

# **Business Plan**

#### **Student Team:**

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Vice President of Operations
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#### I. <u>Executive Summary</u>

NecoPlastics ("Neco") is a plastic resin manufacturing company headquartered in Louisville, KY that has a patented technology for producing recycled plastic resin. This patented technology enables NecoPlastics to recycle unsorted mixed plastics to create a 100% recycled plastic resin, which will completely revolutionize the plastics industry. Compared to other resins, this material will be less expensive, comparable in performance, and environmentally friendly. This product, named NecoResin, will be sold to plastic product manufacturers as a replacement, or partial replacement, for their raw materials. Using NecoResin allows plastic product manufacturers to protect the environment and reduce their raw material costs by reducing their dependency on expensive virgin resins.

Traditional plastic recycling methods require plastics to be hand sorted by type before processing due to differing chemical properties and melting temperatures. This hand sorting process is inconvenient,



costly, and labor intensive. In order to ease this process, identification codes have been developed to segregate plastics into seven distinct types.

Almost all plastic products are imprinted with a resin identification code – a small number enclosed by chasing arrows (see appendix IX for more details). This resin code is used by the plastics

industry to indicate what type of plastic was used to create the product.

Unfortunately, contrary to popular belief, this symbol does not always mean that



the particular plastic item will be recycled. In fact, significantly more plastics are being disposed in landfills than are being recycled.

Virtually every other recycled plastic resin manufacturer has to undergo the costly, inefficient process of sorting plastics by hand. Neco has the advantage of being able to utilize unsorted mixed plastics that are currently occupying precious landfill space that will never be recovered. In addition to using unsorted plastics, Neco's patented technology has the added benefit of being able to use another waste material named fly ash, which is a byproduct of the combustion of coal. Fly ash is a valuable commodity



to the cement industry if it contains low levels of unburned carbon. Neco's patented process allows the

use of fly ash regardless of the level of unburned carbon. Neco creates extraordinary value by utilizing two waste materials, mixed plastics and high carbon fly ash. Neco will have the strong potential of being paid to take these materials because they have



little or no value. This will greatly reduce Neco's raw material costs and significantly increase Neco's competitive advantage.

Neco is seeking to deliver this product for less than the current market price of all other plastic resins. Virgin plastics are petroleum-based products and therefore as the price of oil continues to be volatile, so too does the price of plastic resin. NecoResin will not be produced from oil but rather from less expensive waste plastics, therefore the price of NecoResin will be lower than virgin resins. Neco will also have significantly lower production costs than recycled resin because of being able to recycle without sorting plastics by type.

Current methods of virgin resin production have a significant negative impact on our environment which Neco will fiercely combat. Virgin plastic production contributes to the depletion of our dwindling supply of natural resources <sup>(1)</sup>. Based on the amount of waste materials Neco plans to divert from landfills, Neco will provide many sustainable benefits. During the first five years of operation, Neco will save over 550 million kWh of electricity which is enough to energize over 52,000 homes for a year. Neco will save nearly 60 million gallons of oil which is enough to power almost 80,000 cars. Additionally Neco will also save over 2.5 million cubic yards of landfill space. As Neco's technology becomes more widely accepted and utilized, these positive benefits will only increase.



#### **Management Team Overview**

Management	<u>Experience</u>	<b>NecoPlastics Position</b>
Charles W. Price	Internal Operations, Charah Inc.	Chief Executive Officer
Nick Jacoby	Financial Analyst, Ventas Inc.	VP of Finance
Steve Flaherty	Outside Sales Rep, Ferguson Waterworks	VP of Sales
Whitney Austin	Financial Center Manager, Fifth Third Bank	VP of Operations
Jason Wade	Operations & Training, Papa John's Intl.	VP of Bus. Development

#### **Financial Summary**

Based on projections, Neco expects to reach profitability by the second year of production. Neco expects to sell 102 million lbs. of NecoResin in year five, generating revenues in excess of \$46 million and profits of \$10.5 million. Neco is offering a 31% share of the company, an IRR of 70% and a 14X cash on cash return in exchange for a pre-operations investment of \$2.5 million.

This market disrupting product will allow Neco to fill a gap in the market while also capitalizing on the green movement. Neco's earth saving technology creates tremendous shareholder value through the following:

- Patent protected process
- Green product
- Large and easily identifiable market
- High potential for grant funding from local, state, and federal governments
- Dual revenue streams
- Multi-use plastic resin that is not limited to one product line
- Profitable exit through acquisition or IPO within five years of operation

#### II. The Plastic Resin Industry

The plastics industry is the fourth largest manufacturing industry in the United States contributing to 1.3 million jobs and \$345 billion in shipments <sup>(2)</sup>. Resin is plastic in a pellet form usually categorized by the resin index code (types 1-7). The plastics resin industry (both virgin and recycled) functions as a commodity market and in 2007 there were 116 billion pounds of plastic resin produced and sold in the United States. Prices are primarily dictated by regional availability and the prices competitors are offering.



#### **Challenges Facing Plastic Manufacturers**

The plastics manufacturing industry is under pressure from a number of forces. Oil and natural gas are two important components of plastics manufacturing. As oil prices rise, production and transportation costs increase and many firms pass along these increases to their customers. Although oil is down from its peak during the summer of 2008, firms have felt the impact and are taking the necessary steps to protect themselves from any future increases. Additionally, competition from foreign manufacturers has increased the strain on American and European firms. Asian manufacturers are able to reduce their costs by utilizing low-cost labor, meanwhile also benefiting from lax labor, environmental, and safety laws. Overall, the industry is defined by small profit margins in the range of 3-5% and is characterized by large capacity production to maintain profitability.

#### **Challenges Facing Plastic Recyclers**

The collection and recycling of plastics is limited by a weak collection system and hampered by a wide range of different and incompatible types of plastics. Most plastic types are not compatible with one another. While some commingled applications have been demonstrated with the use of compatibilizers, the resulting resins are less valuable and priced accordingly. As a result, different types of plastics must be separated from one another prior to being recycled in order to achieve good performance and acceptable market values. Additionally, one of the greatest challenges facing a plastic recycler is determining how to integrate all of the techniques that can be used for recycling plastics into a system that is economical.

In order for plastic recyclers to compete with virgin manufactures, they must sell their resin at considerably lower prices. Because oil prices have dropped significantly, virgin resin prices have also decreased. Plastic resin recyclers are now struggling to sell their products at high enough prices to generate profit. Thanks to NecoPlastic's patented technology, Neco is still able to produce NecoResin at a low enough cost to generate substantial profit margins.



#### **New Trends in the Market**

In recent years the plastics industry has concentrated its efforts on methods to increase efficiency to combat rising oil costs, natural gas costs, and foreign competition. This has led to investments in new technology and increased consolidation in the industry. Additionally, companies are seeking to cast themselves as environmentally conscious and are making large investments to achieve this goal. As companies try to reduce their environmental footprint, interest in green products has increased. Neco is confident that customers will be able to receive LEED certification points for use of NecoResin. LEED is a standardized rating system created by the US Green Building Council (USGBC) as a way to organize and define the laws constituting the green construction industry.

### III. <u>Competitive Landscape</u>

Neco's competitors are manufacturers of recycled plastic resin and virgin plastic resin. Neco's unique patented technology provides significant competitive advantages against all levels of competition.

