

Agricultural Plastic Recyclers

## **AEIPLUS, INC**

GRANT PROJECT: EXPANDING PLASTIC PROCESSING CAPACITY IN RESPONSE TO GLOBAL MARKET CHALLENGES



#### **BACKGROUND**

AEIPLUS, Inc. is a recycling business that offers farmers an alternative to landfilling their plastic waste. With a 120,000 square-foot facility in Belmont, the company recycles agricultural plastics such as mulch films, irrigation tubing, nursery containers and twine. AEIPLUS picks up plastic directly from farms and hauls the material to the Belmont facility for sorting and processing. Contaminants like dirt and sand cling to the plastics, and must be removed to produce a high quality material and reduce shipping costs. After removing all dirt and sand, AEIPLUS shreds the plastic and sends it to an international business partner for pelletizing. Ultimately, the plastic pellets are manufactured into new products like pipes and bags.

## **PROJECT DETAILS**

Recycling agricultural plastics can be challenging due to the difficult and time-consuming process of removing contaminants. AEIPLUS was awarded two grants, totaling \$70,000 from the Recycling Business Assistance Center (RBAC) in 2018 and 2020, to purchase equipment specifically designed to remove dirt and sand from agricultural mulch film and drip tape. This equipment has enabled AEIPLUS to remove contaminants quickly and efficiently for repurposing into recycled resin pellets, increasing the marketability and profitability of these hard-to-recycle plastics. The company estimates that the new machinery will create 25 new full-time jobs and divert 200,000 tons of plastic film from landfills annually.







Post-Consumer Plastic Recyclers

## **AMERICAN RECYCLING**

GRANT PROJECT: UPGRADING MATERIAL RECOVERY FACILITIES IN RESPONSE TO GLOBAL MARKET CHALLENGES



## **BACKGROUND**

American Recycling of Western North Carolina (ARWNC) is a materials recovery facility located near Asheville in Candler. ARWNC has been in operation since 2011 after company management transitioned from its successful Greenville, S.C. facility. ARWNC processes plastic, glass, metal and paper from single-stream recycling to divert recyclable material from the landfill. ARWNC's recycling is sourced from local businesses and government recycling programs, including Transylvania and Swain counties and nearby municipalities. After recyclable materials are sorted within the materials recovery facility, ARWNC sells the resulting prepared commodities on the market. Most of ARWNC's recycling commodities are sold to regional buyers in the Southeast, including paper mills in the Carolinas and plastic manufacturers in North Carolina and Alabama.

## **PROJECT DETAILS**

The Recycling Business Assistance Center (RBAC) awarded ARWNC a \$40,000 grant in 2019 to help purchase an optical sorter as part of a new complete plastics sorting line. The addition of the optical sorter allows ARWNC to sort smaller materials that cannot be sorted by hand such as polypropylene. With the new plastics sorting line, ARWNC anticipates processing an additional 800 tons of mixed plastics and 350 tons of single-stream recycling per year. To accommodate the increased capacity, ARWNC was awarded a \$60,000 grant in 2020 to help purchase a new two-ram baler. Between the two projects, the company plans to hire up to six more employees. ARWNC has received several grants from RBAC in the past to support projects such as a plastic film recovery system in 2017 and glass cleanup equipment in 2016.







Post-Industrial Plastic Recyclers

## **BROMLEY PLASTICS CORP**

GRANT PROJECT: EXPANDING PLASTIC PROCESSING CAPACITY IN RESPONSE TO GLOBAL MARKET CHALLENGES



## **BACKGROUND**

Bromley Plastics Corporation has operated as a plastics recycler in North Carolina for more than 40 years. Located in Fletcher, the company recycles plastic waste from post-industrial and post-consumer sources like textile manufacturers and soda bottling companies. The company's recycling process involves chopping and shredding materials like polypropylene, polystyrene and nylon. Once the materials have been chopped to the appropriate size, they are blended with additives to create plastic compounds that meet unique specifications of injection molding companies and other manufacturers. With the recycled material, Bromley Plastics' customers create new products like plastic containers and packaging.

