

Capturing the Heat with Biopower Systems

New Jersey's Clean Energy Program offers additional rebates for those biopower systems that also capture the waste heat for heating, cooling, or process applications.

Biomass fuels are used most efficiently and beneficially when generating both power and heat through the use of highly efficient combined heat and power (CHP) applications. CHP, also known as cogeneration, is the simultaneous production of electricity and heat from a single fuel source. CHP is not a single technology, but an integrated energy system.

Biopower Sources

Unlike solar and wind, biopower can come from a multitude of sources. The following are just a few examples of biopower projects that are supported by *New Jersey's Clean Energy Program*:

- Wastewater treatment facility capturing anaerobic digester gas
- Food manufacturers, supermarket or animal farms using aerobic digestion to gasify organic waste
- Lumberyard, forestry management unit, or municipality directly combusting or gasifying wood waste
- Commercial printers and publishers combusting or gasifying paper and cardboard waste into power
- Landfill converting methane gas to power
- Big box retailer combusting or gasifying paper and cardboard waste into power

If you think you have a potential biopower project, call 866-NJSMART today to get started.

Reduce your energy usage

Regardless of the biopower fuel source, an integrated energy system that combines both heat and power provides for the greatest efficiency at the lowest cost. Adoption of clean, renewable energy marks a big step toward climate change solutions. However, the cleanest kilowatt is the one not used.

New Jersey's Clean Energy Program offers energy efficiency programs, information, and resources to help residents, businesses, municipalities, and other organizations reduce their energy consumption. By implementing energy efficiency measures first, you not only reduce your overall energy use, but you may also reduce the amount of renewable energy capacity that you need, saving you money for years to come. Visit NJCleanEnergy.com to get started.

Learn about more renewable energy options

Additional renewable energy technologies, including solar and wind, can help us meet our energy goals and reduce our use of fossil fuels.

For more information and incentives for wind, biopower, and the Solar SREC Registration Program (SRP), call **866-NJSMART** or log on to NJCleanEnergy.com/reip.



Biopower— Turning Organics into a Renewable Energy Resource

Capitalize on sustainable resources.



It's a smart way for New Jersey municipalities, farms, and businesses to reduce their carbon footprint, stabilize electric costs, preserve natural resources, and support the economy.



New Jersey is capitalizing on sustainable, organic resources.

Municipal and industrial facilities, waste water treatment plants, and farms across New Jersey are already seeing the benefits of biopower.

- Turns waste into a resource
- Reduces pollution
- Lessens our dependence on fossil fuels
- Strengthens our commitment to our planet's future
- Supports local jobs and our State's economy

What is Sustainable Biopower?

Organic matter that is available on a sustainable basis, including energy crops, urban wood waste, food processing residue, grassy and woody plants, residues from agriculture or forestry, or the organic component of municipal and industrial waste is considered sustainable biomass or biomass feedstock.

Biomass can be converted to a synthetic gas, like landfill gas, methane gas, or energy through a conversion process of either gasification, direct combustion, pyrolysis, or anaerobic digestion, among others. The gas is then used to create electricity by technologies such as fuel cells, microturbines, and combustion turbines.

The New Jersey legislature has classified sustainable biomass as a Class I Renewable Resource. To be classified as such, project developers must receive a sustainability determination from the New Jersey Department of Environmental Protection (NJDEP).



Monmouth County's one megawatt sustainable biopower project produces enough energy to support their materials processing and recovering facility.

Getting Started

The New Jersey Board of Public Utilities and *New Jersey's Clean Energy Program™* make it easy to get started by offering financial and technical assistance. The first step is to submit an application package. Additional information and applications can be found at NJCleanEnergy.com/reipapps.

Financing Your System

Rebates – New Jersey's *Renewable Energy Incentive Program* (REIP) provides rebates that reduce the upfront cost of installing sustainable biopower projects. Biopower projects include technologies such as microturbines or fuel cells which produce electricity from sustainable biomass that has been converted to a biogas, such as landfill or methane. In addition to biopower system rebates, incentives are also available for biopower feasibility studies.

Grants for Grid Supply Merchant Projects – Grants are offered on a competitive basis for merchant power generators and solicitations.

Tax Incentives – Biopower projects may be eligible for a federal investment tax credit and/or a renewable energy production tax credit. An accelerated depreciation schedule may also be available for businesses. Visit irs.gov for more information about federal tax incentives or speak with a tax specialist.

Class I RECs – Eligible biopower project owners in New Jersey with electric distribution grid-connected systems are eligible to generate Class I Renewable Energy Certificates (RECs). RECs can be sold or traded separately from the power, providing system owners with a recurring source of revenue to help offset the cost of installation, operations, and maintenance.

Net Metering – This allows qualified customers to receive full retail credit for electricity generated on an annual basis. Each year, on the anniversary of the system's interconnection, the customer will be compensated at wholesale for any unused credit.