#### **Recycled Plastic Resin Manufacturers**

Recycled plastic resin manufacturers are companies that process waste plastics to make recycled plastic resin. There are two main types of recycled plastics: post-consumer and post-industrial. Post-consumer plastic is material that has been used for its original intended use and then discarded. Examples include used bottles from curbside pickup and used carpet. Post-industrial plastic is material identified as scrap from the plastic production process. Some examples are out of specification goods or scrap such as edge trims. Many firms do not process post-consumer plastics but concentrate on post-industrial plastics instead. On the other hand, Neco will be able to utilize both post-industrial and post-consumer plastic wastes.

#### **Virgin Plastic Resin Manufacturers**

Virgin resin manufacturers are the major competitors in the market because for many years, virgin resin was superior and many products have been specified to utilize 100% virgin resin. Generally, the large conglomerates (GE, Dow, DuPont, etc.) produce their own resin and either sell it to other plastic product



manufacturers or use it in their own products. Even though virgin resin has been the major player, in recent years, technological advancements in materials science have improved the quality of recycled resins. Innovative blending capabilities have made recycled products an economical and environmentally conscious alternative. As a result of virgin resin manufacturers implementing programs aimed at increasing energy efficiency and reducing their environmental footprint <sup>(3)</sup>, these firms may have significant interest in acquiring NecoPlastics in the future.

#### **Competitor Strengths**

Competitors have the advantage of already being established in the industry, therefore are further along the learning curve than Neco. In addition, Metabolix and other similar companies have the financial backing of large companies and can weather market fluctuations better than a small firm. In an industry where capital investments are large and economies of scale are a rule, start-up firms are at a disadvantage and entry barriers can be high. On the other hand, introducing a technology that is disruptive to the market can ease the entry barriers.

#### **Competitor Weaknesses**

Plastic resin manufacturers compete in commodity markets where competition is fierce and unless they have a patented technology or process, their ability to under price the market is not easily sustainable. Additionally virgin resin manufacturers are at the mercy of the cost, which greatly influences their production costs. As a result, their prices have been increasing at rates that the market is not always willing to pay. As competition increases from recycled resins, virgin resin manufacturers are losing market share.

#### IV. The NecoPlastics Solution

#### **Product Description**

NecoResin is a recycled plastic resin that will be used in the production of plastic products. NecoResin is made entirely of two waste products: mixed plastics and high-carbon fly ash. Through Neco's patented



process, the plastic encapsulates the fly ash on a molecular level in a unique bond. The use of fly ash creates a synergistic behavior that allows the mixed plastics to comingle and not fall apart. The product NecoResin, is best utilized in extrusion plastic manufacturing (think squeezing toothpaste from the tube) and performs just as most other secondary use plastics. Potential products made from NecoResin include composite railroad ties, plastic lumber, solid plastic sheeting, piping, and much more. Neco's process produces a recycled plastic resin that can under price the current plastic resin market.

#### **Intellectual Property**

The process that is used to create NecoResin is protected by a fully issued patent, awarded in 2003 to E3 Innovative Materials, LLC in Massachusetts. Two of our advisors, Dr. Chris Swan and Dr. Charles Wilson, are two of the owners of E3 and were instrumental in conducting a large percentage of the research on this technology. Neco has partnered with E3 and has agreed to an exclusive option to license the patented technology. Once Neco has determined the exact formulizations that will be used to make NecoResin, Neco will seek additional patents.

#### **The Components**

#### Fly Ash

Fly ash is a byproduct of coal combustion. The high carbon fly ash Neco uses in the process is an underutilized material. While cement companies desire and are willing to pay for low carbon fly ash, the high carbon fly ash Neco will use is considered waste and is disposed of in ponds and landfills. Not only are there a lack of



viable uses for high carbon fly ash, but many states charge utility companies to take the ash to landfills. Therefore the material can be acquired for a very low cost and in many cases power plants may pay Neco to take the ash. As a result, the more fly ash that is utilized the more dramatic cost savings to the customers and greater profits to the company. Not only is this a key competitive advantage, this is possibly another revenue stream for Neco.



#### Mixed Waste Plastic

Very few people realize that a large percentage of the plastic placed at the curb to be recycled is actually transported to a landfill and disposed of with the rest of their trash. Types 1 and 2 plastics, PETE (plastic



drinking bottles) and HDPE (detergent bottles, recycling bins, grocery bags, etc.) account for over 90% of all the plastic recycled leaving the remaining types, 3-7, underutilized and disposed of in landfills (4). This is because plastics of differing types are difficult to mix into a final

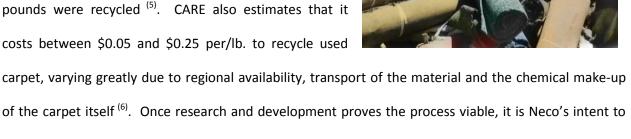
product as they do not bond well with each other. Neco's patented process allows the differing types of plastics to bond, eliminating this constraint. This allows for decreased costs associated with processing, collecting, sorting, cleaning and drying of the recycled plastics as well as creating a viable recycling stream for underutilized plastic.

#### **Post-consumer Carpet**

Carpet consists of a variety of different plastic types. The current method for recycling carpet requires a costly process to separate these polymers. By utilizing the patent, Neco's process for recycling carpet will no longer require this separation. Since carpet has a consistent polymer make-up, it is a great

source for mixed waste plastics. The Carpet America Recovery Effort (CARE) estimated that in 2003 alone, five billion pounds of carpet was sent to landfills and of that, only 241 million

costs between \$0.05 and \$0.25 per/lb. to recycle used



carpet, varying greatly due to regional availability, transport of the material and the chemical make-up of the carpet itself <sup>(6)</sup>. Once research and development proves the process viable, it is Neco's intent to move its concentration to post-consumer carpet. This will provide an input that is underutilized, has negligible acquisition costs, and will help create a more consistent product.



#### **Product Advantages**

Neco enjoys four main competitive advantages. First, NecoResin is composed of very inexpensive and virtually unused wastes and as a result will be able to offer cost savings that the competition will find difficult to match. Second, although all plastics can be recycled, the extent to which they are recycled depends upon both economic and logistic factors. Due to the high costs associated with sorting plastics and since current recycling methods require plastics to be sorted by type, recycled resin manufacturers often have difficulty keeping the recycling costs low enough to remain competitive with virgin resin. As a result of the patented technology, Neco is able to recycle mixed plastics without having to sort by type. This provides tremendous cost savings and will allow Neco to price below the market and achieve above average market profits. Third, NecoResin is produced using waste materials, therefore, customers will be able to market their products as eco-friendly. Lastly, NecoResin's raw material costs are not tied to the price of oil, thus when oil prices increase causing the price of plastic resins to increase, NecoResin will benefit from increased profit margins.

#### **Environmental Impact**

The production and use of plastics has a range of environmental impacts. NecoResin will not only reduce production costs, but it will also reduce pollution and green house gas emissions. Plastics production requires significant quantities of resources, primarily fossil fuels, both as a raw material and to deliver energy for the manufacturing process. It is estimated that 4% of the world's annual oil production is used as a feedstock for plastics production and an additional 3%-4% during manufacturing. Another study found that approximately two tons of oil is saved for every one ton of recycled plastic produced <sup>(7)</sup>.

Unlike the competition, NecoResin is a 100% recycled plastic resin. While recycled resin manufacturers can claim to mitigate the amount of material going into landfills, they rarely combine mixed waste plastics and struggle to compete based on price.



