

Biomass Electric Generating Facility

A Sustainable, Renewable Resource for
Energy Production located in Halifax County





POWER YOU CAN TRUST



**NOVEC Energy
Production**
Halifax County Biomass

NOVEC's Biomass Electric Generating Facility

Notable facts:

*NOVEC commissioned
the facility in
2013.*

*The biomass facility uses approximately
300,000 tons
of wood waste as fuel annually.*

*Wood waste used by the biomass plant
would otherwise have been
**burned, left to decay, or
hailed to a landfill.***


*Renewable energy
is generated
**around
the clock.***

Benefits to Halifax County and Virginia:

*27 full-time jobs
with an annual
payroll in excess of
\$2.8 million.*

*Nearly
\$661,000
in annual
property taxes paid.*

*Approximately
\$6 million
paid annually to
local businesses for
wood chips.*

A photograph of two men, Stan Feuerberg and Wade House, standing in front of an industrial facility at night. Stan Feuerberg is on the left, wearing a dark suit, a purple shirt, and a purple tie. Wade House is on the right, wearing a dark suit, a white shirt, and a patterned tie. The background shows a large industrial building with lights on, suggesting a power plant or refinery.

Stan Feuerberg, President/CEO

Wade House, Chairman

Environmental stewardship has long been a priority at Northern Virginia Electric Cooperative.

NOVEC provides electricity to nearly 175,000 customers in Clarke, Fairfax, Fauquier, Loudoun, Prince William, and Stafford counties, the City of Manassas Park, and the Town of Clifton. We understand that our customers, and Virginians across the Commonwealth, have a growing interest in protecting our environment through increased use of renewable energy. As a result, NOVEC is generating and purchasing more renewable energy than ever before.

Currently, NOVEC's biomass electric generating facility in Halifax County is our primary source of renewable energy. The 49.9 megawatt plant provides enough electricity to power the equivalent of 16,000 homes.

Electricity generated at the biomass plant is not the only renewable energy

NOVEC distributes. We also purchase 6.7 megawatts of renewable power produced at the Prince William County Landfill and 190 kilowatts of solar energy from the Fauquier County Livestock Exchange. More solar energy is coming. In 2019, NOVEC entered into an agreement with D.E. Shaw Renewable Investments to purchase 300 megawatts of solar energy from facilities that will be operating by 2023.

We also are proud that our biomass electric generating plant contributes to the economic development of Halifax County, the Town of South Boston and the surrounding areas. NOVEC's financial investment has resulted in job creation and a larger tax base. We are a community partner that contributes to and participates in civic and charitable events.

NOVEC is responsive to the growing interest in renewable energy. We will continue to seek out competitively priced renewable sources to meet our customers' growing electricity needs.



About the Facility

*Solar and wind are most often associated with renewable energy, but NOVEC makes use of another renewable resource. **Wood waste** is fuel for its Biomass Electric Generating Facility in Halifax County, Virginia.*

In the heart of Virginia's "Wood Basket"

NOVEC Energy Production, a NOVEC subsidiary, owns the biomass electric generating facility. Located on 104 acres in Halifax County, Virginia, near the Town of South Boston, the site was chosen because of the Southside region's abundant forests and sustainable wood supplies.

NOVEC does not buy tracts of timber or cut down trees to fuel its biomass facility. Instead, it relies on wood waste. When commercial logging and lumber operators harvest merchantable timber, they leave behind about one-third of each tree. NOVEC's biomass electric generating plant offers landowners an outlet for

the tree tops, limbs and undergrowth that are left behind. The need for open burning and landfill dumping is eliminated, as is methane that results from the natural decay of wood.

Wood waste from lumber milling also fuels the biomass plant. John Hopkins Jr., president of Hopkins Lumber, says his mill creates enough wood waste to fill more than 25 tractor-trailer loads every day. Hopkins claims the success of his company depends in large part on having a way to dispose of the mill's waste. The mill does not have adequate space to store the wood waste. Without an outlet such as NOVEC's biomass electric generating plant, Hopkins says he would have to close his company.

Trees and branches collected by area municipalities and converted to wood chips fuel NOVEC's facility, too. "We collect homeowners' tree limbs and brush, and take it to the biomass plant every day," says Danny McCormick, South Boston superintendent of public works and operations. "South Boston saves labor expense and it's much cleaner than open burning."

Enormous tractor-trailer trucks have delivered more than 2 million tons of wood chips to NOVEC's biomass electric generating facility since it began commercial operation in 2013.

Best forestry management practices

After one generation of trees has been harvested, the land must be cleared to plant the next generation. By providing a market for wood waste, NOVEC's biomass electric generating facility assists landowners in the reforestation of Virginia's vast timberland and the use of best forest management practices.

Virginia Cooperative Extension Forester Jason Fisher says good management nurtures and sustains the growth of both hardwood and softwood trees.

"This field would hardly grow beans or wheat. I added 4 tons of wood ash and cut 90 bushels of beans. You see the wheat looks better than it's looked in years."



