



# Epiphany Craft Malt

## Three-Year Climate Resilience Plan



# About Epiphany Craft Malt

In a very simple way, malt is the soul of beer. Epiphany Craft Malt transforms raw barley into quality malt, the primary ingredient in beer, foremost to supply North Carolina craft brewers and distillers. At present, many local breweries purchase malt from large, often globally operating malting companies, as virtually no locally-made malt is available east of the Mississippi. As trained agronomists and malster-brewers, Epiphany's small and savvy team partners with farmers, researchers, seed growers, distillers and breweries to collaborate on producing base and specialty malts via a scientific approach. In doing so, Epiphany fills the brewer's need for transparent local production by enabling the connection between farmer, maltster and brewer. In the process, we support local agriculture, lower the impact on the planet and keep jobs and money in the region. We are committed to establishing a resilient, sustainable and quality supply of domestically grown malt that is farmed, malted and brewed for exceptional flavor and character.

## *Key statistics about Epiphany*

- Keeps approx. \$700,000 in the regional economy
- Utilizes 600 acres of farmland for malting-quality grain
- Annually supports \$214,000 of added revenue to local farmers and communities

## Our Story

Epiphany Craft Malt was established in 2015 as one of four craft malthouses in the Southeast. Our founders, Sebastian and Leila Wolfrum, had the "epiphany" of opening a malthouse after attending a meeting in 2012 on how local farmers could get involved with the region's craft brewing industry. Barley had potential in the region, but there was one problem — nobody in North Carolina could take the farmers' crops and transform them into a functional malt product for the 130-plus breweries in the state. Capitalizing off of Sebastian's expertise in brewing and malting with Natty Greene's Brewing Company and Ayinger Brewing near his home in Munich, Germany, the pair decided to open Epiphany. Now, the malthouse serves breweries, distilleries, and farmers across North Carolina and the region beyond.

# Our Position on Resilience

As a malting operation and small business, we have a growing concern for the brewing industry's impact on the climate. But at the same time, we feel very limited in our ability to quickly lower our carbon footprint while maintaining our product's quality. While large-scale operations like Sierra Nevada and Rahr Malting have the time, financial benefits, resources and opportunity to move their businesses towards a zero-impact operation, that same level of commitment is not achievable for our small business with only three full-time employees. This is the same challenge for most of our customers and peers. But we've found another solution — regional farming connected carbon credits<sup>1</sup>, which have made Epiphany carbon neutral in 2020.

Aside from this major achievement, we are also tracking our water, energy use, waste and carbon emissions, as well as assessing ways that we can further reduce these metrics (which are already below industry averages). We're setting realistic goals for a business of our size, and we are seeking advice from others who may be able to help us meet our goals.



Because we need to balance business operations with a commitment to sustainability, we are also turning towards climate advocacy efforts. However, this means that Epiphany is getting wrapped up in a very personal and political conversation. This may well turn uncomfortable at times as it is not always about a tangible solution like solar panels but one of collective action. Part of our mission is to get breweries on board and join us in advocating for carbon neutrality. By opening up the conversation for our own business, we hope that we can help others do the same.

As people who love beer and are involved in its creation, we need to think about our behavior on a global perspective. As we have the money and resources to enjoy craft beer, we are benefiting from our shared global ecological destruction and the economic exploitation of many members of our society. This inherently means that our actions come at the expense of future generations. It's time that we change that.

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<sup>1</sup> A "carbon credit" is a verified, tradable proxy for one metric ton of carbon dioxide-equivalent. Carbon credits ideally cost the same as the "social cost of carbon," and organized companies use the money exchanged for credits to offset a business's emissions through carbon-reducing projects.

# Epiphany's 2020 Quantitative Effect on the Climate

## Carbon Dioxide (CO<sub>2</sub>)

Generally, there are two types of greenhouse gas emissions: direct and indirect. Direct emissions are the result of our immediate malting process, such as the energy that it takes to heat water or keep the lights on. Indirect emissions are exactly that — they take into account emissions such as the CO<sub>2</sub> produced in growing the grain and transporting it to Durham, as well as the travel of people who come to visit us.

