



enviva

Sustainable Biomass Resources



Benefits of Wood Pellets

An energy-dense, uniform fuel made from high-quality wood materials, wood pellets offer a range of advantages.

Wood pellets are a reliable source of energy, available 24 hours a day, seven days a week.

On an energy content basis, wood pellets have significantly lower emissions than fossil fuels and reduce overall carbon footprint of energy between 74 and 90 percent as compared to equivalent energy produced by coal.¹

Typically, wood pellets have a calorific value of about 17.5 MJ/kg.

Wood pellets offer a very low-moisture content (four to 10 percent) and low ash (one to two percent).

Pellets ship in standard dry bulk vessels. This maximizes economic efficiency and is environmentally preferable because such vessels can be used to ship freight on the return trip as well.

Founded in 2004, Enviva's mission is to change the environmental profile of energy generation by becoming the preferred supplier of sustainably sourced biomass, serving utility and industrial customers that seek to decrease their dependence on fossil fuels and reduce their carbon footprint.

Today, Enviva leverages its expertise and resources to source, manufacture, market, and deliver processed woody biomass to its customers throughout Europe.

As power producers throughout the world displace coal and other fossil fuels with biomass, Enviva provides a stable, reliable and high-quality source of this low-carbon alternative. Enviva offers these sustainable, economical solutions for today's clean-energy needs while ensuring and sustaining the natural resources required for tomorrow's as well.

History in the Making

Enviva is the largest exporter of wood pellets in the US. Its continued growth has enabled it to become a key supplier to numerous customers.

2010

August 2010

Acquiring Amory, Miss.-based CKS Energy, Inc., Enviva expands the facility from 50,000 metric tons of annual production capacity to more than 90,000 metric tons.

December

Enviva Pellets Ahoskie, a 350,000 metric ton per year wood pellet facility, is announced.



March

Riverstone Holdings LLC invests in Enviva LP, fueling the company's growth strategy in the US and Europe.

October

Enviva acquires a wood pellet facility near Wiggins, Miss. and expanded its production from 45,000 metric tons per year to 136,000 metric tons.

March

Enviva sends first shipment of 28,000 metric tons of wood pellets from Port of Mobile in Alabama to Electrabel, one of the world's largest utilities, as part of a 480,000 metric ton per year contract.

August

Enviva announces its Northampton, N.C. facility, a 500,000 metric ton per year facility, scheduled to begin production in mid-2013.

November

Enviva and ConocoPhillips partner forming ECo Biomass to bring torrefied biomass fuels to market.

December

Less than a year after being acquired and developed, Enviva ships more than 28,000 metric tons of wood pellets to Europe from the Port of Chesapeake deep water port terminal.

February

Enviva announces a contract with European utility E.ON to supply 240,000 metric tons of wood pellets.

2011

2012



February

Enviva acquires deep water port terminal in Chesapeake, Va., to facilitate export from US Mid-Atlantic region.

May

Enviva begins construction of a 45,000 metric ton storage dome at Port of Chesapeake.

October

Dominion Virginia Power and Enviva enter woody biomass supply agreement for two 50-megawatt facilities in south-east Virginia.

November

Less than a year after beginning construction, Enviva Pellets Ahoskie begins producing wood pellets.

The company also announces Enviva Pellets Southampton, a 500,000 metric ton per year wood pellet facility in Virginia.

February

Enviva achieves triple chain of custody sustainability certification from Sustainable Forestry Initiative, Forest Stewardship Council and Programme for the Endorsement of Forest Certification

July

Ground breaks for Enviva's newest site in Southampton County, Va. It will have an annual production capacity of approximately 500,000 metric tonnes when it enters production in 2013.



Port of Chesapeake

Enviva's development of a deep water port terminal in the Norfolk, Va. region underscores Enviva's commitment to product quality and reducing costs throughout the production and shipping processes.

Two state-of-the-art domes designed specifically for safe, secure wood pellet storage have the potential to hold up to 45,000 metric tons of wood pellets each further protecting and ensuring the integrity of Enviva's products.



