediately improve the absorbent hygiene industries move to producing more sustainable products. This coupled with introducing legislation similar to the Tobacco Plain Packaging Act 2011 to include warning signs on nappy packaging similar to cigarette packets that educate consumers to the damage that the nappies do to the environment would see fast improvements in this area.

There is precedent of mass industry overhaul for environmental benefit. The motor vehicle industry was mandated to reform at scale to reduce emissions and again now we are seeing a mass transition

to electric vehicles<sup>5</sup>. The absorbent hygiene industry needs a mandatory overhaul. The global baby nappy market size was valued at USD 75.9 billion in 2020 and is expected to expand at a compound annual growth rate (CAGR) of 4.6% from 2021 to 2028<sup>6</sup>. With that kind of profit industry is not going to change voluntarily and considering that nappy waste is hidden out of sight once the garbage is collected does not show any obvious signs of pollution it will take tough regulation to make this change occur. It will also be imperative to highlight the point that it is incumbent on the industry and individual companies to ensure job security throughout any manufacturing transitions. Job losses through any transition process must not be acceptable and must be part of corporate responsibility.



4. <https://www.dcceew.gov.au/environment/protection/waste/product-stewardship/voluntary-product-stewardship/mobile-muster>  
 5. <https://www.smartcompany.com.au/budget-2022/budget-2022-australia-first-federal-tax-cuts-for-electric-vehicles-revealed/>  
 6. <https://www.grandviewresearch.com/industry-analysis/baby-diapers-market>

# Cloth Nappies

## CLOTH NAPPIES IN A CHILDCARE SETTING AND WHY IT IS NOT THE ANSWER

The appetite to switch to environmentally friendly products and processes in the childcare sector is huge. Tackle Lab recently attended the Early Childhood Australia Convention in Canberra where we had a NOGO bin booth. Educators overwhelmingly supported our compostable nappy trial and wanted to roll it out within their service. Tackle Lab conducted a short survey and when asked **“Are you concerned about nappy and wipe waste?”** 100% of Early Childcare Care Convention attendees said ‘Yes’ (83 surveyed) when asked **“Would you try a new system to prevent disposable nappies ending up in landfill?”** 74 out of 83 (89%) people were a definite yes with the remaining 8 a maybe and 1 being unsure because of the costs involved. There were no flat Nos.

Currently childcare educators can handle using cloth nappies when a small number of parents with a strong sustainability focus supply their own cloth nappies and take home the dirty nappies to clean. However when a childcare centre chooses to use 100% cloth diapers for all children things start to be problematic. Below are some direct quotes from Canberran educators who have experience using cloth nappies at their facility.



“We were really keen to return to the use of cloth nappies because of the waste problem, we thought that was the best solution. However **we found significant barriers** in terms of training staff in the use of cloth nappies and the extra time it takes for nappy changes. There were significant barriers in terms of the storage for soiled nappies, extra cleaning was involved with the nappies before they were returned to the provider. We also had to find somewhere to store the soiled nappies for days before they were collected. We had to find somewhere safe and hygienic away from the center that was accessible out of hours for that nappy provider. We would also had to consider extra staff because of the extra cleaning and time taken for all those extra processes. We currently need to do things differently and better and sometimes that involves costs, training and extra staffing. These are all barriers for something that we have not found solutions for. If we are to continue to use disposable nappies which are hygienic and staff already know how to use, which don’t require storage in the same way as cloth, but if we are doing the right thing environmentally and sustainably that would be an incredible solution.”

– Lisa, Manager ACT Early Childhood Service





“In regards to cloth nappies and wipes, what we find the most difficult is the cost. If we lose cloth wipes and accidentally throw it out in the wrong bin we lose it and get fined. The time management for educators too, they are taking out of ratio, to go and clean the cloth nappies in the sink that is quite open to everything. We are a small setting with only 33 childrens, we do not have a lot of educators. When the Educators have free time instead of being with the children or doing cleaning duties they are taken out of their room to line and prep the cloth nappies for the next nappy change. There is a lot of manual labor too, once the nappies are soiled the bags are really heavy and we have a lot of older educators with bad backs, so this is not ideal”. – **Emma, Educational Leader, ACT Early Childhood Centre**



“If there is poo left on the nappy and we don’t wash it off they charge extra. When we wash the cloth nappies we get splashes back on us and if it doesn’t wash down the sink we have to push it down the sink. The buckets we have are open and we are worried about contamination.” – **Jaimee, Lead Educator, ACT Early Childhood Centre**



“We have a lot of families that would like us to do cloth nappies because they are environmentally concerned, but we can’t support them as there are not enough resources available in Canberra. The Early childcare sector is just sick of doing chickens and gardening in terms of sustainability, something that is more practical and we do every day but forget about is nappies. So many children use nappies and that probably should be number one on our agenda when it comes to sustainability.