## **PROJECT DETAILS**

In 2007, the Recycling Business Assistance Center (RBAC) awarded Bromley Plastics a \$20,000 grant to purchase a small-scale chopper/shredder. The machinery is still in operation today and serves as the first step in the size reduction process. Bromley Plastics has received three additional RBAC grants in 2018, 2019 and 2020 totaling \$140,000 to purchase additional shredding machinery for added capacity and secondary processing and a new blender. The new equipment will increase productivity, eliminate downtime and allow the company to process more recovered plastics. Bromley Plastics anticipates adding six full-time jobs and doubling its processing capacity to recycle more than 41,000 tons of plastic annually.







Polyvinyl Chloride (PVC) Recyclers

## **BRUNSON RECYCLING**

GRANT PROJECT: EXPANDING PLASTIC PROCESSING CAPACITY IN RESPONSE TO GLOBAL MARKET CHALLENGES



#### **BACKGROUND**

Brunson Recycling Corporation is a plastics recycler located in Marion. Since 1985, it has recycled a variety of different post-industrial plastics including home furnishings, PET plastics and PVC. From the medical manufacturing sector, Brunson recycles PVC and HDPE plastic film both in rollstock and loose film form. The recycling process involves initial size reduction, contamination removal and chopping into a regrind form. Brunson Recycling sells the regrind to domestic manufacturing markets that ultimately produce new items like lawn and garden products, tubing and flooring.



## **PROJECT DETAILS**

Brunson Recycling diverts more than 2,000 tons of medical plastic from landfills each year. With two grants totaling \$60,000 grant from the Recycling Business Assistance Center (RBAC) in 2018 and 2019, Brunson Recycling purchased an industrial-grade guillotine shear, plate housing magnet, conveyor and auger. The guillotine shear allows more processing of HDPE and PVC film and reduces the safety hazards associated with the handheld power tools formerly needed to cut large quantities of plastic. The plate housing magnet, conveyor and auger remove multipolymer, rubber and miscellaneous contaminants from recyclable material to process greater amounts of higher quality PVC scrap. The machinery purchased with RBAC grants enables Brunson to recycle an additional 845 tons of hard-to-recycle medical plastics each vear.





**End-Use Manufacturers** 

## **CASCADES MOULDED PULP**

#### GRANT PROJECT: BUILDING DOMESTIC END-MARKETS FOR RECYCLED CONTENT



#### **LOCATION**



Rockingham, **Richmond County** 



AMOUNT AWARDED



\$60,000

**NUMBER OF JOBS** 



41

**END PRODUCT** 



Egg filler flats and four-cup carrier trays

## **BACKGROUND**

Cascades Moulded Pulp began operating in 1986 in the City of Rockingham. Cascades Moulded Pulp is part of the larger Cascades Group, which produces packaging and tissue products in 90 facilities across the United States, Canada and Europe. Cascades Moulded Pulp produces fiber products including bathroom tissue, facial tissue, paper towels and napkins, egg filler flats, and four-cup carrier trays from mostly recycled fibers. The company recycles approximately 10,000 tons of post-consumer mixed paper and newspaper annually in the manufacturing of egg filler flats and four-cup carrier trays. When mixed office paper feedstock arrives at the Cascades facility, the paper is sorted and de-inked to create de-inked pulp. The pulp is then converted to paper, and manufactured into tissue and fiber products.

## **PROJECT DETAILS**

Cascades Moulded Pulp received a \$60,000 grant from the Recycling Business Assistance Center (RBAC) in 2020 to install a high-performance pulping, de-trashing and trommel system. With the decline of printed newspapers due to online publications, newspaper is more difficult to obtain as a feedstock. Cascades is accommodating these changes by increasing its use of post-consumer mixed office paper. However, mixed paper contains much more contamination than newspaper. The new pulping, de-trashing and trommel system will enable Cascades to remove more contamination from mixed paper feedstocks and transition away from newspaper. With the new system, Cascades will repurpose an estimated 3,000 additional tons of recycled mixed paper, representing a 30 percent increase in the company's current recycling capacity for mixed paper. This award is Cascades Moulded Pulp's first grant from RBAC.





