



BELTER TECH

Sustainable Building Solutions

CREATING A SUSTAINABLE FUTURE



Who We Are

In an increasingly urbanized world, Belter Tech was created to provide solutions to the problem that 13% of global greenhouse gas emissions and 30% of landfill waste comes from commercial and residential construction.

With a slogan of “Innovation, Stewardship, Sustainability,” Belter Tech is at the forefront of the sustainable concrete industry, **boasting the world’s lightest and greenest concrete while simultaneously improving and innovating the entire concrete industry.**

Belter Tech is a proud member of the US Building Green Council, the Georgia Coalition of Recycling, and the Internation Living Future Institute, and continuously works to create and improve methods of producing highly effective and efficient construction materials using common landfill waste such as glass, tires, and plastics.

Currently, over 4% (12,250,000 tons) of global waste is generated from glass products, over 12% (35,680,000 tons) from plastics, and 3% (9,160,000 tons) from rubber (including tires) and leather.

90% of the time spent manufacturing sustainable construction products is not environmentally friendly, but our team of engineers has ensured that our manufacturing process does not require the use of any harmful chemicals or additives, or machines that will disrupt the environmental balance. Belter Tech is proud to share with you that they have pledged to be a net-zero carbon-neutral manufacturer by 2025.

Belter Tech is currently producing new-age sustainable construction products from two(2) manufacturing plants based in the USA. One in Atlanta, GA, and the other in the New York Tri-state area.

Diverted Waste

Belter Tech currently keeps 304,207 lbs of waste out of landfills via the construction of 21 different products, and works to divert even more. Three of the major waste materials we work with are glass, plastics, and rubber from tires. Each of these products not only take up a large percentage of space in landfills, but also take extended periods of time to break down, meaning they are a long-term problem.



Harmful to humans and wildlife when disposed of improperly. Takes up to **4000 years** break down.



How Belter Tech utilizes it: Creates concrete aggregate



Can contain harmful chemicals and toxins; hazardous to wildlife (particularly marine life). Takes up to **500 years** to break down



How Belter Tech utilizes it: Recycles polyisocyanurate (PIR) foam into a variety of products including cement fill



Acts as a fire hazard in landfills; serve as a breeding ground for mosquitos and other disease-carrying organisms Takes up to **80 years** to break down



How Belter Tech utilizes it: Creates textile fabrics and utilizes fibers in cementitious mixes.

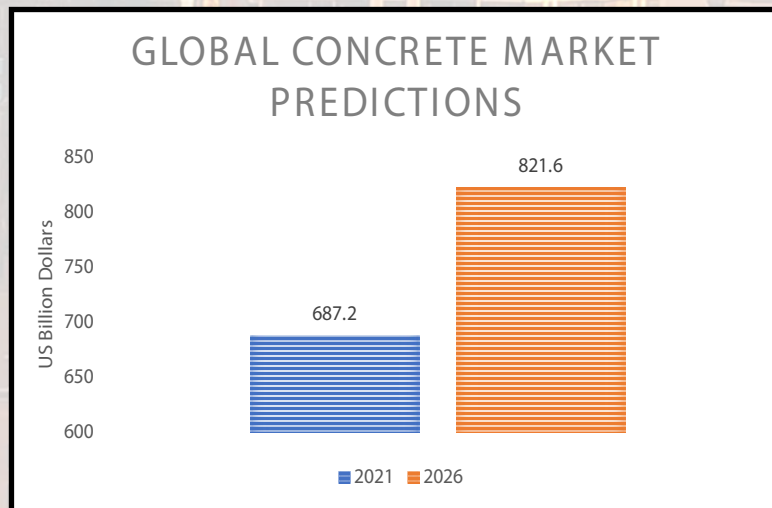
The Rise of Urbanization

As an increasing number of people around the world migrate to cities for better opportunities and easier access to resources, the demand for concrete and other construction materials increases as well. Concrete is already heavily embedded in our infrastructure due to its properties, and is **the 2nd most utilized product in the world after water**. Currently, concrete is a multi billion-dollar industry, with millions of metric tons of products consumed annually.



Unfortunately, despite its importance, the concrete industry is one of the world's largest emitters of CO₂. Because of this, it is increasingly necessary to improve its carbon footprint and offset its negative impacts on the globe.

One proven way this can be done by replacing a portion of typical concrete ingredients (fly ash, slag, etc) known as “clinker,” with a blend of supplementary cementitious materials (SCMs). These SCMs can include waste products such as glass.



Greener Construction

In addition to innovating concrete, Belter Tech works to find sustainable replacements for other common construction materials as well. For example, magnesium oxide boards can replace plywood, OSB, and gypsum panels as floor, wall, and ceiling boards.

Magnesium oxide is one of the most abundant elements on earth, so finding efficient ways to utilize it over more limited resources is increasingly important. Magnesium oxide board is very sustainable and environmentally-friendly, as it contains no harmful chemicals or toxins. Additionally, it is considered “nutritional waste,” meaning that it does not contribute to landfill waste, as it can be broken down to increase soil health.