#### **Present State of Development**

Neco has an exclusive option to license the patented technology for two years and will exercise the option when production begins. Product testing has shown that NecoResin is a viable alternative to recycled plastic resins and can be transformed into a multitude of products. At this time Neco is ready to begin producing an initial resin that will be targeted to plastic product manufacturers that are already using recycled plastic resins. More specifically we will initially target producers of products such as plastic garbage and recycling bins, curb stops, landscape timbers, etc. Although these products are a smaller segment of the market, they will require less stringent testing and will allow for a quicker product launch while more thorough testing is being performed for other products. Although we are ready to begin production with the current resin, further testing is needed to determine the optimum ratio of fly ash to plastic in order to maximize product quality and tensile strength that will enable Neco to target a larger segment of the market.

#### **Key Milestones**

Neco will begin product testing with customers in the summer of 2009 and expect testing to take approximately three to six months to complete. Once complete, Neco will exercise the option and purchase the equipment needed for full production of NecoResin. Once production begins, Neco will also begin testing more product formulizations so Neco can offer a variety of resins with different characteristics and greatly increase the market potential. This step will take approximately six to eight months to complete and will be followed by three to six months of product testing with customers. Prior to beginning production of the new product lines, Neco will purchase additional equipment to increase capacity.



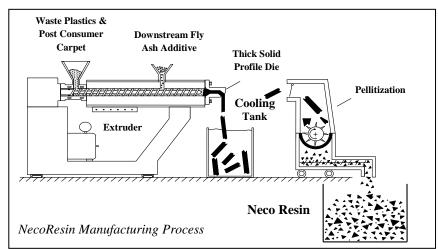


#### V. Manufacturing

NecoResin will be manufactured using standard off-the-shelf equipment that requires little customization and can be purchased used. The raw materials will be fed into the twin-screw extruder where they will be compounded and extruded into a solid die. Upon exiting the extruder, the die will be cooled and then pelletized. As mentioned earlier, the use of fly ash creates a synergistic behavior that allows the mixed plastics to comingle and not fall apart.

The process begins with waste plastic being delivered to the manufacturing facility in 1,000 lb. bales while fly ash is transported from the power plant and stored in silos. Operators will unload the plastic

bales and transfer them to a bale breaker. The bale breaker breaks the bale and the waste plastic is discharged onto a moving conveyor. The waste plastic is then conveyed to a shredder where it will be



broken into smaller pieces and transported to a grinder. Along the conveyor, magnets will be used to remove any metal before the plastic enters the grinder. After grinding, the ground flake is moved outside the building to a storage silo.

From the silos, fly ash and ground plastic flakes will be conveyed to the extruder. The twin-screw extruder will compound fly ash and waste plastic, producing material at a rate of 15,000 pounds per hour. Each type of waste plastic has a different melt temperature. Because of this, the two polymers that have the lowest and highest melt temperatures dictate the temperatures at which the material can be processed. The polymer melt should go through the extrusion process fast enough not to degrade the lowest melt temperature polymer, but should travel through the extrusion process slow enough so that the highest temperature polymer has time to melt.



Upon exiting the extruder, the material falls into a cooling tank. A conveyor then moves the material out of the tank and through an air-drying system in order to remove any excess water from the material before it enters the pelletizer. The material is pelletized and then conveyed outside the building to storage silos. From the storage silos, the material will be transferred to trucks, rail cars, or some other form of transportation.

The projected financial statements attached take the facility through five years of production. As stated earlier, year zero is for the building and construction of the plant and year one will initiate start up. Assuming no downtime, the manufacturing plant will be capable of producing recycled resin at a rate of 30,000 lbs/hr. Based on an estimated uptime of 85%, if the plant were operating 24 hours a day, 365 days a year it would be operating at 46% capacity.

#### VI. Sales and Marketing

#### **Entry and Growth Marketing Strategy**

Neco's initial strategy will encompass selling NecoResin in pellet form to plastic manufacturers that currently use other recycled resins in their manufacturing process. Based on Neco's preliminary market research, the initial customers will be small and mid-sized regional plastic manufacturers that are seeking a cost effective, eco-friendly solution to their plastic resin needs. Currently, the fact that Neco's technology is green is secondary to the fact that it uses low cost components. However, trends show that future green legislation will be introduced to increase the economic benefits to the users of recycled materials. As market acceptance grows, Neco will expand to cover those firms still using 100% virgin plastic resins.

The product will be directly marketed by Neco's own manufacturer sales representatives. Outside sales representatives will travel to a defined list of plastic product manufacturers to promote and sell the resin. There will also be a support staff in the office to assist with day-to-day operations such as ordering, estimating, scheduling delivery, and answering general questions in regards to orders, etc.



This will allow Neco to maximize its penetration of the market, keep selling costs efficient, and provide excellent service to customers.

Neco's initial customers will primarily consist of construction and industrial plastic product manufacturers. Neco's market research surveyed current plastic product manufacturers and derived that an environmentally conscious, lower cost plastic resin is desired. Because NecoPlastics can produce a resin that is less expensive, comparable in performance, and environmentally friendly, plastic product manufacturers will see NecoResin as an attractive raw material replacement.

#### **Pricing**

With the recent economic downturn, companies are searching more than ever for lower cost alternatives, therefore NecoResin is the solution. NecoResin will provide cost savings over both virgin and recycled resin. Oil, natural gas, and electricity are all key components in the production of plastic resins. As the prices of these natural resources rebound, the demand for a low cost resin to enter the

	Price of Resin per	lb.
Neco Resin	Recycled Resin	Virgin Resin
\$0.37	\$0.40 - \$0.46	\$0.65 - \$0.75

production stream will continue to increase. Because

Neco is recycling plastics and not producing them,

customers can be provided with an eco-friendly plastic resin at a lower price. Similar to the rest of the bulk plastics market, NecoResin will be priced by the pound with customer orders usually totaling several tons at a time. While there are different types and grades of virgin plastic resins, Neco will initially target the HDPE resin market. Virgin plastic resins currently (April '09) range from \$0.65 - \$0.75 per lb, and recycled HDPE resin ranges from \$0.40 - \$0.46 per lb. This will allow Neco to come into the market with an equivalent or even superior plastic resin and charge \$0.37 per pound or \$740 per ton. While NecoResin has significant advantages, strategically it is best to price below the recycled resin market to gain acceptance. Over time, as NecoResin is more accepted, prices will gradually be increased.



#### **Sales Tactics**

Initially the sales force will consist of the VP of Sales, an outside sales representative, plus one inside sales person. Staffing levels will increase over time as new customer accounts are added. The VP of Sales will oversee all sales operations, marketing, and will directly manage the sales force. The outside sales representatives will be in charge of servicing current customers as well as pursuing future prospects. Each sales representative will be expected to sell roughly five million pounds of NecoResin in year one. Over time as more customers can utilize the plastic resin, these figures will increase. Ultimately, this will equate to over \$46.3 million of sales in year five with 14 outside sales representatives.

#### **Advertising and Promotion**

As a manufacturer of an industrial raw material, Neco will be promoting its plastic resin to companies that manufacture business, industrial, and consumer plastic goods. The technology will be marketed through industry trade publications like Modern Plastics Worldwide and Plastic News International. Neco intends to have multiple feature articles in these publications in 2010 to promote the potential uses for the recycled plastic resin, the technology behind it, and its benefits. In addition, Neco's sales team will travel and showcase NecoResin to the green market through industry trade shows such as the Greenbuild International Conference and Expo. Neco will utilize direct mail and promotion through the sales representatives for the delivery of these sales brochures and information. This will allow Neco to minimize advertising expenses and still deliver quality information to the key market areas.

