

enviraPAC Monticello

Defining Biomass Carbon Products™

RENEWABLE ENGINEERED CARBON PRODUCTS

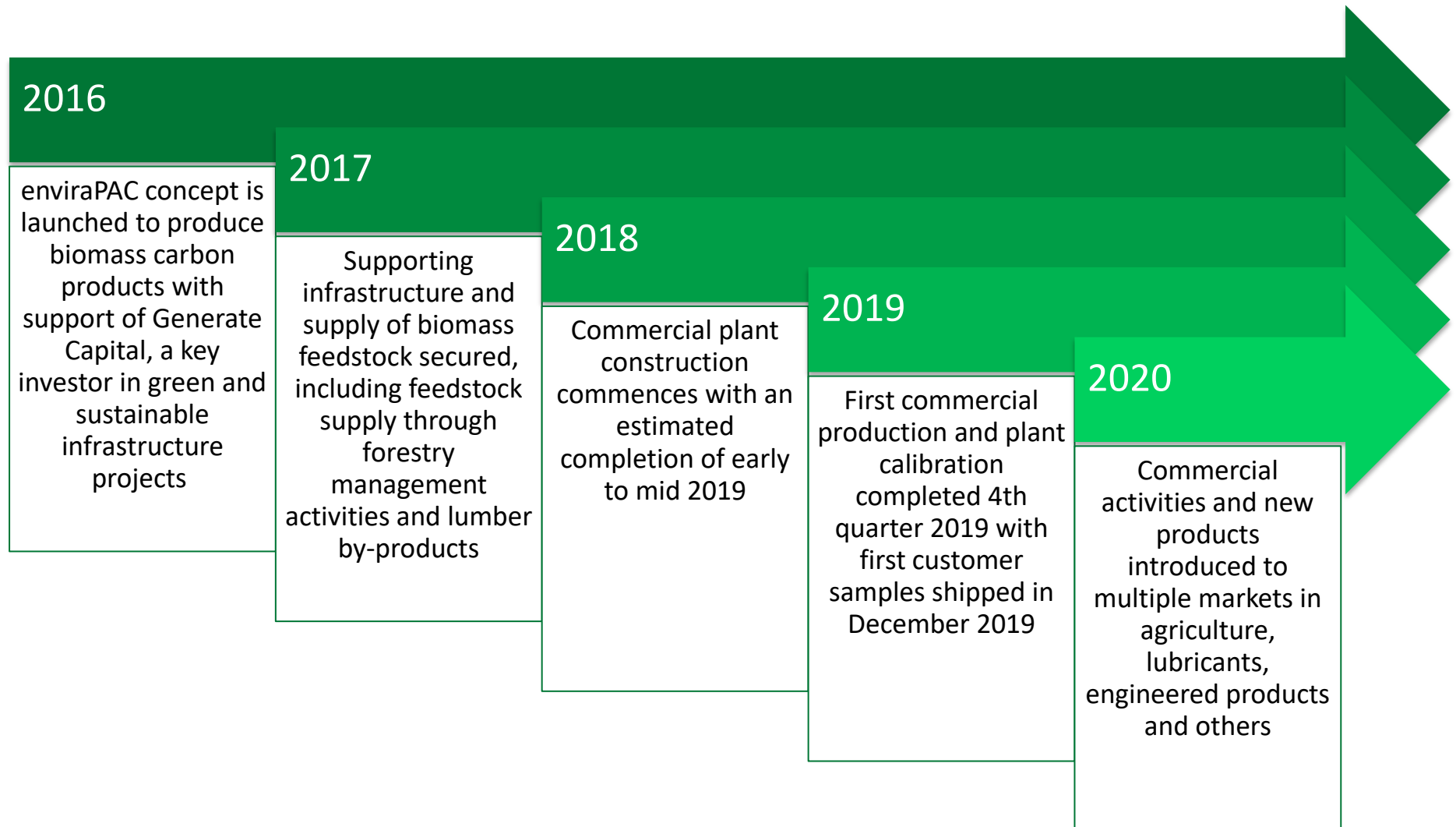
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Company History