We have about 5 out of 64 children using cloth nappies. Those families are the biggest advocates for sustainability and are concerned for the environment in Canberra. We don’t clean the cloth nappies in our service, the parents take home their soiled cloth nappies to clean. The main barriers to use all cloth nappies in our service is we are already short staffed and do not have enough manpower in our service. Who is going to wash the cloth nappies at the end of the day and a lot of other logistics. With cloth nappies having to be washed in the sink that adds another layer of responsibility to educators and we are already overworked.”

– **ACT Childcare Educator interviewed at EAC Convention**

# Compostable Nappies

## OTHER BARRIERS – COST AND EDUCATION

Currently cost is a prohibitive factor for many to make the switch to compostable products. With this in mind Tackle Lab recommends that the ACT government provide rebates or subsidies for people and businesses who use approved compostable products. We suggest these are not one off payments but long term subsidies that allow businesses to genuinely make the switch to better greener products. This will place market pressure on the big manufacturers of petrochemical nappies to consider a new nappy design. Financial support should also be provided to private contractors who agree to compost nappies.

Tackle Lab would also recommend mandating into state procurement practices that all state run services and facilities that use nappies must use compostable products. Leading the change by example.

Investing in education programs will also be essential. Wading through the greenwashing<sup>8</sup> and conflicting marketing can make it very difficult for people to discern what is and is not compostable. Having clear messaging and guidelines about what is and is not a compostable product would be useful.



**The urgency of the environmental challenge calls for ambitious policies that prioritize climate action and send a clear message about how the market and citizens can achieve radical change. Only through a strong political will can governments overcome opposition and build cross-sector support. Policies such as incentives and penalties encourage businesses to align investments and economic activities with climate goals.”<sup>7</sup>**

7. [https://www.ey.com/en\\_kr/government-public-sector/six-ways-that-governments-can-drive-the-green-transition](https://www.ey.com/en_kr/government-public-sector/six-ways-that-governments-can-drive-the-green-transition)

8. <https://www.accc.gov.au/media-release/accc-internet-sweeps-target-greenwashing-fake-online-reviews>

# Diverting Nappies from landfill

The best solution to divert nappy waste from landfill is to allow compostable nappies to be accepted or integrated into current FOGO or green waste collections already being composted at Council or private facilities. There are current examples of this happening in Australia mostly in Tasmanian LGAs where the compostable nappy product Eenees<sup>9</sup> is based. There was also a successful compostable nappy trial undertaken by Bega Valley Council in NSW in 2019 which received NSW EPA conditional approval to accept the Eenee's nappy as an input into their compost at their facility<sup>10</sup>. Tackle Lab would urge the committee to obtain a copy of the trials documentation and reports to understand the success of the trial.

The Bega Valley trial deliberately chose Static pile composting because it is a low cost and easy method for effectively composting at a small or large scale. By processing the nappies with this composting method the Council ensured that all commercial composting facilities, irrespective of their ability to use plant and

equipment, could use their trial as a guide on how to include compostable nappies at their facility.

Another great and current example is Gaia's Nest childcare facility in Hobart who have been successfully composting Eenees nappies for the past five years. Their success was documented in the Ellen Macarther report A circular economy for nappies and how to implement it locally.<sup>11</sup>

Gaia's Nest Childcare has halved their garbage waste by switching to compostable nappies, wipes, gloves and bin liners. Over 12 months they save over 30,000 nappies from going into landfill and the city of Hobart composts the nappies and the compost is sold for \$75 a cubic meter.

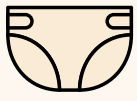
Compostable nappies can also be successfully composted in an in-vessel composting system and although further research is needed it is believed that Pyrolysis could be used to turn the nappies into biochar.

9. It is important to note that Tackle Lab works closely with Eenees and supports their products but we have no stake in their business. We will accept other products into the NOGO if they are tested and can compost to the same standard as the Eenees product does.

10. Link to view the ABC coverage of Bega Valley's compostable nappy trial <https://www.abc.net.au/news/2022-04-09/bega-valley-compostable-nappy-trial-nsw-far-south-coast-success/100935440>

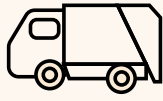
11. <https://bbia.org.uk/wp-content/uploads/2020/11/A-Circular-Economy-for-Nappies-final-oct-2020.pdf>

## GAIA'S NEST NURSERY, TASMANIA AUSTRALIA



**30,000**

nappies diverted from landfill



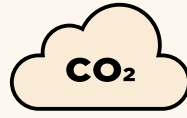
**50%**

reduction in overall landfill waste for nursery



**7 tons**

waste diverted from landfill



**4.3 tons**

avoided in greenhouse gas emissions



**3.5 tons**

of compost created



**\$75/m3**

prices for the AS 4454 certified compost

Gaia's Nursery in Hobart, Tasmania shifted to compostable nappies in an effort to reduce single use plastic in their centre and be more environmentally responsible. The centre has ten children in nappies and leveraged existing infrastructure to transition to a circular economy solution for nappies.<sup>11</sup>

In order for nappies to be successfully composted at scale, compost and waste licensing will have to be fit for purpose. License processes that make it easier for facilities to trial and accept compostable nappies as an input should be encouraged.