#### Customers

Plastic product manufacturers are interested in using recycled raw materials for various reasons, including the environmental benefits and the potential cost savings. "Many times, the recycled-content material or product has a lower maintenance cost or a longer life than the material or product made with virgin feedstock." (8) NecoResin will draw interest from a multitude of customers primarily because of its low cost when compared to competitor's plastic resins. NecoPlastics initial target market will be



plastic product manufacturers that are already utilizing recycled resins. More specifically, Neco's initial resin will target companies whose products do not need specific engineered polymers to meet their resin characteristic criteria. This will allow us to utilize our current resin and immediately launch our product into the market and begin generating revenues. While this will be Neco's initial target market, our core sales strategy will be to sell NecoResin to producers of industrial grade products such as plastic pipe, plastic pallets, synthetic railroad ties, and plastic lumber. However, each one of these customers offers unique products to the market and will require a different resin formulization and more in-depth end product testing before sales can be maximized.

#### Plastic Pipe

Worldwide annual demand for plastic pipe is forecasted to increase 4.6 percent per year through 2012 to 26.8 billion feet, or 20 million tons. PVC and HDPE account for the majority of the demand for plastic pipe resin <sup>(9)</sup>. One of the products contributing to the increase in the demand for recycled resins is

Advanced Drainage Systems
(ADS) N-12 Mega Green pipe, a
dual-wall, corrugated, highdensity polyethylene (HDPE)
stormwater drainage pipe

World Plastic Pipe Demand (Millions of Feet)												
% Annual Growth												
Plastic Pipe Demand	2002	2007	2012	2002 - 2007	2007 - 2012							
North America	6,074.56	7,091.36	8,003.20	3.10	2.40							
Wetern Europe	3,414.48	3,778.56	4,214.80	2.00	2.20							
Asia/Pacific	4,218.08	6,074.56	8,675.60	7.60	7.40							
Other Regions	3,168.48	4,457.52	5,871.20	7.10	5.70							
Total	16,875.60	21,402.00	26,764.80	4.95	4.43							

engineered with a minimum of 50 percent recycled resin <sup>(8)</sup>. ADS currently uses over 515 million pounds of plastic resin a year, of which 40%-60% is recycled resin. Jeff Biesenberger, Director of Materials and Process Development for ADS had the following to say:

"Trends in the market show that the green movement is not just a fad but is something that needs to be considered when designing projects. Therefore, since your product offers a green benefit and a cost savings, it would definitely be of interest to our company."

#### Synthetic Railroad Ties

The North American railroad industry replaces approximately 14 million wooden ties a year and this number keeps growing. By 2011, it is predicted that over 20 million railroad ties will be needed annually



in North America alone <sup>(10)</sup>. The average life of a wood tie is 20 to 25 years and in some areas, a wood tie may last only three to five years, depending on the weather, moisture and insect infestation. It is estimated that replacement and installation of new wooden ties costs the railroad industry over a billion dollars a year. The potential for the synthetic railroad ties market is vast since each tie requires 200 pounds of plastic and has a significantly longer life span than wooden ties. One company, Polywood, Inc., has created a plastic tie that uses all plastic scrap and will last 50 years. Owner Jim Kerstein explained that the ties consist of an immiscible blend, which means the plastics co-exist without mixing <sup>(11)</sup>. Currently there are approximately 250,000 composite ties produced annually, which equates to less than 2% of the market. Although plastic ties make up less than 2% of the market, all alternatives to the traditional wooden ties make up 8.5% of the industry.

#### **Plastic Pallets**

Low-cost wood is still king, but plastics' reusability is a growing attraction among manufacturers looking for sustainable building material options. The one major hurdle is today's high plastic resin costs which will significantly improve NecoPlastics chances to capitalize on this growing market. To combat stable wood prices and increased resin costs, processors of injection and compression molded pallets have turned to using more regrind and recycled plastics. Greystone Logistics, in Tulsa, OK operates a plastics



recycling plant and injection molds pallets from 100% recycled resin. These pallets are typically black or gray due to the recycle content and last year, the company used 30 million lbs. of recycled resin to make 750,000 pallets. Today, wood has more than 90% of the U.S. pallet market,

with plastics accounting for 2% to 5%. A recent study says plastic pallets will enjoy the highest growth rate, advancing 2.4% annually to over 130 million pallets by 2012, which translates to approximately \$1.5 billion in sales (12).



#### Distribution

Neco's plastic resin will be shipped in bulk quantities via rail and/or truck depending on the accessibility and requirements of the customer. Neco looks at using an industry specific logistics consulting firm such as Plastic Logistics Group, LLC to maximize distribution efficiencies. Alternatively, Neco will build relationships with local and regional freight companies to deliver the material to the customer, adding freight costs into pricing. Neco will also provide the opportunity for the customer to pick up material at the manufacturing plant in Louisville, KY.

#### VII. <u>Management Team</u>



**Charles W. Price** is necoPlastic's Chief Executive Officer (CEO). Mr. Price holds a B.A. in Business Management from Asbury College. He has spent the past four years working in Internal Operations for Charah, Inc. He has extensive experience in the coal ash management industry and provides important industry connections to Neco. Mr. Price is currently a candidate for an MBA from the University of Louisville.



**Nick Jacoby** is necoPlastic's VP of Finance. Mr. Jacoby holds a B.S. in Business Administration with a major in accounting from the University of Louisville. He has spent the past four years working as a financial analyst for Ventas, Inc. and has extensive experience in corporate finance. Mr. Jacoby is a candidate for an MBA from the University of Louisville.



**Steve Flaherty** is necoPlastic's VP of Sales. Mr. Flaherty holds a B.S. in Marketing from Miami University, Oxford, OH. He has spent the last three years in sales with Ferguson Waterworks. Mr. Flaherty has over eight years of corporate work experience in sales, marketing, management, and operations. He is currently a candidate for an MBA from the University of Louisville.



Whitney Austin is necoPlastic's VP of Operations. Ms. Austin holds a B.A. in Psychology from the University of Louisville. She has spent the last five years in the financial industry working for Fifth Third Bancorp, and has spent the last three years as a Financial Center Manager. Ms. Austin is currently a candidate for an MBA from the University of Louisville.





Jason Wade is necoPlastic's VP of Business Development. Mr. Wade holds a B.S. in Political Science from the University of Louisville. He has spent the last three years in the hospitality industry serving domestic-operations needs and goals with Papa John's International, Inc. Mr. Wade has experience in operations training, new product implementation, and project management. Mr. Wade is a candidate for an MBA from the University of Louisville.

NecoPlastics is currently recruiting an experienced CEO with plastic manufacturing experience as well as an experienced plastics engineer. Upon hiring the CEO, Mr. Price will be transitioned to Chief Operating Officer (COO).

#### VIII. <u>Financials & Economics of the Business</u>

#### **Assumptions**

Neco's primary source of revenue will come from the sales of NecoResin. Since NecoResin will be comprised of waste materials, Neco could potentially be paid to remove these materials rather than paying to receive them. However this second source of revenue is not reflected in the financial projections. Neco is projecting a manufacturing start date during the first quarter of 2010.