Biomass Carbon Products

- A renewable carbon powder material derived from sustainable biomass feedstock utilizing a proprietary, CO₂ neutral, auto-thermic technology.
- enviraPAC carbon powders and granules are biomass-based produced in an environmentally friendly manner produced using clean energy with sustainability and stewardship as driving factors to success.
- Located in Monticello, Arkansas, our state-of-the-art production facility has the ability and capacity to produce renewable, engineered carbon powders and granules to meet a multitude of applications and specifications for domestic and worldwide delivery.



enviraPAC Manufacturing Process

- Biomass feedstock, derived from sustainable forest management activities, comes from the Southern Yellow Pine species.
- State of the art production using CO₂ – auto-thermic carbonization process is proprietary producing a consistent, quality BioMass carbon product that can further processed into powder or pre-milling carbon granules.
- Highly trained engineers and analytical staff ensure customers receive accurate product specs and QA/QC documentation. enviraPAC personnel are dedicated to the highest standards of production monitoring. From finished product inventory to product delivery, is the hands-on commitment that every customer can expect with each evaluation sample to commercial order.

Biomass Feedstock



Carbonization



Milling - Powder



Product Bagging



Finished Inventory



enviraPAC Product Packaging Options

enviraPAC offers standard and special packaging options for evaluation samples, bulk trial samples, and commercial orders to meet customer needs for product use and handling.

Commercial / bulk trial sample packaging:

- Paper bags
- Big-Bags – 35" x 35" x 48" STD; additional sizes available

Optional packaging (sales agreement required)

- Repulpable paper bags
- Black plastic drums
- PE bags

Evaluation sample packaging options:

- 32 oz. plastic jars
- 48 oz. plastic jug
- 1 to 6-gallon plastic buckets
- 50 lb. paper bags



Market Groups & Market Brands



Engineered Parts



Industrial



Agriculture



Automotive



Lubricants

- **enviraPAC BIO RE-LUBE[®]** *for Lubricants & Dispersions*
- **enviraPAC BIO HEAT-CARBON[®]** *for Thermal Management*
- **enviraPAC BIO ENG-CARBON[®]** *for Engineered Products*
- **enviraPAC BIO PWR-CARBON[®]** *for Energy Storage*
- **enviraPAC BIO AG-CARBON[®]** *for Agriculture*



Carbon Product Grades and Purities

A number of grades and purities under enviraPAC brands are available to meet a wide range of application specifications. Each grade is produced under ISO 9001:2015 Quality Control Procedures.

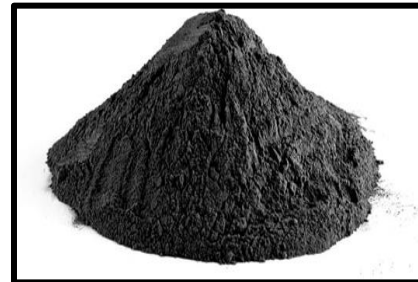
Strict attention to detail is a critical component in the production of high quality and consistent carbon products.

- Biomass Carbon Powders - PSD Grades – 10, 20, 45, 75, 120 Micron / 90% - 97.5% LOI
- Biomass Carbon Powders – Customer Request PSD's Available
- Biomass Carbon Granules – Mesh Size – 5 x 35 Mesh (Tyler) / 90% - 97.5% LOI

Biomass Carbon Granules

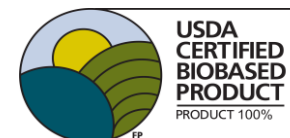


Biomass Carbon Powders



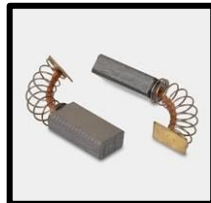
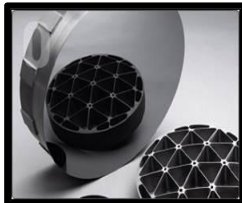
enviraPAC Product Attributes and Certifications