**Material Recovery Facilities** 

## **CLEAR PATH RECYCLING**

#### GRANT PROJECT: EXPANDING DOMESTIC PLASTIC PROCESSING CAPACITY



#### **BACKGROUND**

Clear Path Recycling is located in Fayetteville and processes polyethylene terephthalate (PET) bottles, such as plastic soda bottles, into PET flake to be used as raw material for new packaging and polyester fiber. Clear Path was created in 2010 as a joint enterprise of Shaw Industries, Inc. and DAK Americas LLC. Shaw Industries and DAK Americas use the majority of Clear Path's recycled PET flake to manufacture carpet flooring, fibers, and resin. The company sells the remaining recycled PET flake on the market. Clear Path prioritizes local sourcing of PET feedstock from Cumberland County, the Carolinas and the eastern United States. Through creating recycled PET flake, Clear Path enables Shaw Industries and DAK Americas to extend the useful life of PET in new products.

## **PROJECT DETAILS**

The Recycling Business Assistance Center (RBAC) awarded Clear Path a \$40,000 grant in 2019 to increase the efficiency of the bottle wash stage of its PET recycling process. Clear Path re-engineered its bottle wash system and installed a new energy-efficient trommel screen with redesigned infeed conveyor systems. In 2020, Clear Path was awarded another \$40,000 grant to install a system to reprocess fines, a process by-product typically destined for landfill, to capture additional PET for reuse. This unique, custom-design innovation will decrease landfillbound fines material by 50 percent. By modernizing the plant with these two projects, Clear Path will significantly increase its recycling capacity and effectiveness to help meet North Carolina's growing demand for recycled PET. This project builds upon improvements made with a 2016 RBAC grant to install dirty flake silos to increase recycled PET throughput.





Post-Consumer Plastic Recyclers

## **ENVISION PLASTICS**

#### GRANT PROJECT: EXPANDING DOMESTIC PLASTIC PROCESSING CAPACITY



## **BACKGROUND**

Envision Plastics is a post-consumer, high-density polyethylene (HDPE) facility that has been operating in Reidsville since 2001. Envision Plastics is part of Altium Packaging and operates as a distinct entity within the larger packaging provider. Envision Plastics produces more than 36,000 tons of HDPE pellets annually, including a food-grade line of HDPE packaging and the OceanBound Plastics line that uses material at risk of becoming ocean pollution. Envision Plastics purchases post-consumer HDPE from several local governments and materials processing facilities in North Carolina. Once at the processing facility, bales of used HDPE products are ground, washed and sorted by color via optical sorting machinery. The product is then extruded into colored pellets that are sold in North American and European markets. Sorting HDPE flake by color allows Envision Plastics to produce brand-specific colored pellets to clients' specifications such as "Tide Red," "Downy Blue," and "Gain Green." Envision Plastics' color-sorting processes, in addition to recycling the post-consumer HDPE, reduces costs and colorants needed for clients to create brand-specific colored HDPE.

## **PROJECT DETAILS**

The Recycling Business Assistance Center (RBAC) awarded Envision Plastics a \$40,000 grant in 2019 to assist with the purchase of two additional optical flake sorting machines. The addition of these optical sorters allows Envision to increase its processing capacity of colorseparated post-consumer HDPE. Without sorting plastic flake by color, the resulting recycled HDPE pellets would be suitable only for sale to low-end markets. The optical sorters, along with other upgrades to Envision's existing color-sorting production line, are estimated to increase the company's processing capacity by approximately 7 percent per year. RBAC awarded Envision three grants in the past, totaling \$80,000, to assist the company with purchasing a boiler, an additional grid and wash line, and batch mixers. These past grants contributed to Envision creating eight jobs and increasing the recycling capacity of the state.





Post-Industrial Plastic Recyclers

## **GLOBAL CIRCLE**

#### GRANT PROJECT: EXPANDING DOMESTIC PLASTIC PROCESSING CAPACITY



#### **BACKGROUND**

Global Circle Recycling, LLC (GCR) is a full-service, asset-based recycling company headquartered in Charlotte. The company recycles plastic, metal, and paper products throughout North America and abroad. GCR has more than 30 years of combined experience in the recycling industry. The company has a flexible model that affords both mid-size and large-scale customers with a convenient and pragmatic approach for their needs. GCR is expanding markets for plastics recycling in North Carolina, including plastic films and a broad range of other polyethylene plastics.