The slowdown in sales from the COVID-19 pandemic, combined with better malthouse-wide efforts to track emissions, likely contributed to the slight increase in CO<sub>2</sub>/pound of finished malt that we recorded. (We have to keep the electricity on despite how much malt we produce, for example, so emissions per pound is higher.) In the future, we hope to rise to the challenge and reduce our emissions from here.

However, there is good news—through our carbon credit investments, we mitigated 105% of our carbon footprint and pulled 421 metric tons of CO<sub>2</sub> out of the atmosphere for our operating year 2020 — roughly one lb of CO<sub>2</sub> per lb of finished malt.

Where does most of our carbon footprint come from?

The process of growing malting barley accounts for more than 70% of the carbon footprint for finished malt. Electricity and fuel consumed during malting account for another 22%. Since the malting process has become more efficient over the past few decades with better technology, any further advances we make will be piecemeal.



# Epiphany's Key Environmental Statistics

After tracking our impact across 2020, here's how we did compared to 2019:

<i>Resources Consumed per MT of malt produced</i>					
		2019		2020	
Water	m3/mt	2.7		2.2	
Electricity	kWh/mt	360.6		281.2	
Natural Gas	kWh/mt	154.9		120.1	

<i>CO2 generated</i>		2019		2020	
Malting					
Electricity	mt	80.57	18.09%	66.44	17.19%
Natural Gas	mt	17.72	4.02%	14.53	3.76%
			<u>22.3%</u>		<u>20.9%</u>
Operations					
Auto	mt	19.07	4.33%	18.63	4.82%
Air Travel	mt	5.20	1.18%	1.77	0.46%
Trash	mt	4.21	0.95%	2	0.52%
Events	mt	1.44	0.33%		0.00%
ECM activities			<u>6.8%</u>		<u>5.8%</u>
Farming					
	mt	313.50	<u>71.0%</u>	283.23	<u>73.3%</u>
			At 105%		At 105%
total	mt	<u>441.72</u>	463	<u>386.60</u>	406
CO2 per mt Malt	mt	<u>0.85</u>	0.89	<u>0.93</u>	0.98
	direct	97.49012	22.1%	80.97	20.9%
	indirect	343.42	77.9%	305.63	79.1%
		440.913798	100%	386.60	100%

In 2020, each pound of malt produced by Epiphany produced 0.93 lbs of CO2. If you would like more information about how we calculated these values, please contact Sebastian Wolfrum at [snw@epiphanymalt.com](mailto:snw@epiphanymalt.com).

# Achieving Carbon Neutrality with Indigo Carbon

The core to our resilience plan is to mitigate all carbon dioxide produced as a result of our malting operation. As maltsters we are directly tied to our farmers, so our search for a carbon neutrality partner led us to Indigo Ag. Indigo with their carbon division seeks to promote the sequestration of one trillion metric tons or more of atmospheric greenhouse gases through investments in the agricultural industry. Many of their projects involve improving and enriching soil around the world; researching and developing new tools for better soil management, fertilization, and microbial applications; and supporting farmer yields in fundamentally new ways to lower emissions.

We are and will continue to purchase carbon offsets through Indigo. We have already secured enough carbon credits to ensure that all of the CO<sub>2</sub> produced by Epiphany is accounted for. For the coming year, as we refine our benchmark tracking, we plan to consistently offset enough to account for 105% of our carbon footprint.

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## Other Resource Goals

### Electricity

Our in-house baseline electricity benchmark from 2019 is 360.6 kWh/mt. Besides auditing our month-to-month use more closely, we set forward a few action items to directly impact our climate-focused energy sourcing. To further improve, we plan to:

- Look into taking part in [Duke Energy's Shared Solar program](#), an initiative in which a group of individuals and businesses financially support a solar farm and receive the credits from the energy it generates.
- Maintain our current electricity use, while taking a closer look at potential inefficiencies and areas for improvement with the help of community partners.