JONATHAN HUDSON
Farmer of 1,600 Acres



“Using wood waste for biomass leaves the site better prepared to be replanted or reforested.”

JASON FISHER
Virginia Cooperative Extension Forester

The Virginia Department of Forestry reports that the number of trees in the Commonwealth has more than doubled in the past 70 years, because of implementation of best forestry management practices. By working with professional foresters, the Virginia Cooperative Extension believes tree farmers can have continuous income streams and pass along their farms to the next generation.

Environmentally friendly

NOVEC’s biomass electric generating plant operates entirely on wood waste. It uses a 100% biodiesel fuel

for start-up. It does not use any coal, natural gas, liquid petroleum, or other processed fossil fuel for electric generation.

The plant also is a good environmental steward of water. It does not deplete natural resources by drawing from area waterways or groundwater sources. Rather, it reclaims water from a neighboring wastewater treatment plant for cooling purposes.

A byproduct of biomass power generation is wood ash, also called fly ash. NOVEC makes its wood ash

available to area farmers for enriching the soil. Because the ash is an excellent fertilizer, many Halifax County farmers are using it.

Jonathan Hudson is one of these farmers. He uses NOVEC's wood ash in place of lime at his 1,600-acre farm. Hudson says it a better fertilizer and is more cost effective.

Renewable Energy You Can Count On

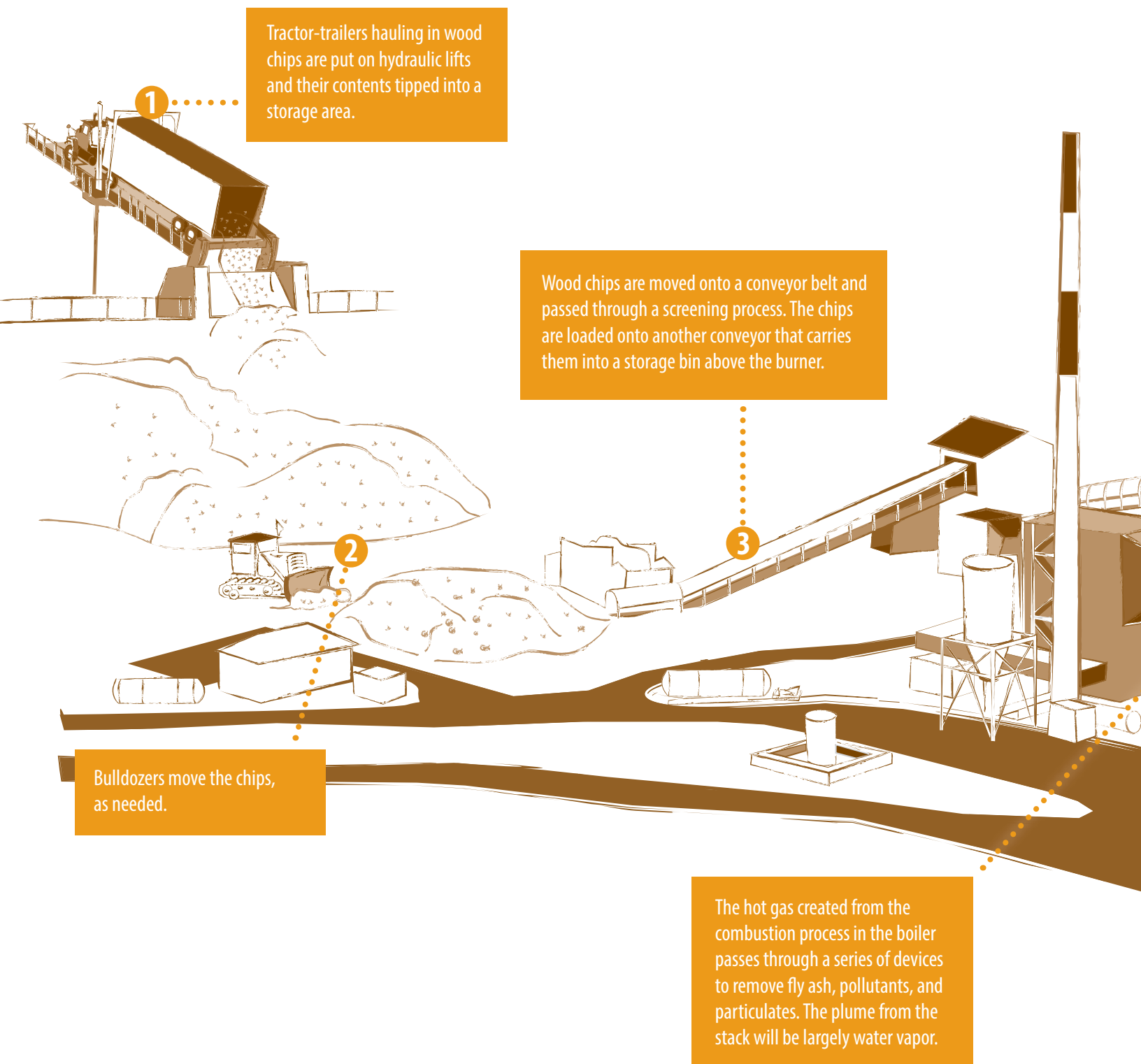
NOVEC's biomass electric generating facility produces renewable energy around the clock. It helps to protect the environment and preserve natural

resources by relying on wood waste as fuel and conserving water. The wood ash is an excellent agricultural fertilizer. It is creating jobs and enhancing the local economies. NOVEC's biomass electric generating facility can be counted on to provide renewable energy today and for years to come.

