

Changing Nappies: from disposable to biodegradable to renewable

Introduction

gNappies is an Australian owned company that aims to divert large quantity of petroleum based disposable nappy waste from landfills. The company is aimed towards producing a product which is convenient, environmentally friendly disposable nappy alternative. With current disposable nappies using 1 cup of oil to be produced and takes 500 years to decompose in landfills, gNappies consists mainly of corn – based materials and can degrade in 50 days. In an attempt to break the UK market gNappies faced problems in the areas of waste collection and legislation requirements. A new approach has been developed to reenter the UK market via nurseries, where a gCycle system would be introduced to increase convenience, as well as health and environmental solutions. In addition to the gCycle system this project wishes to incorporate a method of extracting additional value from waste.

Aims

- Review energy from waste alternatives, research, refine and select energy from waste solutions
- Scientifically test and evaluate the energy from waste solutions and their relevant environmental, social and economic impacts
- Work with stakeholders to determine business model parameters: sale, use and collection
- Produce, justify and effectively communicate a detailed business case

Methodology

Waste Methodology

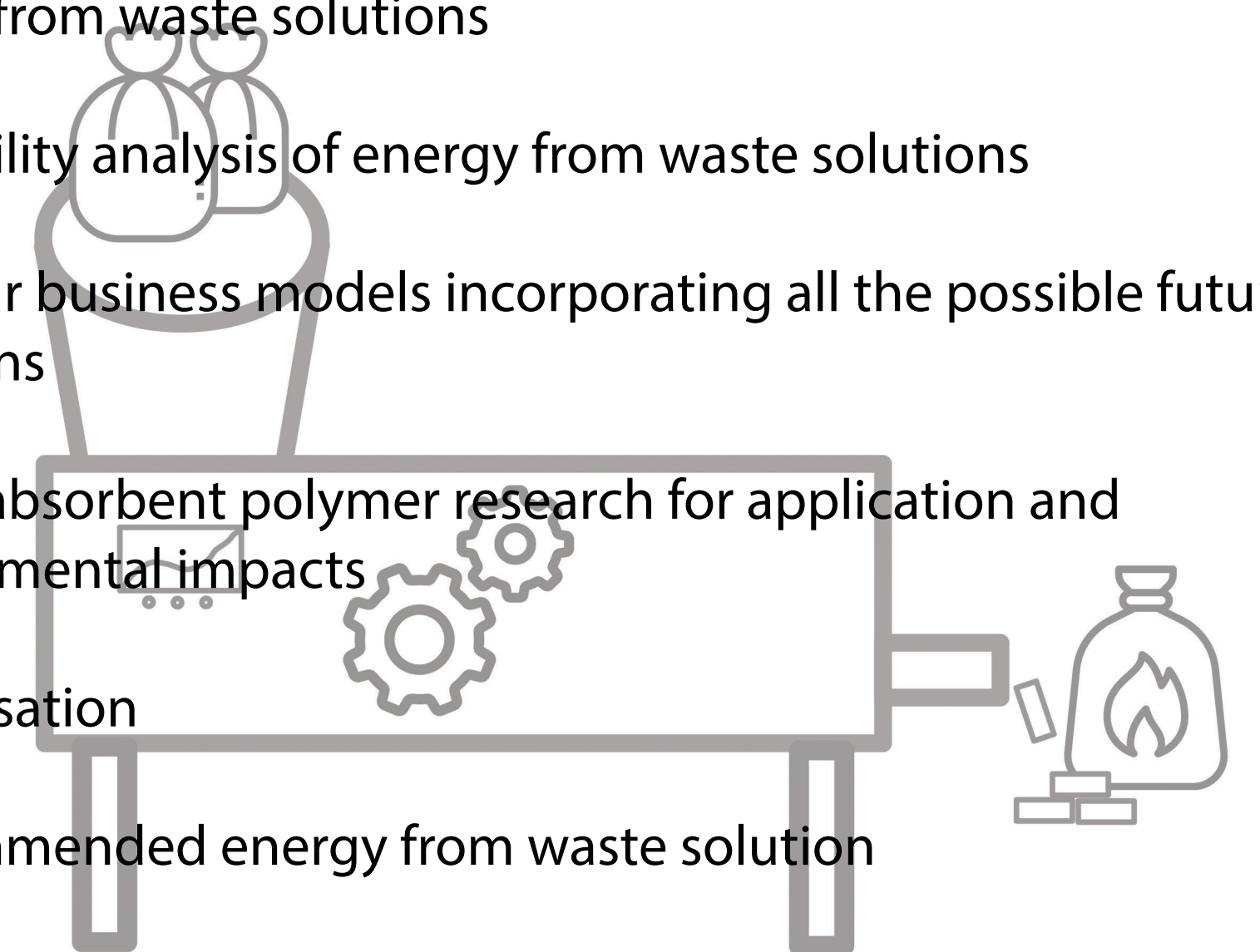
- Secondary research into current nappy companies, gNappy, waste companies and nurseries.
- A brainstorm for all methods of extracting value from waste
- Refinement of brainstorm
- Feasibility analysis assessing the environmental impact, operational feasibility and financial opportunities
- Risk analysis tool for alternative selected options
- Scientifically testing the contamination reduction through briquette machine