In addition to its environmental benefits, magnesium oxide board competes with and outperforms traditional building materials in many areas.

Belter Tech has partnered with CEM-ROCK® to utilize their Magnesium oxide board in various projects, including the upcoming Tiny Home Project



BENEFITS	Belter Cem-Rock	EXTERIOR GYPSUM SHEATHING	DRY WALL	ORIENTED STRAND BOARD (OSB)	CEMENT SIDING
Low Energy Manufacturing Process	✓	✗	✗	✗	✗
Absorbs CO2	✓	✗	✗	✗	✗
Structural Sheating	✓	✗	✗	✓	✗
Rot Resistent	✓	✗	✗	✗	✓
No Carbon Footprint	✓	✗	✗	✗	✗

Sustainable Construction: Cork

As aforementioned, Belter Tech is constantly researching new ways sustainable resources can be utilized to improve the construction industry. Two more interesting materials Belter Tech has been working towards implementing into our systems are cork and biochar

CORK

What is it/where does it come from?

The phellem layer of a cork oak's bark tissue. It is an impermeable, buoyant material that can be harvested for commercial use. Cork oak trees are primarily grown in southwest Europe and Northwest Africa.

Sustainability

- Cork is 100% renewable
- Cork trees can regenerate themselves after each harvest
- Cork trees are not harmed during harvest process

Utilization in construction

Cork granules can be used as paint/coating additives after they are processed. Cork can also be used in flooring systems, including the top layer, inlay, core layer and pre-attached underlayment.

Properties in Construction Materials

- Thermal insulation
- Acoustic insulation
- Elasticity
- Impact absorption
- Mold and mildew inhibition



Sustainable Construction: Biochar

BIOCHAR

What is it?

Biochar is a type of charcoal created when organic materials are burned in the absence of oxygen.

Sustainability

- The organic materials (biomass) used in biochar capture CO₂
- Carbon stays in the biochar and out of the atmosphere
- Biochar can lead to improved soil quality
- Biochar can be utilized for clean energy production

Utilization in construction

Biochar can be utilized as cement and/or additive substitution in concrete.

Properties in concrete

There are many different types of biochar depending on the organic material that undergoes pyrolysis (burning in absence of oxygen), all with various properties. Different types of material that have been utilized include algae, waste wood/saw dust, rice husk, hazelnut shells, and sewage sludge.

Potential benefits include:

- Compression strength
- Flexural strength (MOR)
- Curing time
- Electromagnetic Shielding
- Fire resistance
- Improved insulation
- Humidity Control



The Importance of “Reduce, Reuse, Recycle”

Due to the size of the construction industry, over 30% of landfill waste is attributed to construction related materials. Landfills are highly problematic due to the loss of important limited resources and their impact on the environment. Landfill waste leads to a multitude of issues including environmental degradation, soil and water contamination, and habitat loss. Additionally, excess waste can impact human health, and it is estimated that the average person swallows up to a credit card's worth of plastic every week via breathing in the air and drinking.

In order to reduce the impacts of landfills, it is important to increase the life cycle of products via reducing, reusing, and recycling. Currently, buildings are responsible for over 50% of global material use. Belter Tech works to keep these materials out of landfills by utilizing up to 100% post-consumer waste. For example, Belter Tech works with companies to divert their waste from landfills so that it can be recycled and continue to be utilized as products in the global market.



THE CIRCULAR ECONOMY CONCEPT

The idea of keeping products in use rather than in a landfill is an aspect of the Circular Economy concept, which is an economy designed to be sustainable through the elimination/minimization of waste and the need for new, raw materials. In other words, rather than having to keep mining for resources, materials that have already been sourced can simply be refurbished and utilized again. The idea is to increase the life cycle of products, limiting waste while still solving current and future needs. In creating products out of “waste,” Belter Tech is significantly improving the life cycle assessments (LCAs) of these materials, meaning they have less of an overall environmental impact.



Life Cycle Assessment

What are they?

Life Cycle Assessments (LCAs) are methods of measuring a product's environmental impact throughout the stages of its life. In other words, LCAs can help determine a product's sustainability by quantifying the history of emissions of its various materials. If certain materials in a product are not sustainable, they could be replaced by others. Additionally, if a product makes a certain material more sustainable by keeping it out of a landfill (like what we do at Belter Tech, for example), that would be considered in the assessment as well.

Why they matter?

LCAs are important because they breakdown a product's impact so that it can be clearly understood based on numerous data points. This reduces the ability of companies or other entities to "greenwash" (present something as more environmentally friendly than it actually is for the sake of seeming eco-conscious while in reality doing little to increase one's sustainability practices) their goods, as LCAs are very comprehensive.

Belter Tech and LCAS

Belter Tech is on a mission to improve the LCAs for materials that typically end up as landfill waste (glass, plastic, etc.). We know steps we are taking such as recycling and reducing the need for extensive transportation due to product mass are beneficial, but we are continuing to evaluate our own overall environmental impact, and how our processes alter the trajectory of waste products for the better.

We are plan  for the planet

Environmental Product Declarations

What are they?