#### **Break-Even Analysis**

Neco has assumed it will sell approximately eight million pounds of material during the first year of

manufacturing. Neco will begin to see positive cash flows in the second year of operations. Based on a cumulative sum of receipts

neco Plastics Break Even Analysis													
(in 000's, except price)	Year 1	Year 2	Year 3	Year 4	Year 5								
Financial Projections													
Projected Revenue	\$2,966	\$6,637	\$18,078	\$31,118	\$46,352								
Projected Costs	3,606	6,176	14,968	24,722	35,759								
Break-Even Requirements													
Selling Price (per lb.)	\$0.37	\$0.39	\$0.41	\$0.43	\$0.45								
Min. (lbs.) Req. to Break Even	9,724	15,818	36,430	57,202	78,688								
Projected Unit Sales (lbs.)	8,000	17,000	44,000	72,000	102,000								
Variance (lbs.)	(1,724)	1,182	7,570	14,798	23,312								

versus disbursements, Neco will recover all equity investments made to Neco approximately three years after sales begin.



#### **Projected Profit and Loss**

NecoResin will provide significant cost savings to customers while also allowing them to promote their use of eco-friendly materials. As a result, Neco believes that the company has strong profit potential and expects to be profitable in the second year of operation. As with any product, the cost of raw materials will be a significant factor in the profit of Neco. Fortunately, the company has the advantage of using unwanted materials, which could provide a second revenue stream. The potential to be paid to take these materials will increase as greater pressure is placed on the municipal waste industry to reduce waste and conserve natural resources. Neco also could seek to license the technology either to manufacturing firms in the United States or overseas.

### IX. <u>Exit Strategy & Proposed Offering</u>

Neco expects to be a target for acquisition by the fifth year of operations. Chevron Phillips, Dow Chemical, ExxonMobil, and Formosa Plastics are possible candidates to acquire the company, however Neco will likely aim for a middle-sized company that is environmentally conscious. Additionally, Neco could be acquired from a strategic partner such as a plastic product manufacturer, waste collection

company, or a fly ash management company. As a result of the patented technology and attractive profitability, Neco expects a valuation comparable or higher than other plastic resin

Valuation Mul	tiple's		Company's Figures		Company's Estimated Value
Gross Profit	4.28	х	\$34,291,327	=	\$146,766,880
EBITDA	6.76	х	\$18,031,437	=	\$121,892,517
Book Value	2.41	х	\$22,797,023	= _	\$54,940,826
				Total	\$323,600,223
Estimated					
(Average o	of estima	ted v	alues)		\$107,866,741

manufacturers. Based on an average of three industry valuation multiples <sup>(13)</sup>, Neco expects to be valued near \$108 million at the end of the fifth year of operations. Neco is offering a 31% share of the company, an IRR of 70% and a 14X cash on cash return in exchange for a pre-operations venture capital investment of \$2.5 million. These funds will be used to complete testing, purchase the equipment needed (exhibit VI) to furnish the manufacturing facility, and begin production of the plastic resin.



### X. <u>Appendices</u>

### **Appendix I: First Year Cash Flow**



### **Year 1 Cash Flow Projection**

	Preop	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Year 1
Monthly Sales		\$237,312	\$237,312	\$237,312	\$237,312	\$266,976	\$266,976	\$266,976	\$266,976	\$237,312	\$237,312	\$237,312	\$237,312	\$2,966,400
Beginning Cash Balance	\$0	\$1,075,000	\$928,811	\$850,091	\$795,103	\$751,980	\$708,856	\$674,593	\$643,296	\$613,482	\$583,668	\$544,995	\$503,355	
Receipts														
Acct. Rec. Collections	0	0	201,715	225,446	237,312	237,312	262,526	265,493	266,976	266,976	241,762	238,795	237,312	2,681,626
Owner's Capital	75,000	0	0	0	0	0	0	0	0	0	0	0	0	0
Family & Friends	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grants	300,000	0	0	0	0	0	0	0	0	0	0	0	0	0
Investment Capital	2,500,000	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Receipts	\$2,875,000	\$0	\$201,715	\$225,446	\$237,312	\$237,312	\$262,526	\$265,493	\$266,976	\$266,976	\$241,762	\$238,795	\$237,312	\$2,681,626
Disbursements														
Raw Materials	50,000	0	67,238	67,238	67,238	67,238	75,643	75,643	75,643	75,643	67,238	67,238	67,238	773,242
<b>Employee Wages</b>	0	115,875	115,875	115,875	115,875	115,875	115,875	115,875	115,875	115,875	115,875	115,875	115,875	1,390,500
Commissions	0	0	7,119	7,119	7,119	7,119	8,009	8,009	8,009	8,009	7,119	7,119	7,119	81,873
<b>Employee Taxes</b>	0	15,064	15,064	15,064	15,064	15,064	15,064	15,064	15,064	15,064	15,064	15,064	15,064	180,765
Licensing Fees	0	0	11,866	11,866	11,866	11,866	13,349	13,349	13,349	13,349	11,866	11,866	11,866	136,454
Research & Development	t 0	1,667	1,667	1,667	1,667	1,667	1,667	1,667	1,667	1,667	1,667	1,667	1,667	20,000
Accounting and Legal	0	0	2,083	2,083	2,083	2,083	2,083	2,083	2,083	2,083	2,083	2,083	2,083	22,917
Advertising	0	0	4,746	4,746	4,746	4,746	5,340	5,340	5,340	5,340	4,746	4,746	4,746	54,582
Rent	0	8,333	8,333	8,333	8,333	8,333	8,333	8,333	8,333	8,333	8,333	8,333	8,333	100,000
Utilities	0	0	7,119	7,119	7,119	7,119	8,009	8,009	8,009	8,009	7,119	7,119	7,119	81,873
Supplies	0	0	1,898	1,898	1,898	1,898	2,136	2,136	2,136	2,136	1,898	1,898	1,898	21,833
Repairs	0	0	26,104	26,104	26,104	26,104	29,367	29,367	29,367	29,367	26,104	26,104	26,104	300,200
Insurance	0	0	4,746	4,746	4,746	4,746	5,340	5,340	5,340	5,340	4,746	4,746	4,746	54,582
Phone/Internet	0	0	1,325	1,325	1,325	1,325	1,325	1,325	1,325	1,325	1,325	1,325	1,325	14,575
Vehicle Allowance	0	5,250	5,250	5,250	5,250	5,250	5,250	5,250	5,250	5,250	5,250	5,250	5,250	63,000
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Income Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PP&E	1,750,000	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Disbursements	\$1,800,000	\$146,189	\$280,435	\$280,435	\$280,435	\$280,435	\$296,790	\$296,790	\$296,790	\$296,790	\$280,435	\$280,435	\$280,435	\$3,296,394
Ending Cash Balance	\$1,075,000	\$928,811	\$850,091	\$795,103	\$751,980	\$708,856	\$674,593	\$643,296	\$613,482	\$583,668	\$544,995	\$503,355	\$460,232	