- Biomass-based feedstock – Supplied from sustainable forest management activities
- High OAN Value ($>70 \text{ cm}^3/100\text{g}$)
- High IAN Value ($\text{IAN} >270 \text{ g/kg}$)
- High BET / SSA ($> 420 \text{ m}^2/\text{g}$)
- Clean energy produced
- Multiple grades / nomenclatures
- Special packaging available (sales agreement required)
- ISO 9001:2015 Certification (Completed August 2020)
- Compliant w/ ISO 14001 EMS Proactive Production Metrics
- IBI Biochar Certified[™]
- USDA Biobased Product[™]



enviraPAC BIO ENG-Carbon[®] Powders & Granules

- **Epoxies and Coatings**
- **Ceramics**
- **Powdered Metal**
- **Inks / Conductive Inks**
- **Carbon Brush**
- **Ornamental Organic Colorants**
- **Bearings and Seals**
- *Low sulfur content*
- *High micro-porosity*
- *Compatible w/ various chemistries*
- *Electrically conductive*
- *High load resilience*
- *Low levels of Si, Fe, Ni*
- *Organic option – milled carbon powder*



enviraPAC BIO ENG-Carbon[®] Carbon Powders

- Industrial Powdered Metal
- Industrial Bearings and Seals
- BioMass Carbon Foam
- MIL-SPEC / DOD
- DOE / Energy Moderator
- Aerospace
- Organic Carbon Foils
- Organic Fire Retardants
- Catalyst
- *Low sulfur content*
- *Compatible w/ various chemistries*
- *Meets MIL-SPEC organic requirements*
- *High load resilience / high COF*
- *Low levels of Si, Fe, Ni*
- *Can be graphitized / expandable carbon*



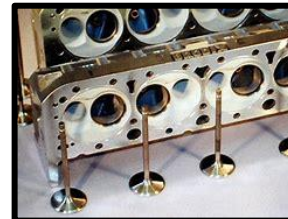
enviraPAC BIO AG-Carbon[®] Powders & Granules

- **Soil reclamation**
 - **Soil remediation**
 - **Soil enhancement**
 - **Animal waste management**
 - **Waste water management**
 - **Pesticide / herbicide control adsorption**
 - **University – agriculture research**
- *Low sulfur content*
 - *High micro-porosity*
 - *High levels of P, K, N*
 - *Absorbs ~ 1.92g - H₂O / gram of powder*
 - *High BET / SSA > 420 m²/g*
 - *High IAN – >270 g/kg*
 - *High OAN – > 74 cm³/100g*
 - *Available Fixed Carbon – 88% - 95%*
 - *High adsorption – nitrogen*
 - *Ammonia Adsorption – 1.8 cm³/g STP*



enviraPAC BIO ENG-Carbon[®] Carbon Powders

- Friction / clutch facings
- Automotive powdered metal parts
- Carbon brush - automotive
- Continuous casting - automotive
- Conductive paints and coatings
- Thermal conductive / refractive coatings
- Gaskets and seals
- *Low sulfur content*
- *Compatible w/ various chemistries*
- *High load resilience / high COF*
- *Low levels of Si, Fe, Ni*
- *Alternative to synthetic or natural graphite*
- *High BET / SSA > 426 m²/g*



enviraPAC BIO RE-Lube[®] Carbon Powders

- Rail lubes
- Seed lubes
- Dry lubes
- HMF dispersions
- Drilling fluids lubricant additives
- Fluids loss prevention additives
- Automotive lubricants
- Industrial / aerospace lubricants
- Low sulfur content
- Organic alternative for biomass lubricants
- High BET / SSA > 420 m²/g
- High IAN – >270 g/kg
- High OAN – > 74 cm³/100g
- Low levels of Fe, Ni
- Excellent contact resiliency
- High load COF values



Contact Details



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