Tackle Lab recommends that the committee look at the recent Independent Review of the NSW Resource Recovery Framework commissioned by the NSW EPA. The section relating to innovation pathways for waste management could provide a good basis for how to do this. Recommendation 13 states,



**"The EPA should seek to work with relevant agencies across government to develop a resource recovery innovation pathway to support the development, demonstration and assessment of new and innovative technology and processes. This could include consideration of approaches across the environment protection and environmental planning legislation."<sup>12</sup>**

11. <https://bbia.org.uk/wp-content/uploads/2020/11/A-Circular-Economy-for-Nappies-final-oct-2020.pdf>

12. <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/recycling/resource-recovery-framework-independent-review-report.pdf?la=en&hash=346C0BE3E349467E521A51DFBB823F79983F95CF>

# The NOGO Bin

## Nappy Organics = Good Organics

In NSW the Environmental Protection Agency recently defined FOGO as food and green waste only and declared that compostable products will not be accepted into that bin. With this in mind Tackle Lab has created the NOGO bin, Nappy Organics = Good Organics. For a circular model to succeed in a childcare setting commercial compost facilities require a single uncontaminated waste stream. This can be achieved with a dedicated nappy bin. Facilities will swap to compostable nappies and staff trained on the procedures to avoid bin contamination.

The NOGO bin solution is innovative as it creates a single uncontaminated waste stream. This has two important benefits. One, there will be no plastics in the NOGO bin so when the bin arrives at the processor they can be assured that the contents will make beautiful healthy compost. Two, the NOGO bin encourages separation at the source. This will be an essential habit formation for our world going forward, if we are to reuse and renew our precious resources. The NOGO bin reinforces this habit and helps us move to a circular economy.

### HOW THE NOGO BIN SYSTEM WORKS:

- Consultation with childcare facility to understand needs and limitations regarding their facility and local LGA
- Education for childcare staff on nappies, the circular economy and NOGO bin system
- Collection of compostable nappies in the NOGO bins
- NOGO bins transported to processor where the compostable nappies are turned into compost
- Compost is tested to make sure it is in line with the Australian compost standards AS 4454-2012.



#### 1. LEARN

Childcare staff learn about the NOGO bin circular nappy system and trained on products.



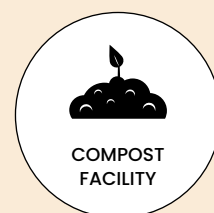
#### 2. SWITCH

Childcare centre makes the switch to NOGO approved compostable nappy and wipe products.



#### 3. COLLECT

The NOGO bin is collected and transported to a compost facility for processing.



#### 4. COMPOST

The nappies are composted and the compost is tested to make sure it is high quality compost.

## WHY THE NOGO BIN?



In July this year Tackle Lab received funding through the City of Sydney Environmental Innovation Grant scheme to roll out a nappy and wipe collection trial at a childcare facility in Glebe. We are currently undertaking the first stage of our trial which is educational briefing for the facility educators. We will then fit out the centre so they are able to make the switch to the compostable products for the trial period. We would be happy to provide trial updates to the committee during the inquiry if that is something of interest.

### **NAPPY WASTE AS A VALUABLE RESOURCE**

With further investment nappies waste could be harnessed to create valuable resources. There are many directions this could go in but producing high value compost and fertilizer is the most obvious choice. Valuable salts and phosphorus could also be harvested from the nappies prior to composting.

Tackle Lab wishes to thank the Standing Committee on Environment, Climate Change and Biodiversity for the opportunity to provide a submission to this inquiry into the waste management of absorbent hygiene products. As a stakeholder with a strong interest in the circular economy, we would be happy to be included in any further consultation on this topic.

Yours Sincerely,

**Jacqueline Mata & Meg Connor**  
**Tackle Lab**

A young child with dark hair, wearing light blue patterned swim trunks, is walking on a sandy beach. The child is looking down at their feet. In the background, there is a blue sky, a dark blue ocean with white waves, and a small white boat on the water. The overall scene is bright and sunny.

# tackle lab.

Daring to solve tough problems