### Appendix II: Second Year Cash Flow



### **Year 2 Cash Flow Projection**

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Year 2
Monthly Sales	\$530,959	\$530,959	\$530,959	\$530,959	\$597,329	\$597,329	\$597,329	\$597,329	\$530,959	\$530,959	\$530,959	\$530,959	\$6,636,990
Beginning Cash Balance	\$460,232	\$319,269	\$343,837	\$397,770	\$389,472	\$458,088	\$546,935	\$565,505	\$664,307	\$763,110	\$764,767	\$836,701	
Receipts													
Acct. Rec. Collections	237,312	486,912	516,277	530,959	530,959	587,374	594,011	597,329	597,329	540,915	534,278	530,959	6,284,614
Owner's Capital	0	0	0	0	0	0	0	0	0	0	0	0	C
Family & Friends	0	0	0	0	0	0	0	0	0	0	0	0	(
Grants	0	0	0	0	0	0	0	0	0	0	0	0	(
Investment Capital	0	0	0	0	0	0	0	0	0	0	0	0	(
Total Receipts	\$237,312	\$486,912	\$516,277	\$530,959	\$530,959	\$587,374	\$594,011	\$597,329	\$597,329	\$540,915	\$534,278	\$530,959	\$6,284,614
Disbursements													
Raw Materials	67,238	147,168	147,168	147,168	147,168	165,564	165,564	165,564	165,564	147,168	147,168	147,168	1,759,671
<b>Employee Wages</b>	132,613	132,613	132,613	132,613	132,613	132,613	132,613	132,613	132,613	132,613	132,613	132,613	1,591,350
Commissions	7,119	15,929	15,929	15,929	15,929	17,920	17,920	17,920	17,920	15,929	15,929	15,929	190,300
<b>Employee Taxes</b>	17,240	17,240	17,240	17,240	17,240	17,240	17,240	17,240	17,240	17,240	17,240	17,240	206,876
Licensing Fees	11,866	26,548	26,548	26,548	26,548	29,866	29,866	29,866	29,866	26,548	26,548	26,548	317,167
Research & Development	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	30,000
Accounting and Legal	2,083	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	4,167	47,917
Advertising	4,746	10,619	10,619	10,619	10,619	11,947	11,947	11,947	11,947	10,619	10,619	10,619	126,867
Rent	8,583	8,583	8,583	8,583	8,583	8,583	8,583	8,583	8,583	8,583	8,583	8,583	103,000
Utilities	7,119	15,929	15,929	15,929	15,929	17,920	17,920	17,920	17,920	15,929	15,929	15,929	190,300
Supplies	1,898	4,248	4,248	4,248	4,248	4,779	4,779	4,779	4,779	4,248	4,248	4,248	50,747
Repairs	26,104	58,406	58,406	58,406	58,406	65,706	65,706	65,706	65,706	58,406	58,406	58,406	697,768
Insurance	4,746	10,619	10,619	10,619	10,619	11,947	11,947	11,947	11,947	10,619	10,619	10,619	126,867
Phone/Internet	1,325	1,597	1,597	1,597	1,597	1,597	1,597	1,597	1,597	1,597	1,597	1,597	18,887
Vehicle Allowance	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	6,180	74,160
Other	0	0	0	0	0	0	0	0	0	0	0	0	C
Income Taxes	76,913	0	0	76,913	0	0	76,913	0	0	76,913	0	0	307,653
PP&E	0	0	0	0	0	0	0	0	0	0	0	0	(
Total Disbursements	\$378,275	\$462,344	\$462,344	\$539,257	\$462,344	\$498,527	\$575,440	\$498,527	\$498,527	\$539,257	\$462,344	\$462,344	\$5,839,529
Ending Cash Balance	\$319,269	\$343,837	\$397,770	\$389,472	\$458,088	\$546,935	\$565,505	\$664,307	\$763,110	\$764,767	\$836,701	\$905,317	

### Appendix III: Third, Fourth & Fifth Year Cash Flow



### **Years 3-5 Cash Flow Projection**

Monthly Sales	1st Qtr \$4,338,738	2nd Qtr \$4,700,300	3rd Qtr \$4,700,300	4th Qtr \$4,338,738	Year 3 \$18,078,075	1st Qtr \$7,468,336	2nd Qtr \$8,090,698	3rd Qtr \$8,090,698	4th Qtr \$7,468,336	Year 4 \$31,118,068	1st Qtr \$11,124,580	2nd Qtr \$12,051,628	3rd Qtr \$12,051,628	4th Qtr \$11,124,580	Year 5 \$46,352,415
Beginning Cash Balance	\$905,317	\$1,058,795	\$1,873,799	\$873,462		\$1,668,450	\$2,515,152	\$4,161,167	\$6,128,553		\$7,738,355	\$9,432,046	\$12,104,733	\$15,261,150	
Receipts															
Acct. Rec. Collections	3,240,394	4,492,402	4,872,041	4,374,894	16,979,731	6,216,497	7,732,840	8,386,319	7,530,572	29,866,228	9,662,082	11,518,575	12,491,976	11,217,284	44,889,917
Owner's Capital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Family & Friends	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grants	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investment Capital	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bank Loan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Receipts	\$3,240,394	\$4,492,402	\$4,872,041	\$4,374,894	\$16,979,731	\$6,216,497	\$7,732,840	\$8,386,319	\$7,530,572	\$29,866,228	\$9,662,082	\$11,518,575	\$12,491,976	\$11,217,284	\$44,889,917
Disbursements															
Raw Materials	931,833	1,226,040	1,324,123	1,176,998	4,658,994	1,714,851	2,066,434	2,231,749	1,983,777	7,996,810	2,591,033	3,015,272	3,256,494	2,894,661	11,757,459
Employee Wages	556,835	556,835	556,835	556,835	2,227,342	669,678	669,678	669,678	669,678	2,678,711	728,894	728,894	728,894	728,894	2,915,574
Commissions	102,704	135,586	146,432	130,162	514,884	192,754	233,386	252,056	224,050	902,246	297,175	347,643	375,455	333,737	1,354,010
<b>Employee Taxes</b>	72,389	72,389	72,389	72,389	289,554	87,058	87,058	87,058	87,058	348,232	94,756	94,756	94,756	94,756	379,025
Licensing Fees	171,173	225,976	244,054	216,937	858,139	321,257	388,976	420,094	373,417	1,503,743	495,292	579,405	625,758	556,229	2,256,683
Research & Development	12,500	12,500	12,500	12,500	50,000	18,750	18,750	18,750	18,750	75,000	25,000	25,000	25,000	25,000	100,000
Accounting and Legal	16,667	18,750	18,750	18,750	72,917	22,917	25,000	25,000	25,000	97,917	29,167	31,250	31,250	31,250	122,917
Advertising	68,469	90,390	97,622	86,775	343,256	128,503	155,590	168,038	149,367	601,497	198,117	231,762	250,303	222,492	902,673
Rent	26,523	26,523	26,523	26,523	106,090	27,318	27,318	27,318	27,318	109,273	28,138	28,138	28,138	28,138	112,551
Utilities	102,704	135,586	146,432	130,162	514,884	192,754	233,386	252,056	224,050	902,246	297,175	347,643	375,455	333,737	1,354,010
Supplies	27,388	36,156	39,049	34,710	137,302	51,401	62,236	67,215	59,747	240,599	79,247	92,705	100,121	88,997	361,069
Repairs	376,580	497,147	536,919	477,261	1,887,907	706,765	855,747	924,207	821,517	3,308,236	1,089,641	1,274,691	1,376,667	1,223,704	4,964,703
Insurance	68,469	90,390	97,622	86,775	343,256	128,503	155,590	168,038	149,367	601,497	198,117	231,762	250,303	222,492	902,673
Phone/Internet	5,681	6,127	6,127	6,127	24,061	6,905	7,294	7,294	7,294	28,787	7,946	8,272	8,272	8,272	32,764
Vehicle Allowance	28,644	28,644	28,644	28,644	114,577	34,421	34,421	34,421	34,421	137,684	43,051	43,051	43,051	43,051	172,203
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Income Taxes	518,359	518,359	518,359	518,359	2,073,436	1,065,961	1,065,961	1,065,961	1,065,961	4,263,845	1,765,644	1,765,644	1,765,644	1,765,644	7,062,575
PP&E	0	0	2,000,000	0	2,000,000	0	0	0	0	0	0	0	0	0	0
<b>Total Disbursements</b>	\$3,086,916	\$3,677,397	\$5,872,379	\$3,579,906	\$16,216,598	\$5,369,795	\$6,086,825	\$6,418,932	\$5,920,771	\$23,796,324	\$7,968,391	\$8,845,888	\$9,335,559	\$8,601,053	\$34,750,890
Ending Cash Balance	\$1,058,795	\$1,873,799	\$873,462	\$1,668,450		\$2,515,152	\$4,161,167	\$6,128,553	\$7,738,355		\$9,432,046	\$12,104,733	\$15,261,150	\$17,877,382	