## Natural Gas

The malting process takes a lot of heat and, therefore, natural gas. The established baseline rate for 2019 was 154.9 kWh/mt. In 2020, we decreased our natural gas usage by 18%. In the next year, we plan to continue working to monitor our natural gas usage and look for inefficiencies in our malting process.

## Water Use

In 2020, our water use decreased from our baseline of 2.7 m<sup>3</sup> water/mt malt produced to 2.2 m<sup>3</sup> water/mt malt produced. Over the next three years, we plan to maintain our current levels and look for water-based inefficiencies in our malting process. We also plan to seek advice from our partners from the Master Brewers Association and Craft Maltsters Guild on ways that we can further streamline our water use.

## Waste

This year we revamped our malt bags, which are now made of a recyclable #5 plastic called Polypropylene, which is the sort used in yogurt and cottage cheese containers. Unfortunately, many curbside services don't accept #5 plastics, but other services do. To successfully reduce waste with these bags, we will have to educate our customers about how to best dispose of them.

Aside from this initiative, we will stay honest with ourselves and look to areas where we may reduce plastic or grain waste.





# Epiphany's Advocacy Efforts

The mission behind our advocacy efforts is to get the public and breweries to join the fight towards climate resilience. Epiphany is all about collaboration, and we want to expand that mentality to the way that we address climate action. We can't do this alone. If you have any interest in setting up an event or working towards climate neutrality or other climate-associated projects with us, please reach out. We would love to work together!

Over the next three years, we plan to:

- Host events with our brewing partners to promote environmental stewardship
- Become active in state and/or federal political lobbying efforts
- Collaborate with our customers on establishing strategies from grass to glass, and encourage others to become more active in advocating for climate resilience
- Connect with state universities and other stakeholders to work with their experts to find local solutions

We have also signed the Business Climate Leaders' [Brewers' Climate & Carbon Pricing Declaration](#). The declaration, which endorses a Congressional act that supports carbon pricing policies in the brewing industry, was presented to U.S. legislators twice in 2020.

## How can the brewing industry be a catalyst for change?

Can you imagine a world without beer? We could not. Check out this infosheet [for a snapshot look at how climate affects the beer industry and vice versa](#).

- Beer makes up nearly 1.9% of US GDP, and over 7,000 small breweries across the nation play a large part in supporting their communities. Take control of our destiny by actively curbing your impact and becoming a role model in your community. This can show other businesses that it is more a decision than a mysterious obstacle to have an impact within a year or two.



- We have a voice in Congress. The House Small Brewers Caucus was formed in 2007 to provide a forum for brewing issues — there are 225 elected officials who are part of the caucus. Breweries are an effective special interest group as we all know.
- Beer is one of the most popular beverages in the world. In America particularly, it could be used as a way to unite people of all ideologies and backgrounds to take on climate change through a common interest. To maintain our way of life to a good degree, we must take on responsibility for each other to keep our personal interests possible.

### What can people in the industry do?

- Work with farmers and maltsters who are invested in resilient and regenerative practices.
- Look into purchasing carbon offset credits.
- Takes steps to invest in clean energy, whether in-house or through utility purchases.
- Raise awareness about climate to your suppliers, customers and the public. This can be done through special releases and events.
- Most importantly - Endorse a federal climate solution, such as signing the [Brewers' Climate & Carbon Pricing Declaration](#) and talking about the benefits to other brewers.
- Use this [carbon calculator](#) to determine how much carbon pricing will cost your business and customers (in short: not much.) Meet with your legislators. As community-oriented business owners in a growing industry, we have more power than we might think.

Realize your epiphany: Make a  
difference together.

*Your Epiphany Malt Team*

## Other Resources

*Carbon Pricing Calculator for Breweries:*

<https://www.cutmycarbon.org/carbon-calculator-for-breweries/>

*Fighting Climate Change:*

<https://www.indigoag.com/for-supporters/carbon>

*Malting and Farming / Carbon Footprint:*

<https://sciencebasedtargets.org/>

<https://www.fwi.co.uk/know-how>

<http://www.ukmalt.com/carbon-footprint>

<https://saipatform.org>

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Have questions? Feel free to reach out!