## **PROJECT DETAILS**

The Recycling Business Assistance Center (RBAC) awarded GRC \$10,000 in 2019 to purchase three tractor trailers to transport recyclable materials to the company's processing facilities. The addition of the new trailers will create three new positions at GRC and divert up to 1,125 additional tons of mixed recycling from landfills annually.







**End-Use Manufacturers** 

## HIGHCUBE, LLC

GRANT PROJECT: EXPANDING PLASTIC PROCESSING CAPACITY IN RESPONSE TO GLOBAL MARKET CHALLENGES



## **BACKGROUND**

HighCube, LLC is located in Durham and has been recycling expanded polystyrene (EPS) — commonly known as Styrofoam — since 2016. HighCube sources EPS from pharmaceutical, technology, re-packaging and distribution companies in North Carolina. Once the EPS is transported to the company's facility, it undergoes a two-step size reduction process. HighCube uses the EPS particles to create its proprietary Meristone — a lightweight slab made of 90 percent recycled EPS and concrete materials. The Meristone slabs are then used to create eco-conscious furnishings. By creating high-value products from the waste material, HighCube extends the weeks-long lifecycle of EPS to a decades-long lifecycle.

## **PROJECT DETAILS**

The Recycling Business Assistance Center (RBAC) awarded HighCube grants in 2018 and 2020, totaling \$40,067, to purchase two shredding machines and a foam densifier to expand the company's post-commercial EPS and expanded polyethylene (EPE) recycling services. The shredding machines will automate the shredding process to reduce safety hazards and greatly increase the volume of EPS processed on a daily basis. The foam densifier will allow the company to increase revenue through the sale of densified foams diverted from the landfill. With this increased capacity, HighCube sources EPS from 30 local businesses to divert an additional 45 tons of EPS and EPE from landfills every year and support its customers' zero-waste initiatives. The new equipment will support additional positions with the company. As the processing capacity of HighCube grows, the company hopes to expand throughout the state and nation.





Food Waste Recyclers

# MCGILL ENVIRONMENTAL SYSTEMS

GRANT PROJECT: EXPANDING ORGANICS RECYCLING AND COMPOSTING



## **BACKGROUND**

McGill Environmental is an industrial compost corporation with facilities in North Carolina, Virginia, Florida and Ireland. Founded in 1991, McGill operates two composting facilities in North Carolina, the original plant in Sampson County and a second in Chatham County. McGill creates compost from organic materials such as food waste, yard waste, biosolids, grease, wood, and sheetrock sourced from the industrial and municipal business sectors. After arriving at the composting facility, feedstock is blended, aerated, screened and cured for up to three months. Materials for McGill's Sampson County facility are primarily sourced within a 100-mile radius of the plant, and compost is then sold in the coastal markets of the Carolinas and Georgia. As an organics recycler, McGill diverts significant amounts of material from landfills and reduces both methane emissions from anaerobic digestion and the need for polluting synthetic fertilizers.

## **PROJECT DETAILS**

With financial assistance from a \$40,000-grant from the Recycling Business Assistance Center (RBAC) in 2019, McGill installed an additional controlled aeration floor for curing compost at its Sampson County facility. McGill's patented aeration floors allow facilities to carefully control the moisture content of material to the specifications of the customer as well as generate cost savings from screening and transporting compost with lower moisture levels. McGill estimates that the additional aeration floor will allow it to process between 3,000 and 5,000 more tons of compost annually at its Sampson County facility. McGill was awarded three grants prior to 2019 totaling almost \$100,000 from RBAC to enhance both of its composting facilities in the state.