### **Years 1-5 ProForma Income Statement**

Net Sales Cost of Goods Sold	<b>Year 1</b> \$2,966,400 840,480	% 100.00% 28.33%	<b>Year 2</b> \$6,636,990 1,839,601	% 100.00% 27.72%	Year 3 \$18,078,075 4,904,159	% 100.00% 27.13%	Year 4 \$31,118,068 8,265,737	% 100.00% 26.56%	Year 5 \$46,352,415 12,061,087	% 100.00% 26.02%
Cost of Goods Sold		20.33 /0	1,839,801	27.72/0	4,904,139	27.13/0		20.30 %	12,001,007	20.02 /0
Gross Profit	\$2,125,920	71.67%	\$4,797,390	72.28%	\$13,173,917	72.87%	\$22,852,331	73.44%	\$34,291,327	73.98%
Expenses										
<b>Employee Wages</b>	1,390,500	46.88%	1,591,350	23.98%	2,227,342	12.32%	2,678,711	8.61%	2,915,574	6.29%
Commissions	88,992	3.00%	199,110	3.00%	542,342	3.00%	933,542	3.00%	1,390,572	3.00%
<b>Employee Taxes</b>	180,765	6.09%	206,876	3.12%	289,554	1.60%	348,232	1.12%	379,025	0.82%
Licensing Fees	148,320	5.00%	331,850	5.00%	903,904	5.00%	1,555,903	5.00%	2,317,621	5.00%
Research & Development	20,000	0.67%	30,000	0.45%	50,000	0.28%	75,000	0.24%	100,000	0.22%
Accounting and Legal	25,000	0.84%	50,000	0.75%	75,000	0.41%	100,000	0.32%	125,000	0.27%
Advertising	59,328	2.00%	132,740	2.00%	361,562	2.00%	622,361	2.00%	927,048	2.00%
Rent	100,000	3.37%	103,000	1.55%	106,090	0.59%	109,273	0.35%	112,551	0.24%
Utilities	88,992	3.00%	199,110	3.00%	542,342	3.00%	933,542	3.00%	1,390,572	3.00%
Supplies	23,731	0.80%	53,096	0.80%	144,625	0.80%	248,945	0.80%	370,819	0.80%
Repairs	326,304	11.00%	730,069	11.00%	1,988,588	11.00%	3,422,987	11.00%	5,098,766	11.00%
Insurance	59,328	2.00%	132,740	2.00%	361,562	2.00%	622,361	2.00%	927,048	2.00%
Phone/Internet	15,900	0.54%	19,158	0.29%	24,507	0.14%	29,176	0.09%	33,090	0.07%
Vehicle Allowance	63,000	2.12%	74,160	1.12%	114,577	0.63%	137,684	0.44%	172,203	0.37%
Other	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
<b>Total Expenses</b>	2,590,160	87.32%	3,853,257	58.06%	7,731,995	42.77%	11,817,718	37.98%	16,259,890	35.08%
EBITDA	(464,240)	-15.65%	944,133	14.23%	5,441,922	30.10%	11,034,613	35.46%	18,031,437	38.90%
Depreciation	175,000	5.90%	175,000	2.64%	258,333	1.43%	375,000	1.21%	375,000	0.81%
EBIT	(639,240)	-21.55%	769,133	11.59%	5,183,589	28.67%	10,659,613	34.26%	17,656,437	38.09%
Interest Expense	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Interest & Grant Revenue	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Net Profit Before Taxes	(639,240)	-21.55%	769,133	11.59%	5,183,589	28.67%	10,659,613	34.26%	17,656,437	38.09%
Less Income Taxes	0	0.00%	307,653	4.64%	2,073,436	11.47%	4,263,845	13.70%	7,062,575	15.24%
Net Profit After Taxes	(\$639,240)	-21.55%	\$461,480	6.95%	\$3,110,153	17.20%	\$6,395,768	20.55%	\$10,593,862	22.86%
Employee Headcount	21		25		39		46		49	



### Years 1-5 ProForma Balance Sheet

	Preop	Year 1	Year 2	Year 3	Year 4	Year 5
ASSETS	*					
Cash	\$1,075,000	\$460,232	\$905,317	\$1,668,450	\$7,738,355	\$17,877,382
Raw Materials	50,000	50,000	50,000	50,000	50,000	50,000
Accounts Receivable	0	284,774	637,151	1,735,495	2,987,334	4,449,832
Total Current Assets	\$1,125,000	\$795,006	\$1,592,468	\$3,453,945	\$10,775,689	\$22,377,213
Property Plant & Equipment	1,750,000	1,750,000	1,750,000	3,750,000	3,750,000	3,750,000
Less Accumulated Depreciation	0	(175,000)	(350,000)	(608,333)	(983,333)	(1,358,333)
Net PP&E	\$1,750,000	\$1,575,000	\$1,400,000	\$3,141,667	\$2,766,667	\$2,391,667
Other Assets	0	0	0	0	0	0
Total Assets	\$2,875,000	\$2,370,006	\$2,992,468	\$6,595,612	\$13,542,356	\$24,768,880
LIABILITIES						
Accounts Payable	0	134,246	295,228	788,219	1,339,195	1,971,857
Total Current Liabilities	\$0	\$134,246	\$295,228	\$788,219	\$1,339,195	\$1,971,857
Long Term Notes Payable	0	0	0	0	0	0
Total Liabilities	\$0	\$134,246	\$295,228	\$788,219	\$1,339,195	\$1,971,857
OWNER'S EQUITY						
Owner's Capital	75,000	75,000	75,000	75,000	75,000	75,000
Family & Friends	0	0	0	0	0	0
Grants	300,000	300,000	300,000	300,000	300,000	300,000
Investment Capital	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Retained Earnings	0	-639,240	-177,760	2,932,393	9,328,161	19,922,023
Total Owner's Equity	\$2,875,000	\$2,235,760	\$2,697,240	\$5,807,393	\$12,203,161	\$22,797,023
TOTAL LIABILITIES AND OWNER'S EQUITY	\$2,875,000	\$2,370,006	\$2,992,468	\$6,595,612	\$13,542,356	\$24,768,880
=						

#### **Appendix VI: Key Advisors**

Dr. Chris Swan – Dr. Chris Swan has conducted extensive research in the field of waste minimization and the reuse of traditional waste materials. This research led to the development and awarding of patented technology for a new and innovative method of recycling plastic and fly ash. Dr. Swan serves as the managing partner of E3 Innovative Materials LLC (E3IM), a research and development company that controls the patent and licensing rights. He received a Doctor of Science (ScD) degree in Civil and Environmental Engineering from MIT in 1994 and both Bachelor (BS) and Master (MS) of Science degrees in Civil Engineering from the University of Texas at Austin in 1984 and 1986, respectively.