“The wood waste we generate fills 25 plus tractor-trailer loads a day. If we had to store it, we would have to shut down.”



JOHN HOPKINS, JR.
President, Hopkins Lumber



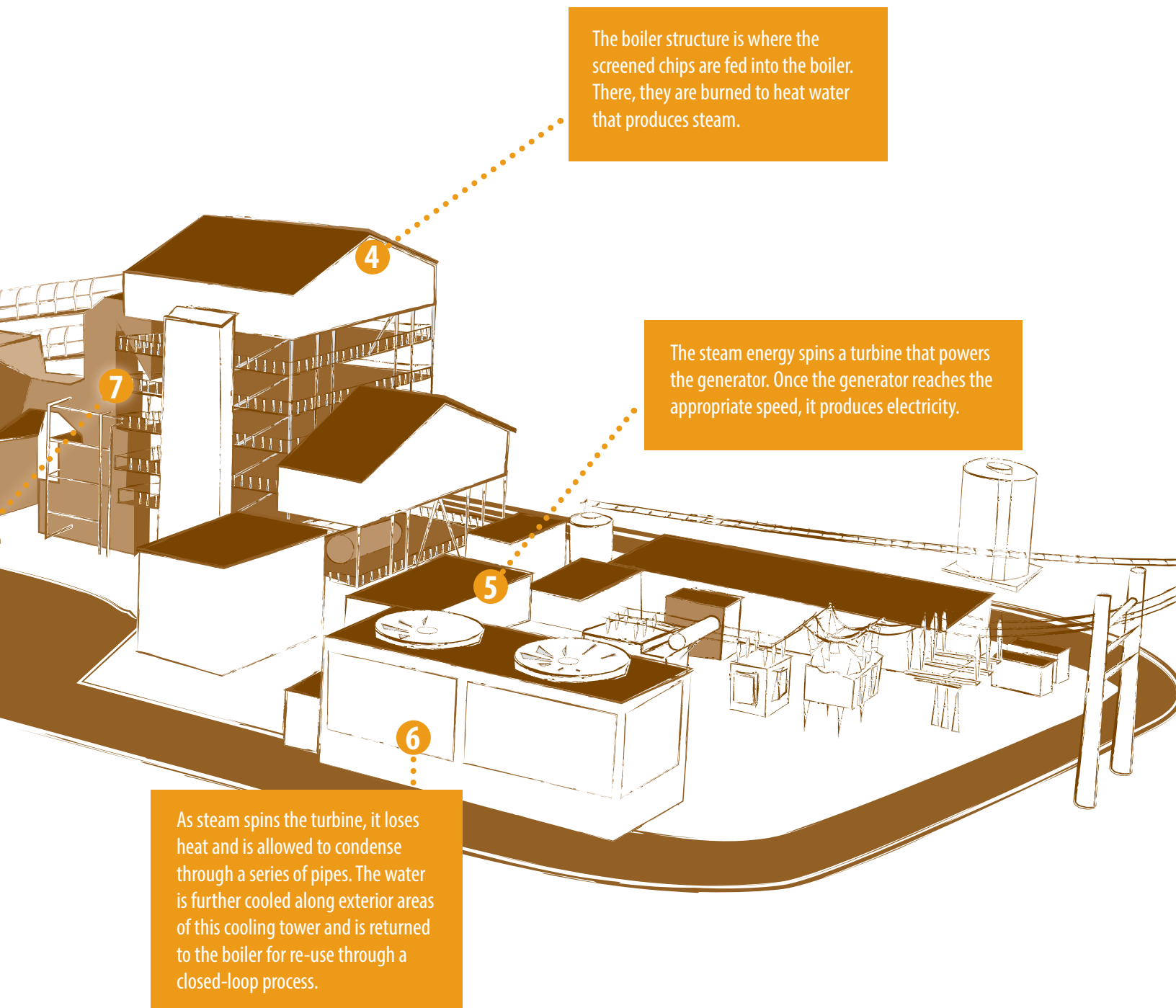
1 Tractor-trailers hauling in wood chips are put on hydraulic lifts and their contents tipped into a storage area.

2 Wood chips are moved onto a conveyor belt and passed through a screening process. The chips are loaded onto another conveyor that carries them into a storage bin above the burner.

3 Bulldozers move the chips, as needed.

The hot gas created from the combustion process in the boiler passes through a series of devices to remove fly ash, pollutants, and particulates. The plume from the stack will be largely water vapor.

Key Processes of the Biomass Facility





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