Business Methodology

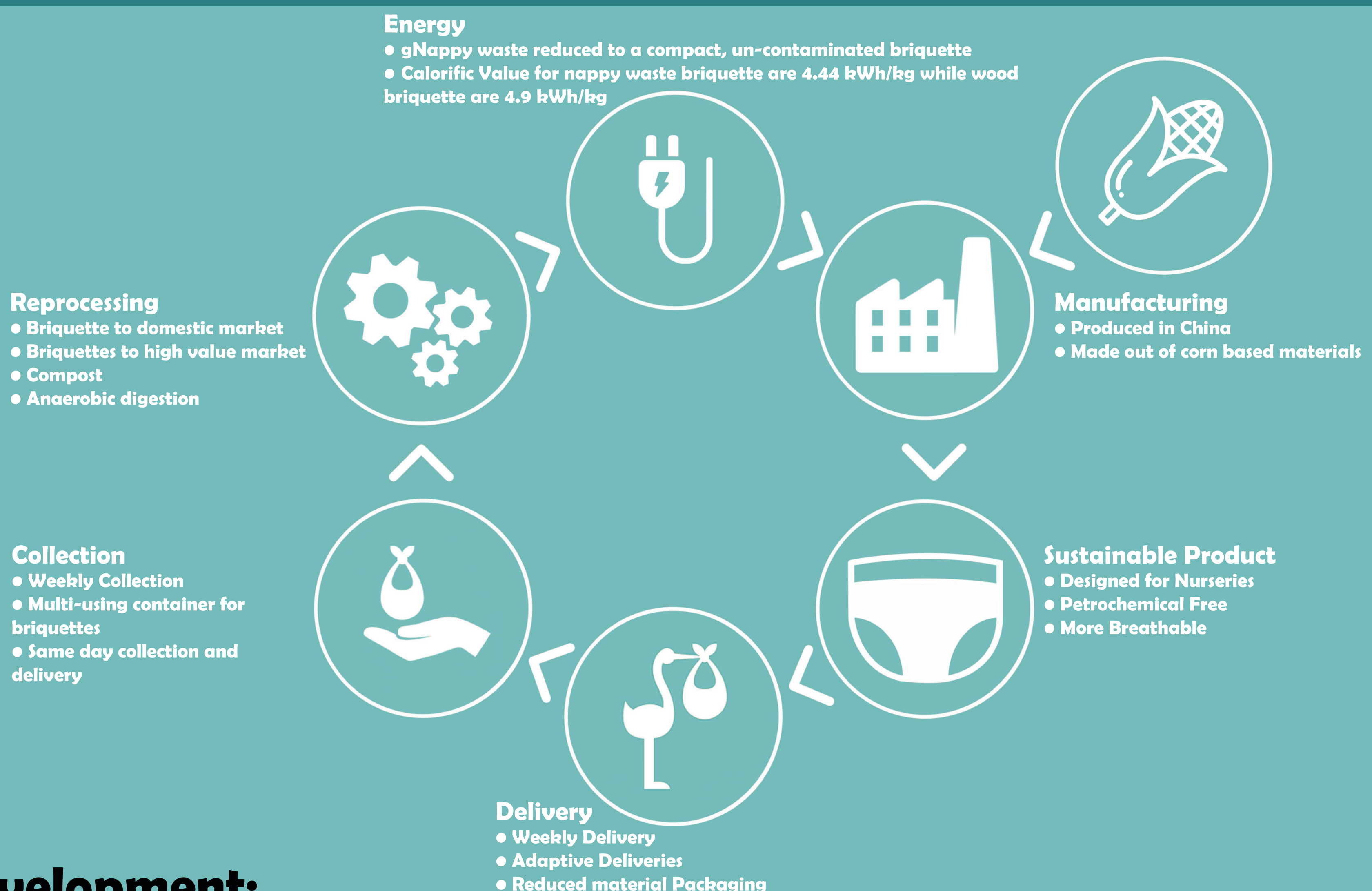
- Primary research into operational side of the nurseries
- Segmentation and analysis of the findings
- A Draft of business models and value propositions
- Visualisation of the whole system
- Brand strengthening strategy
- Packaging strategy
- Final business model solutions

Achievements

- Secondary research on current nappy products on market and energy from waste solutions
- Feasibility analysis of energy from waste solutions
- Circular business models incorporating all the possible future variations
- Superabsorbent polymer research for application and environmental impacts
- Visualisation
- Recommended energy from waste solution
- Future risk analysis tool



gCycle



Future Development:

- Superabsorbent polymer environmental impacts in wastewater systems
- Contaminant levels removed during briquette process
- Legislative restrictions process
- Contaminant removal certification