**Dr. Charles Wilson** – Dr. Charles Wilson has worked diligently in the area of recycling and reuse of waste materials, specifically mixed waste plastics. He has a Ph. D. in Plastics Engineering with a Concentration in Recycling, Reuse & Waste Minimization, from the University of Massachusetts, Lowell, MA.

**Blaine Hurst** – Mr. Hurst currently serves as the CFO of Lastique International Corporation. Mr. Hurst is a serial entrepreneur, enjoying past notable positions as President of Papa John's International, Inc., CIO of Boston Market, and CIO of eMac Digital. Through his work with Lastique International, Mr. Hurst has become an expert in the field of recycled plastic resins and is critical advisor to Neco's business development.

Charles Price (Sr.) – Mr. Price currently serves as the Founder, President, and CEO of Charah, Inc. Charah Inc. is a coal ash management firm that routinely handles over six million tons of coal ash annually. Since 1992, Mr. Price has focused his attention on finding and promoting beneficial uses for coal and combustion products to benefit both the electric utility industry and the environment.

**Ken Davis** – Mr. Davis is the Director of the Vogt Engineering Center and Rapid Prototype Center at the University of Louisville. Mr. Davis worked in the plastics division at General Electric Appliances for nearly forty years and is an expert in plastic resins. He has extensive experience in plastics design, processing, and analysis.

**Suzanne Bergmeister** – Ms. Bergmeister currently serves as founder and CEO of Sunflower Business Ventures Inc. and has recently accepted a full time position at the University of Louisville, College of Business. Ms. Bergmeister is a seasoned new venture strategy analyst with prior experience at Chrysalis Ventures and Blue Chip Venture Company. Ms. Bergmeister is a Rutgers University graduate with a B.S. in Electrical Engineering, a California State University Fresno graduate with a Masters in Electrical Engineering, as well as a Cornell University graduate with an MBA.

James G. Flaherty – Mr. Flaherty currently owns his own private law practice. Mr. Flaherty has been practicing law for 25 years and has expertise in corporate law, business law, real estate law, and tax law. He is a graduate of Miami University and received his J.D. from University of Dayton.

Appendix VII: Equipment Schedule

	Pre-Op	Year 1	Year 2	Year 3	Year 4	Year 5
Equipment						
Extruder (Coperion ZSK 133)	400,000	0	0	500,000	0	0
Plastic Feeder	35,000	0	0	40,000	0	0
Carpet Feeder	35,000	0	0	40,000	0	0
Fly Ash Feeder	35,000	0	0	40,000	0	0
Cooling Conveyor	25,000	0	0	30,000	0	0
Spare Parts	40,000	0	0	100,000	0	0
Bale Breaker	50,000	0	0	0	0	0
Conveyors	50,000	0	0	60,000	0	0
Shredder	25,000	0	0	0	0	0
Grinders (2)	60,000	0	0	70,000	0	0
Pelletizer (Scheer Bay WCT-3012-25)	50,000	0	0	55,000	0	0
Material Storage						
Plastics Silo, 200k lb. (2)	100,000	0	0	120,000	0	0
Fly-Ash Silo, 200k lb. (2)	100,000	0	0	120,000	0	0
Carpet Storage 200k lb. (3)	150,000			180,000		
Neco Resin Silos 200k lb. (4)	200,000	0	0	250,000	0	0
Special Labor						
Installation	250,000	0	0	250,000	0	0
Engineering Costs	145,000	0	0	145,000	0	0
Total Capital Requirements	\$1,750,000	\$0	\$0	\$2,000,000	\$0	\$0

Appendix IX: Resin Coding System

Resin Codes	Descriptions	Product Applications	Products Made with Recycled Content
PETE	Polyethylene Terephthalate (PET, PETE). PET is clear, tough, and has good gas and moisture barrier properties. Cleaned, recycled PET flakes and pellets are in great demand for spinning fiber for carpet yarns, producing fiberfill and geo-textiles. Nickname: Polyester.	Plastic bottles for soft drinks, water, juice, sports drinks, beer, mouthwash, catsup and salad dressing. Food jars for peanut butter, jelly, jam and pickles.  Textiles, monofilament, carpet, strapping, films, and engineering moldings.	Fiber for carpet, fleece jackets, comforter fill, and tote bags.  Containers for food, beverages (bottles), and non-food items.
HDPE	High Density Polyethylene (HDPE). HDPE is used to make many types of bottles. Because HDPE has good chemical resistance, it is used for packaging many household and industrial chemicals such as detergents and bleach.	Bottles for milk, water, shampoo, dish and laundry detergents, and household cleaners, bags for groceries and retail purchases, cereal box liners, reusable shipping containers.  Injection molding applications, extruded pipe, and plastic wood composites	Bottles for non-food items such as shampoo, laundry detergent, household cleaners, and motor oil  Plastic lumber, pipe, floor tiles, buckets, crates, and recycling bins.
3	Polyvinyl Chloride (PVC, Vinyl). In addition to its stable physical properties, PVC has good chemical resistance, weatherability, flow characteristics and stable electrical properties.	Pipe, siding, window frames, fencing, decking and railing.  Blood bags and medical tubing, wire and cable insulation, carpet backing, and flooring.	Pipe, decking, fencing, gutters, carpet backing, floor tiles and mats, and traffic cones.  Packaging, film and sheet, and loose-leaf binders.
LDPE	Low Density Polyethylene (LDPE). LDPE is used predominately in film applications due to its toughness, flexibility and relative transparency, making it popular for use in applications where heat sealing is necessary.	Bags for dry cleaning, newspapers, bread, and household garbage.  Shrink wrap and stretch film, toys, and squeezable bottles  Injection molding applications, adhesives and sealants, and wire and cable coverings.	Shipping envelopes, garbage can liners, floor tile, paneling, compost bins, trash cans, landscape timber, and outdoor lumber.
55 PP	Polypropylene (PP). PP has good chemical resistance, is strong, and has a high melting point making it good for hot-fill liquids. This resin is found in flexible and rigid packaging, fibers, and large molded parts for automotive and consumer products.	Containers for yogurt, margarine, takeout meals.  Medicine bottles. Bottle caps, Bottles for ketchup and syrup.	Automobile applications, such as battery cases, signal lights, battery cables.  Brooms, ice scrapers, storage bins, shipping pallets, sheeting, and trays.
65 PS	Polystyrene (PS). PS is a versatile plastic that can be rigid or foamed. General purpose polystyrene is clear, hard and brittle. It has a relatively low melting point.	Food service items, such as cups, plates, and bowls. Compact disc cases and aspirin bottles.  Protective foam packaging for furniture, electronics.	Thermal insulation, light switch plates, desk trays, rulers, and license plate frames.  Plastic moldings like wood replacement products
OTHER	Other. Use of this code indicates that a package is made with a resin other than the six listed above, or is made of more than one resin and used in a multi-layer combination.	Three- and five-gallon reusable water bottles, some citrus juice and ketchup bottles.  Oven-baking bags, barrier layers, and custom packaging.	Bottles and plastic lumber applications.

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