

# Envirobatt<sup>FAQ</sup>



## **What does the Company do?**

The company makes the 'Envirobatt' batts and blankets. Envirobatts are made from a patented technology that converts a mix of domestic and commercial waste and common fibre into the cleanest and greenest form of Insulation and Environmental Clean-up products available anywhere in the world.

## **How big is the Market?**

Insulation - \$47.8 billion (\$8.7B in USA, \$9.8B in Europe and \$1.3B in Australia)  
Environmental Clean-up - \$18.3 billion (\$4.6B in USA, \$2.1B in Europe and \$0.67B in Australia)

## **What is the Unique Selling Proposition? Is the competitiveness just in performance or do you compete in Price and Capex too?**

The answer is all three and more. Not only is this patented product going to be the most environmentally friendly batt-product on the global market, it competes exceptionally on performance, is cheaper to make, uses 25 times less capex than its competitors and has a huge carbon off-set potential which hasn't even been included in the revenue calculations or the business case.

## **What is Insulation?**

In Envirobatt's context it is of two types; Thermal and Acoustic. Thermal Insulation products provide relief by reducing reliance on heating and cooling systems and Acoustic Insulation products provide reduced noise environments.

## **Why do we need it?**

Years of research have shown that use of thermal insulation substantially reduces (by up to 70%) worldwide energy consumption and carbon footprint, with most western governments now mandating its use in residential and commercial buildings. Acoustic Insulation on the other hand helps in reducing external noise and is needed in a variety of applications.

## **Why are North America and Europe bigger markets for Insulation when there is more building activity in growth markets like China and India?**

Use of insulation typically adds up to 3% to the cost of a building and whilst building insulation is mandated in the western world, the emerging markets tend to be price sensitive and are at present unregulated.

## **If Envirobatt insulation is so good, does that mean other Insulation products aren't good?**

No. Any form of insulation is good because it reduces global energy consumption and carbon footprint. The difference is that whilst contemporary and ubiquitous products like Glasswool (pink batts), Mineralwool (Stonewool), EPS, XPS, PUR and PIR are good; they use a minimum of ten times the amount of energy used by Envirobatt to produce the same products and outcomes.

## **What Tests have been conducted?**

Envirobatt has gone through all required product performance tests from certified bodies in Australia as well tests through institutions in Europe which are not very dissimilar to those in North America. The tests have been conducted for thermal resistance, lambda, fire resistance and moisture absorption amongst others. Oil Absorption tests have been conducted on land and on water. A copy of all of these tests is available on request.

## **What does the Environmental Clean-up product do?**

The environmental clean-up product is an oil soaker product that can absorb up to 30 times its weight in oil and is particularly relevant for oil spill applications on land or water. Several oil companies have expressed a keen interest in this product offering.

## **Is the Environmental Clean-up product made from the same manufacturing process?**

Yes, the only difference is product composition and application.

## **How does the Environmental Clean-up product compare with other products in price and performance?**

The environmental clean-up product is better than its competitors in price and most product performance metrics, but is the only product in this category that is made completely from waste and other recycled materials and also the only one in its class with the best oil absorption properties.

## **Is the Raw Material readily available?**

This waste raw material is abundantly available in all key markets around the world. North America has 90 million tons, Europe has 57 million tons and Asia has 217 million tons of this waste available for use. In USA more than 73 million tons of this waste is available and less than 0.5% of this waste would be needed to get a market share of 3.64%, and an annual turnover of \$317.40 million.

## **Why can't others make it?**

Most importantly because Envirobatt is protected through an approved patent in USA, Australia and New Zealand and pending patents in all other key jurisdictions around the world. In addition to this, there are aspects of the intellectual property that are kept as confidential trade secrets.

## **What is the quantum of investment required and why are there two separate amounts in the business case?**

The first plant is going to cost more hence the initial investment being \$5M. The \$2.61M in the business case is after the set-up of the first plant and based on quotes obtained, may even be lower.

## **What is the exit strategy?**

Whilst the owners of Envirobatt have only worked on an entry strategy, they realise that their investors would for varying circumstances need an exit strategy and this would be paved through License/ Trade sales, Mergers and Acquisitions and/ or an Initial Public Offering.



## Competitor Comparison

Parameters	Our Product	Fiberglass	Mineral Wool	EPS / XPS	PUR / PIR
Thermal Resistance (R per inch)	3.0 - 4.0	3.0 - 4.0	2.8 - 3.7	3.8 - 4.4	5.8 - 6.8
Thermal Conductivity (W/m K)	0.048 - 0.036	0.048 - 0.036	0.052 - 0.039	0.038 - 0.033	0.025 - 0.021
Density (kg/m <sup>3</sup> )	15 - 35	25 - 35	20 - 100	20 - 30	25 - 35
Embodied Energy (MJ/Kg)	<b>3.7</b>	<b>30.3</b>	<b>31.7</b>	<b>117</b>	<b>91.7</b>
Moisture Absorbability	7.50%	Treated	Treated	No	2%-3%
Vapor Barrier	Yes	Yes	Yes	Yes	Yes
Acoustic Insulation	Yes	Yes	Yes	No	No
Durability	High	High	High	High	High
Toxicity when Burned	Non Toxic	High	Non Toxic	High	High
Ease in installation	Easy	Medium	Medium	Easy	Hard
Air Sealing	Yes	No	No	Yes	Yes
Carbon Credits (millions of dollars)	-	<b>15.75</b>	<b>16.25</b>	<b>48</b>	<b>34.2</b>

<sup>[1]</sup> Imperial Value = Metric Value ÷ 0.176

<sup>[2]</sup> 2.8 tons of carbon credits are earned by using one ton of waste used by Envirobatt and the price of carbon is \$20/ton

## Business Case

<b>Plant Capital Outlay</b>	<b>\$ 2.61M</b>	<b>Key Assumptions</b> Plant Capacity 2t/hour 3 Shifts of 8 hours each R2.5 100 mm batts Capital outlay for first plant likely to be around \$5M. The subsequent plants to cost below \$2.61M Carbon off-sets not included in any of the revenue calculations.
<b>Yearly Turnover</b>	<b>\$ 16.12M</b>	
<b>Yearly Costs</b>	<b>\$ 9.04M</b>	
<b>Yearly EBITDA</b>	<b>\$ 7.08M</b>	

**30 operating plants** in USA at a **capital outlay of \$78.3M** have a combined **annual turnover of \$317.40M** which would equate to achieving **3.64%** of the American insulation **market share** at an **annual EBITDA of \$173.70M**.

**One of the other major advantages of Envirobatt is that, irrespective of where it is set-up, it has been designed in such a way that, it always has to use local waste, local labour and sell within the local market. This is a huge plus as most governments in the western world struggle to keep the local manufacturing sector vibrant and viable and want all domiciled companies to produce and sell locally.**