A Story of Growth

World demand for renewable energy continues to increase and Enviva has positioned itself as a reliable, sustainable industry leader in one of the key renewable energy industries: Biomass.

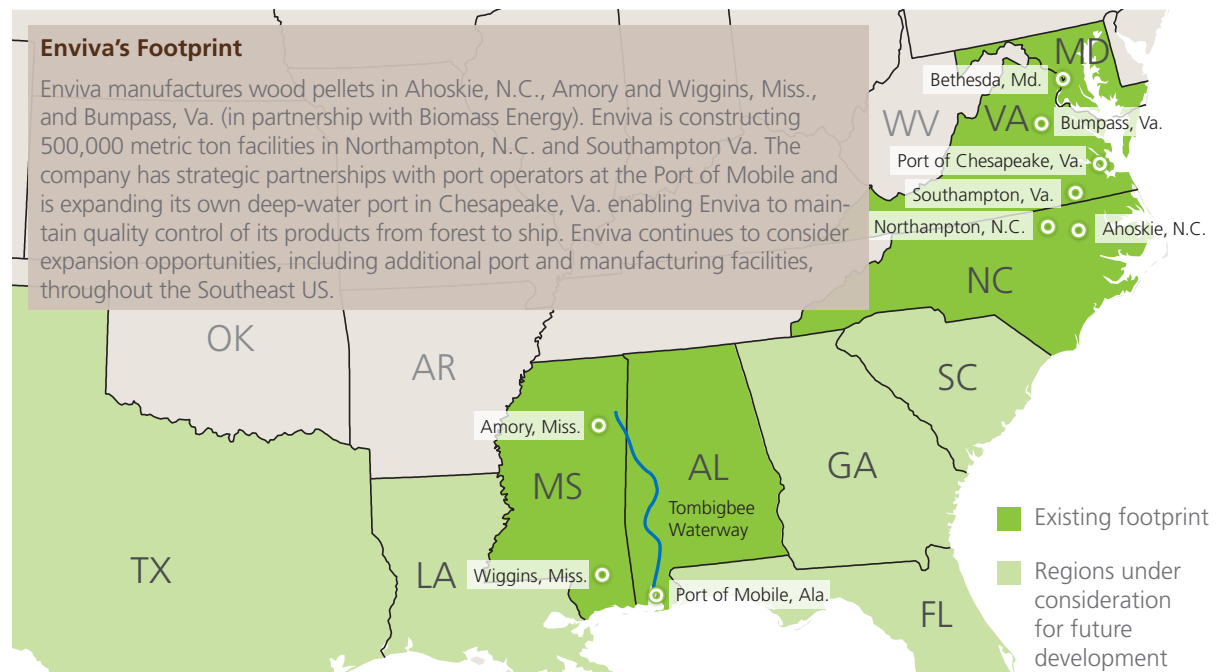
Positioned for Excellence

Enviva is a portfolio company of Riverstone Holdings LLC, a \$20 billion private equity fund and one of the largest renewable energy private equity investors in the world. This strategic financial backing has enabled Enviva to further expand its US production for deliveries to European and US customers.

Enviva's strong balance sheet and experienced, strategic financial sponsor have made its current operations, experience and existing footprint the ideal choice for stable, reliable biomass supply. Enviva believes that becoming a creditworthy counterparty, capable of supplying millions of tons of biomass per year, will provide additional certainty of supply critical for utilities' investment decisions to co-fire, convert to biomass or build a dedicated biomass facility.

With an existing and growing manufacturing base in the Southeast United States, Enviva is one of the largest producers and exporters of sustainable wood pellets used in industrial applications. Enviva's footprint spans the extensive fiber baskets of Mississippi and Alabama, as well as a bountiful wood supply in Virginia and North Carolina. By connecting biomass sources to energy consumers, Enviva reliably provides customers throughout the world with sustainably generated, clean biomass to improve the environmental profile of energy generation.

