



NewEarth™ E-Coal

is Bio Char for Energy

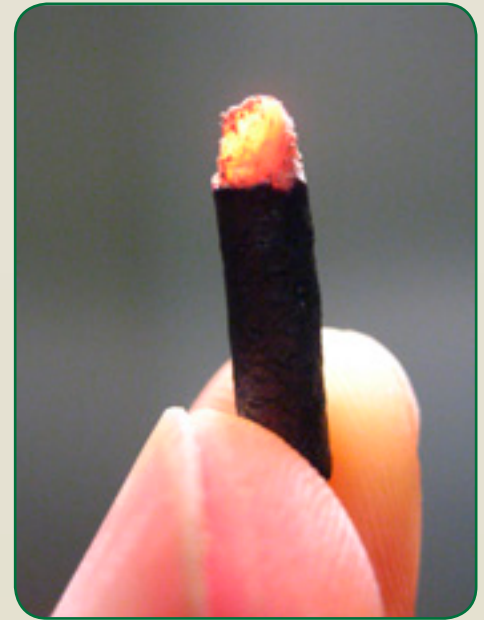


100% Biomass Flex Fuel Alternative to Coal

www.newearth1.net

NewEarth E-Coal is Biochar for Energy

NewEarth E-Coal is a high quality standardized biochar specifically designed as a clean renewable fuel alternative to fossil coal, for the electric power generation, heat, metal, and cement industries. E-Coal provides the existing fossil coal-burning infrastructure an immediate “drop in” substitute, which solves all of their environmental and clean energy needs for electric power generation and heat. Since fossil coal is the #1 cause of greenhouse gas emissions (GHG) that create Climate Change/Global Warming, and global environmental policies are demanding a reduction in all GHG emissions from the industries that use fossil coal, E-Coal provides the perfect solution for these industries. E-Coal is made from 100% cellulosic (NON-FOOD) biomass, which has been upgraded via NewEarth's advanced proprietary thermal process called ECO Pyro-Torrefaction (EPT). The EPT process transforms the molecular structure of the biomass into a more refined fuel, to create what is essentially the cleanest burning solid fuel in the world. After E-Coal has been processed the natural smoke-forming volatiles have been removed and the moisture and ash content is reduced to 3% or less. When E-Coal is burned it is smokeless and odorless. You can use E-Coal indoors or outdoors. There will be no smoke or odor, only heat.



E-Coal has the same or greater energy content/calorific value as fossil coal but without the pollution side effects. E-Coal is a pound for pound replacement for fossil coal. Depending on the feedstock used in making it, E-Coal has either a carbon negative or carbon neutral value. E-Coal can be used in exactly same way that fossil coal is used, and E-Coal is specifically designed for use in the existing fossil coal-burning infrastructure without retrofits. This means that any power plant, or factory that burns fossil coal can immediately meet their emissions level reductions without any retrofitting, loss of productivity, down time, or service to its customers. Any coal-fired electric power station can immediately reduce its CO₂ and other Greenhouse Gas (GHG) emissions by directly co-firing E-Coal with fossil coal in any ratio percentage, or a company can completely replace fossil coal with E-Coal and achieve a carbon negative or carbon neutral operation. E-Coal will lower any electric power generation station's total CO₂ and GHG emissions by the proportion or ratio in which it is used. NewEarth's E-Coal is the most sustainable and cost effective way to make a coal burning operation clean and green with or without capital expenditures, costly investments or retooling.

Also E-Coal is an improvement over all other forms of biomass fuel such as regular wood, wood pellets, and simple torrefied biomass. While other biomass fuels offer limited co-firing opportunities, E-Coal offers the maximum potential for co-firing biomass and coal together.

NewEarth creates E-Coal from its proprietary award winning ECO Pyro-Torrefaction technology process. EPT is a commercial scale continuous flow process. This is not a small batch process. Created from over 20 years of research and development, NewEarth's EPT technology is the largest and best-proven way of making bio char and high quality clean bio crude oils on an industrial scale. E-Coal can be compressed into any shape and form for more efficient transportation. E-Coal is hydrophobic, and offers the best of both worlds. The higher heating values, handling and storage ease of fossil fuels but with the environmental friendly benefits of renewable fuels.

The Top Ten Most Asked Questions About E-Coal:

1. Is there any fossil coal or fossil fuel material in E-Coal?

NO. NewEarth E-Coal is made of 100% biomass material. Currently NewEarth focuses on sustainably grown energy crops like SRC wood, bamboo, and Nile Reed to produce E-Coal. E-Coal can also be made from: seaweed, algae, agricultural waste, animal waste, urban and rural organic waste material, coconut hulls, switch grass and more.

2. What is the cost of E-Coal per ton?

E-Coal is cost competitive with fossil coal. However if one were to take a closer look, the total cost of E-Coal is cheaper than the total cost of fossil coal on an energy (mm/btu or mj/kg) basis. For more information please contact a NewEarth representative.

3. In relationship to Global Warming, is E-Coal really a solution for coal-burning power plants?

Yes, this is a total environmental solution and it is the most cost-effective solution for any coal-burning power plant because immediate reductions in all CO₂/GHG emissions can be achieved today without any retrofitting, down time, loss of productivity or company profits. E-Coal is the best commercially SAFE and most cost effective way to reduce or eliminate CO₂ emissions at any coal powered operation.

