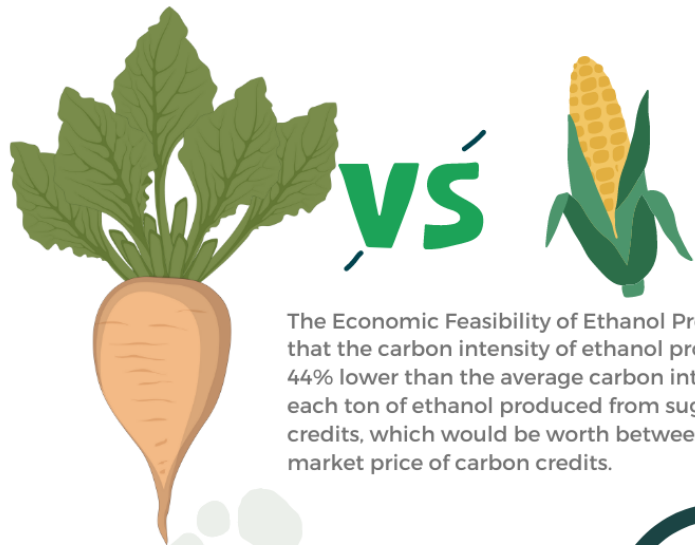


It is important to note that these are just estimates, and the actual carbon credit yield and value could vary depending on the specific production process and the location of the plant. However, these estimates suggest that the potential for carbon credits from ethanol production from sugar beets.

# ECONOMIC FEASIBILITY OF ETHANOL PRODUCTION FROM SUGAR BEETS



The Economic Feasibility of Ethanol Production from Sugar in the United States estimates that the carbon intensity of ethanol produced from sugar beets is 28.5 g CO<sub>2</sub>e/MJ, which is 44% lower than the average carbon intensity of ethanol produced from corn. This means that each ton of ethanol produced from sugar beets would generate approximately 2.56 carbon credits, which would be worth between \$40 and \$80 per metric ton, depending on the market price of carbon credits.

Carbon footprint of industrial-beet sugars stored as raw thick juice for use as a fermentation feedstock estimates that the carbon intensity of ethanol produced from sugar beets is 29.4 g CO<sub>2</sub>e/MJ, which is 71% lower than the carbon intensity of gasoline. This means that each ton of ethanol produced from sugar beets would generate approximately 2.71 carbon credits, which would be worth between \$45 and \$90 per metric ton, depending on the market price of carbon credits.



Low carbon intensity ethanol production from sugar beets in California with integrated anaerobic digestion estimates that the carbon intensity of ethanol produced from sugar beets can be as low as 24.5 g CO<sub>2</sub>e/MJ, which is 84% lower than the carbon intensity of gasoline. This means that each ton of ethanol produced from sugar beets would generate approximately 3.1 carbon credits, which would be worth between \$52 and \$104 per metric ton, depending on the market price of carbon credits.

The sources provide data on the carbon footprint of ethanol production from sugar beets, as well as the potential for carbon credits from this process. The carbon credit price is typically based on the carbon footprint of the fuel being replaced, so the price of carbon credits for ethanol produced from sugar beets would likely be lower than the price of carbon credits for gasoline.



Source:  
 The Economic Feasibility of Ethanol Production from Sugar in the United States by the USDA Farm Service Agency (2006): [https://www.fsa.usda.gov/Internet/PSA\\_File/ethanol\\_fromsugar\\_july06.pdf](https://www.fsa.usda.gov/Internet/PSA_File/ethanol_fromsugar_july06.pdf)  
 Carbon footprint of industrial-beet sugars stored as raw thick juice for use as a fermentation feedstock by ScienceDirect (2018): <https://www.sciencedirect.com/science/article/am/pii/S0959652617313239>  
 Low carbon intensity ethanol production from sugar beets in California with integrated anaerobic digestion by EPA Archives (2012): <https://archive.epa.gov/region9/organics/web/pdf/low-carbon-ethanol-prod-sugar-beets-integ-anaerobic-digestion.pdf>  
 Sugar beet ethanol (Beta vulgaris L.): A promising low-carbon pathway for ethanol production in California by ScienceDirect (2017): <https://www.sciencedirect.com/science/article/abs/pii/S0959652617309824>