Wood resources are abundant in the region where Enviva operates. This has been a key fiber basket for paper manufacturers for more than 100 years. Wood fiber and other forestry residuals sourced from the Southeast US have lower costs than materials from many other parts of the world, including much of the wood fiber located in Europe due to the US's high density of raw materials and well-established, century-old forest products and timber industry.



Enviva continues to investigate opportunities for growth and expansion in the Southeast US and other regions. The above map reflects operations in production, in partnership, under development, and in planning at the time of printing.



Port of Mobile

Enviva's pellet manufacturing facilities in nearby Amory and Wiggins, Miss., are situated along major inland waterways and highways that make transportation to the Port easy and efficient, reducing both emissions and costs.

Operational & Logistical Excellence

Enviva invests in people and capabilities across the entire supply chain, from forest to ship.

Manufacturing

Wood pellet production is a complex manufacturing operation. Enviva has developed and retained a deep process manufacturing expertise, based on lean manufacturing principles and a focus on operational excellence. Enviva is a data-driven enterprise built around safety, quality and reliability to ensure that all activities achieve well-understood metrics, meet stringent specifications and exceed customer expectations.

Enviva's relentless focus on the customer drives the company to become more efficient by eliminating waste and variability in the process in order to achieve a high level of product consistency. Maintaining equipment reliability, product quality, and process stability provides a manufacturing setting that enables Enviva to reduce costs, minimize its impact on the environment, and provide a product that meets exacting customer specifications.

Procurement

Enviva's willingness to invest in infrastructure and human capital upstream in the raw material supply chain helps limit cost volatility and ensure stable pricing and products to customers. In addition to a team of operators and engineers, Enviva's foresters have more than 200 years of experience managing strategic, national, regional and local relationships to

ensure long-term access to low-cost fiber including processed and unprocessed residues, low-grade pre-commercial thinnings and round timber.

Training

Enviva is committed to the development of its employees. Through extensive training on- and off-site, Enviva's entire manufacturing team has the opportunity to become subject matter experts, fully understanding the manufacturing process and developing highly transferable technical skills in a cutting edge industry. Enviva relies on each employee to understand the company's strict specifications and apply that knowledge to eliminate defects and make process improvements.

Logistics

Enviva's multiple production facilities are strategically located in advantaged fiber baskets and near multiple truck, rail and river transportation infrastructure, as well as access to export terminals to reach international customers. Enviva also maintains river access to the emerging domestic market and direct rail access from the company's growing storage assets. Flexible transportation alternatives allow Enviva to cost-effectively deliver pellets to utilities throughout the United States and internationally as those markets expand.

Sustainability

From sustainably managed forests, throughout the manufacturing process and to the point of delivery, Enviva follows environmental best practices to minimize its impact and preserve natural resources.

Supporting Responsible Forest Management

Enviva believes in the responsible and sustainable management of the timberland from which it sources. The health and biodiversity of the forests that provide Enviva with raw materials are critical from both environmental and economical standpoints.

Almost 60 percent of forest land in the US is owned and managed by non-industrial private landowners. In the Southeast US, where Enviva operates, that percentage is nearly 90 percent.² Most of these landowners manage their forest land for the long-term so they can enjoy it today and know it will be there for future generations. Maintaining healthy forests requires a commercial outlet to support management activities that improve wildlife habitat, promote biodiversity and help reduce the risk of wildfire, disease and infestation. Furthermore, the use of woody biomass for energy creates economic value for these landowners and reduces the risk that forests will be lost to development.

Enviva knows that maintaining healthy productive forests is the only way it can sustain a

successful business, while also supporting local economies. Thus, Enviva's policy is to locate its facilities in regions like the Southeast and Mid-Atlantic regions, which are capable of reliably supplying raw materials while maintaining a strong growth-to-drain ratio. Sustainably managed timber and fiber resources developed over decades ensures that more forests will exist tomorrow than today and that careful and precise silviculture practices preserve and protect the environment.