4. What is the BTU content of E-Coal? Is the energy content less than regular coal?

The BTU/ mega joules content per kilogram are the same as fossil coal. E-Coal is designed to be a pound for pound renewable energy flex fuel alternative for coal. NewEarth created E-Coal to meet the specific needs of any coal power generation station worldwide. NewEarth offers E-Coal in the 4 BTU classes of coal: 1) lignite 2) sub bituminous 3) bituminous 4) anthracite.

5. What kind of boilers do E-Coal work in?

E-Coal is the ideal fuel for use in any type of fossil coal and biomass boiler because of its unique structure and characteristics. Through our proprietary ECO Pyro-Torrefaction process, the biomass has been carbonized and the organic smoke-forming volatiles have been removed so only the pure organic carbon element remains.

Fuel Characteristics	Percentages*
PROXIMATE ANALYSIS	at 500°C
% Total Moisture	<2%
% Ash	<3%
% Volatile Matter	32%
% Fixed Carbon	60% - 70%
% Sulfur	<0.1%
BTU/lb Heat value	12,500 - 13,500
LBS SO2/MBTU	0.00
lb Ash/MBTU	1%
% Chlorine	<0.01%
ULTIMATE ANALYSIS (dry)	
% Carbon	82% - 89%
% Hydrogen	5% - 3%
% Nitrogen	1%
% Oxygen	7%
% Sulfur	<0.01%

6. Is there any pollution from E-Coal?

E-Coal produces virtually no SO2 pollution, and absolutely no mercury pollution. E-Coal produces extremely low levels of NOx because the smoke-forming volatiles are removed from the biomass via NewEarth's EPT technology. This makes E-Coal smokeless and Odorless. E-Coal is either carbon negative or carbon neutral based on the feedstock we use. For example when sustainably grown woody biomass is used as a feedstock E-Coal has a carbon neutral value. When sustainable grown energy crops (E-Crop) like non-invasive Arundo Donax are used as a feedstock, E-Coal has a carbon negative value because the plant's rhizomes and root systems are large carbon sinks. Our E-Crop Arundo Donax sequesters carbon 15x faster and greater than trees, and is a perennial crop producing annual yields of 40-50 tons per acre for over 60 years. NewEarth only uses sustainably grown biomass for making its advanced renewable fuels. Also NewEarth's E-Crops are only grown on degraded land, uses non-drinking water, and do not compete with any food crops for land or water resources. For more information please visit the NewEarth website at www.newearth1.net and look for "Carbon Life Cycles of NewEarth Projects". E-Coal produces virtually no land, water, air or toxic fly ash pollution.



7. Is E-Coal Sustainable?

Yes. E-Coal is made from 100% sustainably grown and certified biomass (woody biomass or energy crops) cultivated specifically for sustainable use. Also E-Coal can be made from various forms of organic waste material at the customer's request. Unlike the regular torrefaction and pyrolysis processes that uses fossil fuels and other non-sustainable elements to produce renewable fuels like torrefied wood, NewEarth has created its own 100% sustainable technology. The EPT process does not use fossil fuels or other non-sustainable elements to make its renewable fuel products. Sustainability is NewEarth's #1 ethos.

8. Any Storage and handling issues?

No. E-Coal can be mixed, stored, and processed directly with fossil coal to minimize all cost. E-Coal can be stored in the open unlike regular biomass that needs expensive special storage conditions. E-Coal is hydrophobic and will not absorb moisture.

9. How many carbon credits does one ton of E-Coal create?

Three (3) carbon credits are created for every ton of fossil coal that E-Coal replaces.

10. Besides fossil coal-burning power plants what other uses are there for E-Coal? E-Coal can be used for home and business heating and is superior to regular wood pellets because of its higher heating value, easy storage ability, its smokeless and odorless nature, and its less

than <3% ash and moisture content. E-Coal can be use at metal factories and as a flex fuel alternative to anthracite coal /coke. E-Coal can also be gasified and used as a flex fuel alternative to expensive natural gas.

Special NewEarth Offer: 1000 Ton E-Coal Test

NewEarth is currently working with coal-burning power plants worldwide to help these companies meet their emissions level reduction requirements set by their respective governments. To help all coal-fired electric power generation stations become more familiar with the full potential and maximum benefits of E-Coal, NewEarth is offering 1000 tons of E-Coal at the 1 time spot price for all to test. This is a wonderful opportunity for your company to experience first hand the remarkable value E-Coal has to offer in immediately reducing all GHG emissions. We are sure you will agree that E-Coal is the best and most cost effective solution to all the environmental and clean energy challenges for any coal-burning power operation.

How NewEarth Guarantees Long-term E-Coal Supplies for its Customers

NewEarth can produce and supply any annual amount of E-Coal to its customers, with the proper amount of lead-time. Once your company has tested E-Coal and is completely satisfied with the test results, your company will need a reliable long-term supply of E-Coal to help reduced and or eliminate its GHG emissions. Because NewEarth grows its own sustainable supply of feedstocks and produces its renewable fuels, NewEarth can create dedicated E-Coal fuel supplies specifically designed for your company's needs, matching the exact BTU levels and specifications for each of your company's coal-fired power facilities.

Also, when E-Coal is used at 100% there will be no need for expensive pollution control equipment. E-Coal is the most cost effective way to achieve emissions level reductions immediately. In a "carbon constrained" world, no company is profitable until they are financially, socially and environmentally successful. Let NewEarth help your company achieve successful sustainability by reducing your carbon footprint and GHG emissions levels today with E-Coal. Remember E-Coal is a total solution for the environmental and clean energy challenges for any coal-burning operation worldwide.