Environmental Product Declarations, or EPDs, are disclosures of a product's full environmental impact based on an LCA.

Why they matter?

Though they are currently voluntary, EPDs are increasingly important as sustainability becomes a primary focus of many industries. EPDs act as comprehensive presentations of a product's materials, and how they interact with the environment. With this in mind, consumers can be more mindful and informed about the products they choose to utilize and fund.

Environmental impact measures

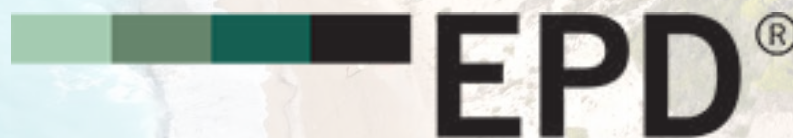
The EPD quantifies environmental impacts as the following:

- Greenhouse gases
- Ozone depletion
- Acidification of land and water resources
- Eutrophication
- Formation of smog

EPDs include other relevant information such as whether the waste of the product is considered a hazardous material

Belter Tech and EPDS

Belter Tech is currently in the process of acquiring EPDs for all of our products. We know our products divert waste from landfills, and we know they require less energy to be transported, but in order to best improve them and contribute to the most sustainable world possible, we want to obtain a more comprehensive understanding them via LCAs, and ultimately acquire EPDs.



THE INTERNATIONAL EPD® SYSTEM

Belter Tech and A More Sustainable World

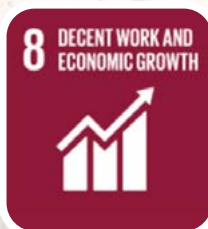
Due to the current and impending implications of climate change and increasing global CO2 emissions, in 2015 the United Nations developed a plan to drastically improve the world's sustainable development by 2030. Included in these plans are 17 individual sustainable development goals (SDGs) focused on different areas to be improved. Belter Tech's mission and product development can be directly connected to 3 of these goals: (8) Decent Work and Economic Growth, (9) Industry, Innovation, and Infrastructure, and (11) Sustainable Cities and Communities.

Belter Tech contributes to improved working conditions and economic growth due to the characteristics of its products. Since Belter Tech concrete is up to 1/3 the weight of traditional concrete, it significantly increases the rate of labor, as well as transportation efficiency.



Belter Tech works to improve industry and infrastructure and create more sustainable communities by creating high quality products that are also more environmentally friendly than alternatives. Belter Tech also works with other companies to help them achieve their sustainability goals and initiatives, including playing a role in a project called planet passion, which strives towards net-zero emissions.

Belter Tech acts as an innovator in the construction industry by working to create products to meet multiple needs. For example, Belter Tech designs floor, wall, and ceiling systems, as well as products for fire suppression, insulation, and grout and mortar needs. Belter Tech engineers are also constantly researching and developing new ways to make these products even more sustainable and efficient.



Why Belter Tech? Look at the Numbers!

HIGHLY EFFICIENT PRODUCTS

- **Insulation Values:** Up to 10 times more efficient at insulating than traditional concrete
- **Labor:** 1/3 the weight of traditional concrete – easier to handle and transport
- **Fire Rating:** Receives the same two-hour fire rating as traditional concrete with half as much product
- **Coverage:** Twice as much coverage per bag of Belter compared to traditional concrete
- **Acoustical Cost:** Reduces decibel levels up to twice as much as traditional concrete

SUSTAINABILITY-FOCUSED PRACTICES

- **Recycled Content:** Utilizes up to 100% post-consumer waste. Contributes to LEED points and offers tax breaks and insurance deductions
- **Reduced Transportation:** Can fit more bags per truck load – 880 bags of Belter vs. 562 bags of traditional concrete
- **Sustainability Projects - Tiny Home Project** (https://beltertech.com/wp-content/uploads/2022/08/Atlantas-Greenest-Tiny-City-Home_Updated.pdf)



**Georgia
Recycling
Coalition**
INC.



**LIVING
BUILDING
CHALLENGE**

Product Comparison Examples

Belter LITE®

Traditional Concrete

36 Pound Bag

80 Pound Bag

44% Recycled Content
(Contributes to LEED Certification)

Doesn't Contribute to LEED Certification

Up to 3X better fire conductivity

Standard fire conductivity

Tested and recommended by the Institute of Building Biology + Sustainability

Not a recommended option for sustainability



Belter THERM®

Traditional Concrete

36 Pound Bag

80 Pound Bag

55% Recycled Content
(Contributes to LEED Certification)

Doesn't Contribute to LEED Certification

R-Value per inch 1.8

R-Value per inch 0.5

Tested and recommended by the Institute of Building Biology + Sustainability

Not a recommended option for sustainability



Belter Aggregate®

Traditional Aggregate

85% lighter than traditional aggregate

Traditional weight

100% post-consumer recycled waste

No recycled content

R-Value per inch 1.8

R-Value per inch 0.1

Tested and recommended by the Institute of Building Biology + Sustainability

Not a recommended option for sustainability





LIVING BUILDING CHALLENGE



Georgia Recycling Coalition^{INC.}



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