Currently, Enviva's biomass sources include processed residues such as chips, bark and sawdust; unprocessed residues such as tree tops, branches and other forestry debris remaining after the primary biomass (tree trunk) has been processed and shipped from the forest; and low-grade round wood fiber and commercial thinnings.

Forest Certification: Third-Party Assurances

Independent forest certification programs provide a consistent and transparent framework for evaluating the sustainability of a company's operations, from forest to product. For bio-energy feedstock producers like Enviva, there

Find Out More

Learn more about Enviva's ongoing initiatives to ensure the continued health of forests and Enviva's efforts to reduce its environmental footprint by visiting Enviva's Web site at www.envivabiomass.com.

² Smith, B., Miles, P., Perry, C., & Pugh, S. (2009). Forest Resources of the United States, 2007. Washington, DC: USDA Forest Service, p.19.

USDA Forest Service. (2009). US Forest Resource Facts and Historical Trends. USDA Forest Service, p.10.

are two main types of certification programs: chain-of-custody and fiber sourcing. Chain-of-custody accounts for the fiber from certified forests in the supply chain, and allows a company to make public claims regarding the certified content of particular product lines. Fiber sourcing certification addresses those sources of fiber not from certified forests.

All Enviva-owned and partner pellet plants are now certified to the Sustainable Forestry Initiative® (SFI®) fiber sourcing standard, and the Green Gold Label (GGL) program, which is a European-based program that covers chain-of-custody, processing, and green house gas and energy balance accounting. Enviva owned plants also have achieved chain-of-custody certifications to the Forest Stewardship Council (FSC), the Programme for Endorsement of Forest Certification (PEFC) Programs and SFI.

To become certified, Enviva must complete an independent, third-party audit which verifies

Enviva has met the sustainability standards and criteria in each of the certification programs. Auditors verify that activities related to standard implementation and landowner outreach are adequately addressed through supplier interviews, on-site visits and other activities.

Efficient Production & Transportation

Enviva's manufacturing operations are designed to minimize environmental impact and maximize overall plant efficiency. Where feasible, facilities utilize biomass as part of the manufacturing process. Additionally, equipment selection criteria include energy and water efficiency and minimal waste generation, such as the use of biomass as fuel for all of Enviva's drying operations. Transportation and shipping can contribute greatly to overall environmental impact. As a policy, Enviva seeks to minimize transportation emissions by sourcing biomass from areas up to 75 miles from facilities.

SFI® in the United States

While many large tracts of public and industrial forest lands are certified in the US, many family forests are not certified because timber harvesting is not often the primary management activity. Given that only about 19 percent of all forests are certified to any program in the US, programs such as SFI fiber sourcing certification are extremely important in addressing the non-certified fiber in Enviva's supply chain. SFI fiber sourcing standards require that trained loggers are used during harvesting and best management practices are followed to protect water quality. Additionally, landowners are encouraged to reforest after harvest and are supplied with information regarding endangered species protection, sensitive and protected sites and invasive species. Enviva is proactively working with all its suppliers to promote responsible forest management on all lands, not just those that are already certified.



Sustainable Forestry Initiative

Founded in 1994 by paper manufacturers to ensure sustainable forestry practices. SFI has grown internationally to encompass multiple industries and all kinds of wood fiber sourcing under an established certification program.



Forest Stewardship Council

Founded in 1993, FSC was established to address concerns over deforestation and provides certification for responsible forest management throughout the supply chain.



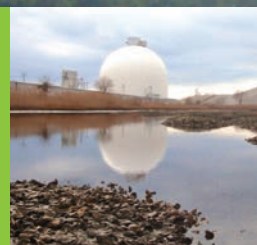
Programme for the Endorsement of Forest Certification

Founded in 1999, PEFC is the world's largest forest certification system and is the umbrella group for dozens of independent worldwide certification systems.



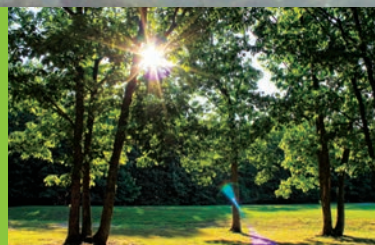
Green Gold Label

Operational since 2002, GGL is a certification program for sustainable biomass covering production, processing, transport and final energy transformation.



