LEGISLATIVE ASSEMBLY
FOR THE AUSTRALIAN CAPITAL TERRITORY

STANDING COMMITTEE ON ENVIRONMENT, CLIMATE CHANGE AND BIODIVERSITY
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Submission Cover Sheet

Inquiry into the waste management of absorbent hygiene products

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Climate and community benefits of recycling plastic free eenee compostable nappies into compost through FOGO collections compared to dumping plastic disposables in ACT landfills

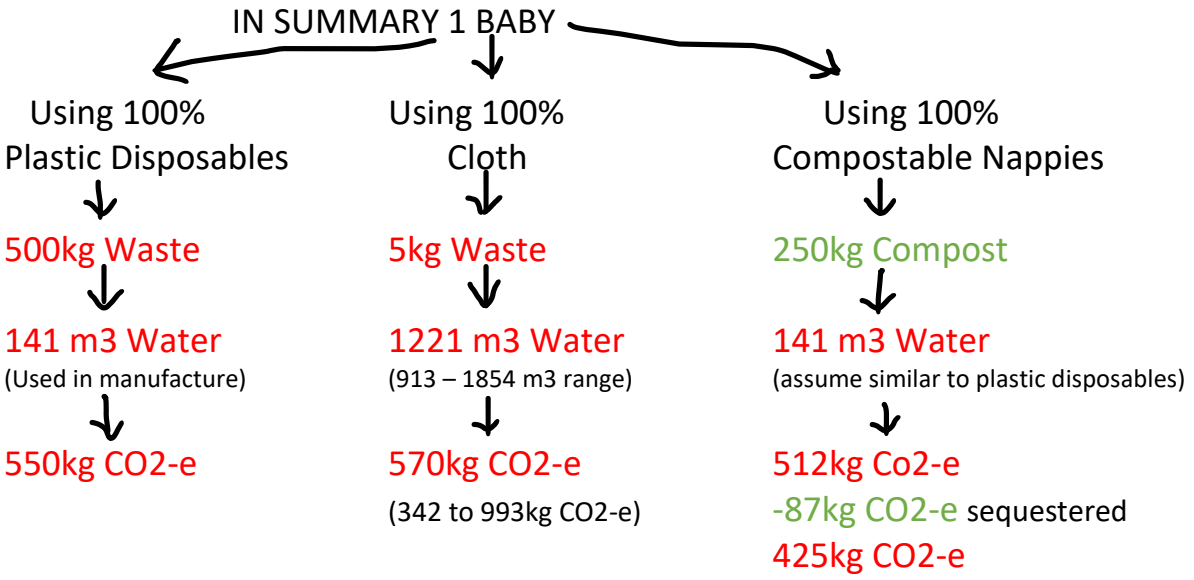
Compost is produced from recycled organic materials such as garden organics, food organics, crop residues, biosolids, manures and now eenee compostable nappies. Diverting these materials from landfill reduces methane emissions, a GHG (Green House Gas) with GWP (Global Warming Potential) reported as CO2-e emissions (Carbon Dioxide equivalents), which are produced when organics breakdown in landfill. Applying compost to soil leads to climate change benefits through carbon sequestration in soil, substitution of nitrogenous and other synthetic fertilisers and the flow-on effects of improved soil health and water holding capacity following its application.

Every year, ACT families generate over 2,300 tonnes of used regular plastic disposable nappy waste[2] which contributes over 2,500 tonnes of CO2-e emissions per year[1]. So, to put it in perspective each child produces 513kg of used disposable nappy waste (average child's nappy use over 2.5 years), contributing 550 kg of CO2-e emissions, and all waste is locked up in our limited landfill indefinitely. What a Waste!!

If ACT's 2,300 tonnes of used nappies were all compostable nappies, diverted from landfill and commercially composted, these could produce approx. 1,150 tonnes of valuable compost (assuming 50% reduction during composting and 35% moisture) or 750 t Dry Matter[3]. When applied to soil, 750 t DM compost could sequester 0.5224 t x 750 t = 392 t C02-e and the Carbon could remain sequestered for approx. 20 years under Australian conditions[3].

So, for each child's 513 kg of used compostable nappy waste, 87 kg of CO2-e could be sequestered for 20 years, plus the soil's quality, water holding capacity and productivity is improved and all waste is diverted from landfill. Additionally, the materials used to make eenee compostable nappies are more sustainable and no petrochemical-based plastics are used, unlike regular plastic disposable nappies.

Of note the average CO2-e emissions from using cloth nappies is reported as 570kg per child's nappy life (ranges from 342kg to 993kg depending on user choices), and water use in our dry Australian climate can be an issue in some locations. If all nappy users converted to using cloth it could increase overall water consumption by 1%.[1]



A baby using plastic disposables will create 100 times the waste of a cloth user, where as a cloth user will use 10 time the water of a plastic disposable user.
The CO2-e emissions are similar for cloth or plastic disposables.
A compostable nappy option creates nutrient rich compost instead of waste, uses 1/10th the water of a cloth user and overall has a lower CO2-e footprint than any other nappy option.

Eenee Compostable nappies are the only nappy to have been independently tested[4] to show they are acceptable for including in FOGO and the compost created meets all the requirements of AS4454 (including worm and plant toxicity).
Organic farmers are allowed to use compost that is made to AS4454. [5]
Hobart City Council, Kingborough and Glenorchy Councils have been successfully accepting eenee compostable nappies in their FOGO collections for several years.

Sources:

1.An updated lifecycle assessment study for disposable and reusable nappies Science Report – SC010018/SR2 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/291130/scho0808boir-e-e.pdf

1. Disposable nappy use, weight and CO_2-e per child's nappy life:
Estimates 4.16 nappies per day for babies first 2.5 years = 3796 nappies per child's nappy life
Average weight of nappy 38.6g + 96g (urine & faeces) = 135g per nappy
Used nappy weight 135g x 4.16 nappies = 562g per day or x 365 days = 205kg per year
Or 205kg per year x 2.5 years = 513kg per child's nappy life (over half a tonne per child)
Estimated CO_2 -equivalents per child's nappy life = 550kg
Therefore each 1 kg of used nappy waste contributes over 1kg of CO_2-e emissions

2. From ACT Health dept https://www.health.act.gov.au/about-our-health-system/data-and-publications/healthstats/statistics-and-indicators/mothers-and , 12,500 children in ACT are aged 0-2.5 years. It's estimated 90+% of families use disposable nappies = 11,200+ children in disposable nappies in ACT

3. © Department of Environment, Climate Change and Water NSW February 2011
Short report: The benefits of using compost for mitigating climate change
https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/waste/110171-compost-climate-change.pdf?la=en&hash=7ADC0B32600A8EE49E72187E4A027FA1C809AEAE

3. Where 5,224kg CO_2-e is sequestered per 10t DM h-1 of mature garden organic compost applied to soil - (where C would be stored in soil for 20 years for Australian conditions i.e. not re-emitted during this time)

4. Bega Valley Council – eenee compostable nappy trial Resource Recovery Application to NSW EPA
https://www.eenee.com/contents/en-us/d57_nappy_news.html

5. https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/aqis/exporting/food/organic/national-standard-edition-3-7.pdf Appendix B, p 49