# Beer industry faces rising risks as climate change threatens barley and hops supply



The brewing industry stands at a precarious juncture as climate change casts an ever-lengthening shadow over one of humanity's oldest and most celebrated beverages. With rising temperatures and increasingly erratic weather patterns causing substantial disruptions, experts warn that the future of beer, much like the projected climate scenarios, may not be as frothy as once presumed.

Atsushi Katsuki, CEO of Asahi Group Holdings—home to renowned brands such as Asahi Super Dry and Grolsch—cautioned in a recent interview that while warmer weather could initially boost beer consumption, the long-term implications are dire. “There is a risk that we may not be able to produce enough beer,” he remarked, underscoring the vulnerability of essential ingredients like barley and hops. Recent analysis by Asahi predicted a drop in barley yields of up to 18% in regions such as France and Poland by 2050 if global temperatures rise by just 4°C, a scenario increasingly possible if no significant action is taken to curb emissions.

Similar sentiments echo across the landscape of global brewing. Research published in Nature Communications has highlighted alarming trends: hop ripening times are shifting earlier in Germany, the Czech Republic, and Slovenia, while yields and the critical alpha content—responsible for flavour and bitterness—are expected to plummet. Such findings compel the brewing industry to implement immediate adaptation measures to safeguard what is an increasingly endangered sector.

Andy Griffiths, of Diageo, has also raised concerns, pointing out that the environmental footprint of beer production necessitates urgent reforms in farming methods associated with the beverage. The research presented by the British Beer & Pub Association (BBPA) starkly illustrates the effects of climate change within the UK, where weather extremes threaten barley during crucial growth phases. Not only are UK hop-growing regions facing acute flooding risks, but the country’s heavy reliance on imports for hops—valued at £38.5 million in 2023—raises further alarms. With only 2% of its barley imported, the UK remains somewhat sheltered from raw ingredient pricing shocks; however, it does not escape the ripple effects of global disruptions caused by climate change.

Asahi’s reports further exemplify the meticulous monitoring of supply chains, highlighting the paramount importance of locally sourced barley, particularly from Italy and Australia, both of which are vulnerable to climate disruptions. The implications are sobering; a loss of these critical suppliers could significantly impact business strategies.

Efforts to bolster resilience against climate-related risks are ongoing. Innovative practices such as developing drought- and heat-resistant barley strains are being implemented in Colorado. Farmers are experimenting with varieties named Lightning, Thunder, and Buck, aimed not only at ensuring irrigation efficiency but also at reducing the overall environmental impact of beer production. Such initiatives represent a proactive approach to navigating water scarcity issues while maintaining the integrity of the brewing process.

Education and research in Germany are similarly at the forefront, as institutions work diligently to create hop varieties capable of withstanding the pressures of climate change. This integration of academic efforts into sustainable farming practices helps ensure that the quality of beer is preserved even as environmental conditions fluctuate.

The global implications of climate change are poised to impact beer prices drastically. A study published in Nature Plants forecasts that as climate-related events disrupt barley production, beer prices could potentially double. Such economic ramifications highlight the urgent need for brewers to proactively adapt to these realities.

Many brewers now find themselves at a crossroads: as they confront the compounded challenges of climate change, consumer preferences, and economic pressures, they are also grappling with their role in a changing world. The conversation is shifting towards regenerative agriculture practices and the traceability of ingredients, which are now viewed as essential in mitigating risk and ensuring sustainability. Companies like Jubel in the UK are leading the charge, committing to sourcing only regeneratively farmed barley. Such decisions promise reduced carbon footprints and increased supply chain transparency, vital for weathering future uncertainties.

With a collective will to enhance traceability and environmental stewardship, brewers must work collaboratively, as Bob Gordon from the Zero Carbon Forum urges, to achieve a net-zero future. Only through these proactive measures can the brewing industry hope to remain resilient against the forces of climate change that threaten to alter its very essence.

As researchers and industry experts voice their concerns over the intertwining fates of barley, hops, and climate dynamics, the pressing question emerges: How will the love for beer adapt to an increasingly unpredictable climate? And as the brewing landscape shifts, ensuring that pints remain available should rise to the forefront of both industry and consumer priorities—because, as simple as it sounds, a cold beer is more than just a drink; it embodies culture, tradition, and community.