Elizabeth River Project

Enviva Port of Chesapeake was honored as a Model Level River Star in January 2012 by the Elizabeth River Project, a local non-profit group in Chesapeake, Va., for working with residents and businesses to restore and improve the the natural habitats of the Elizabeth River.



National Forest Foundation

Enviva has provided funding to the National Forest Foundation to plant trees in West Virginia and Mississippi, helping to restore critical areas of US forests.

Industry Leading Safety Standards

Enviva seeks to develop, cultivate and maintain strict safety protocol as a personal value for each employee and invests heavily in safety, training, and professional manufacturing practices.

Enviva's most valuable resource is the people who work to contribute to its success.



Safety

Safety is an integral part of the Enviva's culture, defining the company as stewards of a unified approach to insist upon and expect safe work practices by every team member.

A Culture of "Zero"

Zero incidents, accidents, and injuries is the only acceptable goal for Enviva. It is an attainable goal that can be accomplished when everyone works safely through teamwork and communication. Achievement of this objective allows Enviva to provide a quality product while maintaining a safe work environment for all team members.

Safe practices and strict work-safety protocols are instilled as core values at every level of the company. From project design, site development and day-to-day operation of the manufacturing facilities, safety is a criterion that determines Enviva's ultimate success. Enviva invests heavily in safety, training and professional manufacturing practices and encourages constant evaluation to improve safety performance.

Beginning with facility concept and design, safety is engineered into the growth of the business. Engineering plans are reviewed internally with an eye to eliminate hazards even before the concrete foundations are poured or a piece of steel is raised. All facilities are put through a "process hazard" analysis, which eliminates potential process flow hazards. Every process is categorized by potential hazards and safety devices are installed per National Fire Protection Association (NFPA) and Occupational Safety & Health Administration (OSHA) standards. Potential contractor partners undergo a safety prequalification by an extensive review process of their current safety policies, practices and past safety performance. The identification of like-minded contractors exhibiting stellar safety performance ensures that the construction of facilities is completed in a safe manner.

Responsibility for following Enviva's policies and achieving company safety goals is that of everyone, including site superintendents, supervisors, employees, and the safety manager with the support of company management. Enviva's approach to safety is to develop, cultivate and maintain safety as a personal value for each person associated with the company. Enviva believes that a strong safety culture as a value will never be compromised by taking operational shortcuts that may expose employees to unacceptable risks within the workplace.

Enviva has a certified safety professional qualification program that requires employees to complete OSHA General Industry and NFPA Combustible Dust courses, understand lean manufacturing 5S principles, and meet specified reading requirements.

All plant employees are trained on required OSHA and NFPA regulations with training courses that focus on Enviva-specific manufacturing process. Enviva has authorized OSHA Outreach trainers on staff to train employees in OSHA 10-Hour and 30-Hour General Industry and Construction courses.

With these objectives in mind, Enviva's "employee participation" approach to safety is the roadmap to achieve the goals Enviva has set for a safe work environment.

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7200 Wisconsin Ave, Suite 1100
Bethesda, MD 20814 USA

+1 (301) 657 5560
fax (301) 657 5567

info@envivabiomass.com
www.envivabiomass.com



Our Mission

By connecting biomass sources to energy consumers, Enviva will reliably provide customers throughout the world with sustainably generated, clean biomass to improve the environmental profile of energy generation.

Our Facilities

Enviva operates manufacturing and shipping facilities across the Southeast United States.

Amory, Miss.
Wiggins, Miss.
Ahoskie, N.C.
Northampton County, N.C. *(startup in 2013)*
Bumpass, Va. *(partnership with Biomass Energy)*
Chesapeake, Va. *(deep water port)*
Southampton County, Va. *(startup in 2013)*
Mobile, Ala. *(deep water port)*



7200 Wisconsin Ave, Suite 1100, Bethesda, MD 20814 USA