Post-Industrial Plastic Recyclers

## PELICAN PACKAGING

GRANT PROJECT: EXPANDING PLASTIC PROCESSING CAPACITY IN RESPONSE TO GLOBAL MARKET CHALLENGES



**LOCATION** 



Halifax. **Halifax County** 



AMOUNT AWARDED



\$120,000 over three grants

**NUMBER OF JOBS** 



Current: 42 Added with grants: 6

**END PRODUCT** 



Pellets - to manufacture automotive parts, fabrics and injection molded components

## **BACKGROUND**

Pelican Packaging Company has been recycling postindustrial plastic waste since 1996. Each year, the company processes more than 30,000 tons of plastic films, bags, rigids, foams and other waste materials produced by manufacturers throughout the eastern United States. When materials arrive at the facility's loading docks, company employees carefully inspect and sort them for processing. Pelican Packaging shreds, granulates, pelletizes and bales plastics based on client specifications. Once the materials are prepared, the company sells them to domestic manufacturing markets that make products like automotive parts, fabrics, plastic cutlery and injection molded components.

## **PROJECT DETAILS**

Pelican Packaging has increased its processing and production outputs every year since 2015 and is approaching its processing capacity, recycling approximately 39,000 tons in 2019. The Recycling Business Assistance Center (RBAC) awarded Pelican Packaging grants in 2018, 2019 and 2020, totaling \$120,000, to purchase additional equipment to improve efficiency and processing capacity. Equipment includes a new and rebuilt shredder, a new horizontal baler and additional forklifts. Upon completion of the 2020 grant, the new equipment will enable the company to collect an additional 6,875 tons of post-industrial plastic waste from manufacturers each year and create six new fulltime positions.





Post-Industrial Plastic Recyclers

## PLASTIC MATERIALS, INC

GRANT PROJECT: EXPANDING PLASTIC PROCESSING CAPACITY IN RESPONSE TO GLOBAL MARKET CHALLENGES



#### **BACKGROUND**

Plastic Materials, Inc. started recycling rigid plastics, films, foams, bubble wrap and other hard-to-recycle plastics in 2008. Plastic Materials works with manufacturers in North Carolina to plan and implement recycling programs for post-industrial waste streams. When plastics arrive at the company's loading docks, employees use forklifts to unload and move materials to the different processing lines in the recycling facility. Plastic Materials then shreds, densifies and cleans the plastics, so they can be sold to manufacturers with unique product specifications. Some of Plastic Materials' recycling customers also buy recycled feedstock from the company, creating an efficient and sustainable supply chain loop. With these recycled plastics, manufacturers produce plastic lumber and other construction and building materials.

#### **PROJECT DETAILS**

Following stricter international import standards, higher volumes of hard-to-recycle plastics have become available for companies like Plastic Materials. The Recycling Business Assistance Center (RBAC) awarded Plastic Materials grants in 2018, 2019 and 2020, totaling \$117,120, to help expand the company's recycling capacity. In 2018, RBAC grant funding contributed to the purchase of two new forklifts that allowed the company to unload incoming materials while continuously operating its recycling machinery at full capacity. In 2019, Plastic Materials used RBAC grant funding to purchase another shredder to process additional rigid plastic scrap and conserve machine time to recycle plastic film. In 2020, the company will apply grant funds toward securing a larger building to accommodate its expanding business. With assistance from RBAC funds, Plastic Materials will add at least 10 additional full-time iobs and divert an additional 3.860 tons of rigid plastics and plastic film from landfills — more than doubling its recycling processing tonnage over three years.





**End-Use Manufacturers** 

## **REPOLYTEX**

#### **GRANT PROJECT: BUILDING DOMESTIC END-MARKETS FOR RECYCLED CONTENT**



## **BACKGROUND**

RePolyTex is a start-up plastics recycling business located in Madison (Rockingham County). The company manufactures plastic plywood from scrap plastic in post-consumer electronics. North Carolina prohibits the disposal of televisions and computer equipment in landfills, and local governments have collection and recycling programs for these items. Before recent foreign import bans, post-consumer electronics were generally sent to markets overseas. RePolyTex will help create a domestic market for scrap electronics collected by local governments across the state. Once electronics arrive at RePolyTex, the facility removes metals from the appliances and grinds the scrap plastics into powder. The metal is resold, and the plastic powder is then used to create 4x8-foot sheets of plastic plywood. Plastic plywood can be used to make products such as roofing tiles, doors, insulation and furniture.