## Reference Map:

* Paragraph 1 – [[1]](https://www.just-drinks.com/features/beer-today-gone-tomorrow-brewers-face-climate-change-pressures/), [[2]](https://www.just-drinks.com/features/beer-today-gone-tomorrow-brewers-face-climate-change-pressures/)
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* Paragraph 4 – [[4]](https://apnews.com/article/338ab02a216e77530e711c880bec9683), [[5]](https://www.axios.com/2018/10/15/climate-change-beer-prices-double)
* Paragraph 5 – [[1]](https://www.just-drinks.com/features/beer-today-gone-tomorrow-brewers-face-climate-change-pressures/), [[4]](https://apnews.com/article/338ab02a216e77530e711c880bec9683)
* Paragraph 6 – [[3]](https://www.axios.com/local/denver/2023/12/15/colorado-farmers-barley-grains-save-water-beer-spirits), [[6]](https://shiftenvironment.co.uk/news/navigating-the-hazy-future-of-beer/)
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* Paragraph 8 – [[1]](https://www.just-drinks.com/features/beer-today-gone-tomorrow-brewers-face-climate-change-pressures/), [[3]](https://www.axios.com/local/denver/2023/12/15/colorado-farmers-barley-grains-save-water-beer-spirits), [[5]](https://www.axios.com/2018/10/15/climate-change-beer-prices-double)
* Paragraph 9 – [[1]](https://www.just-drinks.com/features/beer-today-gone-tomorrow-brewers-face-climate-change-pressures/), [[2]](https://www.just-drinks.com/features/beer-today-gone-tomorrow-brewers-face-climate-change-pressures/), [[5]](https://www.axios.com/2018/10/15/climate-change-beer-prices-double)
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* Paragraph 12 – [[1]](https://www.just-drinks.com/features/beer-today-gone-tomorrow-brewers-face-climate-change-pressures/), [[4]](https://apnews.com/article/338ab02a216e77530e711c880bec9683), [[6]](https://shiftenvironment.co.uk/news/navigating-the-hazy-future-of-beer/)

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## Bibliography

1. <https://www.just-drinks.com/features/beer-today-gone-tomorrow-brewers-face-climate-change-pressures/> - Please view link - unable to able to access data
2. <https://www.just-drinks.com/features/beer-today-gone-tomorrow-brewers-face-climate-change-pressures/> - This article discusses the impact of climate change on the beer industry, highlighting concerns from brewers like Asahi's CEO, Atsushi Katsuki, about potential barley harvest declines in France and Poland by 2050. It also addresses the risks of extreme weather events affecting barley and hop production, emphasizing the need for adaptation measures to ensure a stable beer supply.
3. <https://www.axios.com/local/denver/2023/12/15/colorado-farmers-barley-grains-save-water-beer-spirits> - Colorado farmers are experimenting with water-saving barley strains to address the state's water crisis and climate change impacts. Todd Olander of Olander Farms is cultivating new barley varieties named Lightning, Thunder, and Buck, aiming to maintain beer and spirits production while reducing environmental impact. This initiative reflects a broader effort to adapt to changing climate conditions.
4. <https://apnews.com/article/338ab02a216e77530e711c880bec9683> - Germany is leveraging education and research to combat climate change's impact on the beer industry. The Society of Hop Research in Munich is developing new hop varieties resilient to rising temperatures and droughts. These initiatives are integrated into educational programs to teach sustainable farming and brewing techniques, aiming to preserve beer quality amidst climate challenges.
5. <https://www.axios.com/2018/10/15/climate-change-beer-prices-double> - A study published in Nature Plants indicates that climate change could significantly affect beer prices worldwide. Due to climate-related droughts and heatwaves, barley production—a key ingredient in beer—is projected to decrease, potentially leading to beer prices doubling. This underscores the broader economic implications of climate change on the beverage industry.
6. <https://shiftenvironment.co.uk/news/navigating-the-hazy-future-of-beer/> - This article explores the challenges climate change poses to the beer industry, particularly focusing on the decline in hop yields and quality. It discusses the need for expanding hop production areas and the importance of sustainable solutions to mitigate environmental impacts. The piece also highlights efforts in the UK to develop new hop varieties resilient to climate change.
7. <https://apnews.com/article/a19deab78bc9021e923921c7cca3c2b7> - In Munich, two students founded HopfON, a startup converting hops waste from Bavaria's beer industry into products like acoustic panels and thermal insulation. This initiative aims to reduce waste and reliance on finite resources. Additionally, the Society of Hop Research in Bavaria is developing new hop varieties that produce less waste, addressing environmental concerns associated with traditional hop harvesting methods.