## **PROJECT DETAILS**

RePolyTex's first facility has a manufacturing line with nine thermoplastic polymer molds. The company received a grant of \$30,000 from the Recycling Business Assistance Center (RBAC) in 2020 to add a tenth mold and allow the facility to meet full production. The tenth mold will enable the facility to produce 10 percent more plastic plywood sheets than current capacity, representing a total of about 3,300 tons of electronic scrap plastic recycled per year. In addition, RePolyTex will create 18 new factory floor jobs in Madison and plans to expand its facility, double its production rate, and further increase demand for electronics scrap plastic.







**End-Use Manufacturers** 

## ROLL-TECH, LLC

GRANT PROJECT: EXPANDING PLASTIC PROCESSING CAPACITY IN RESPONSE TO GLOBAL MARKET CHALLENGES



#### LOCATION



Hickory, Catawba County



#### AMOUNT AWARDED



**\$34,027** over two grants

#### **NUMBER OF JOBS**



Current: 53
Added with grants: 3

#### **END PRODUCT**



Tires, wheels, bumpers and tiles

#### **BACKGROUND**

Roll-Tech, LLC has been recycling plastic and rubber since 1996. The company consumes recycled rubber from scrap tires and recycled plastics from bottles to make new products. More than 70 percent of the recycled feedstock is sourced from North Carolina. The company screens incoming materials for metals and other contaminants, and then uses injection molding technology to create new rubber and plastic goods like wheels, tires, bumpers and tiles. Roll-Tech sells these products to customers that manufacture products like hand-trucks, carts and garbage bins.



## **PROJECT DETAILS**

Roll-Tech has received a series of grants from the Recycling Business Assistance Center (RBAC) in the past. The company diverts approximately 400,000 used tires and 500 tons of plastic from landfills each year. As several of Roll-Tech's international competitors have ceased operations, the company has experienced an increased demand for its wheel and tire products. In 2018 and 2019, RBAC awarded Roll-Tech grants, totaling \$34,027, to purchase new injection molding equipment and molding tooling sets to manufacture recycled rubber and plastic products. With the new machinery, Roll-Tech hired three new, full-time employees and diverted an additional 78 tons of rubber and 41 tons of plastics from landfills annually.





Post-Industrial Plastic Recyclers

## **WELLMARK PLASTICS**

#### GRANT PROJECT: EXPANDING DOMESTIC PLASTIC PROCESSING CAPACITY



#### LOCATION



Asheboro, Randolph County



AMOUNT AWARDED



**\$70,000** over two grants

**NUMBER OF JOBS** 



Current: 109
Added with grants: 2

**END PRODUCT** 



Recycled resin — for injection molding



## **BACKGROUND**

Wellmark, Inc. is a thermoplastic recycling company in Asheboro that processes industrial plastic waste into high quality recycled resin pellets. The company was founded in 1995 to repurpose textile dye tubes. It has since evolved to process a wide variety of materials, including plastic apparel hangers, nursery containers, industrial plastic scrap and bottle caps. Wellmark first separates, shreds and grinds material, then melts and extrudes these scrap plastics into pellets. The majority of Wellmark's recycled resin is supplied to its parent company, Technimark LLC, which manufactures injection-molded products for consumer packaging, healthcare, and industrial markets. By reprocessing approximately 25,000 tons of polypropylene, polystyrene, and polyethylene annually, Wellmark prevents the equivalent manufacture of new material from petrochemical feedstock.

## **PROJECT DETAILS**

The Recycling Business Assistance Center (RBAC) awarded Wellmark a \$40,000 grant in 2019 to upgrade one of its extruders with a continuous filtration system to remove contaminants from recycled feedstock. The installation of this filtration screen enables Wellmark to purchase and process greater amounts of plastic scrap material with high contamination rates that may otherwise have been landfilled. The new filter allows Wellmark to process an additional 1,300 tons of scrap plastic annually — a 50 percent increase from the amount processed on the extruder line before the filtration system upgrade. In 2020, Wellmark received a \$30,000 RBAC grant to purchase an optical sorter to separate natural resins, which have a higher demand and can be used in a wider variety of projects. This will allow the company to increase the value of its end products and sell to broader markets. Wellmark has been awarded several previous grants from RBAC, including a 2011 grant to install a processing line for plastic apparel hangers, which is still in use and processes 9,000 tons of post-consumer hangers annually.

