



ADM's Net Zero Aspiration: Carbon Reduction Program Assessment

October 19, 2022



I. Introduction

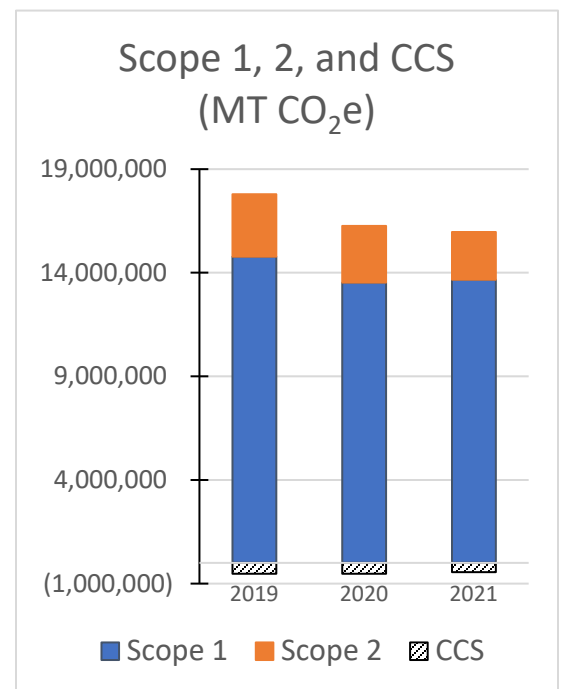
In 2020, ADM retained a third-party consulting firm to assist with its greenhouse gas (GHG) emissions reduction planning. The resulting carbon reduction feasibility study outlined the most promising and impactful reduction options and a path forward to set and achieve a meaningful reduction target. We set an ambitious goal to reduce our absolute Scope 1 and 2 greenhouse gas (GHG) emissions by 25% from our 2019 baseline by 2035 – a set of goals collectively called “Strive 35” by the company. The report also outlined future technology options that may enable the company to go beyond its medium-term goals in the future.

As a follow-up to the study, we have designed and begun implementing a glidepath to achieve our Strive 35 goal, as well as identified additional emission reduction projects at our facilities. This report presents the carbon reduction progress to date and exploration to support our aspiration toward net zero emissions by 2050 at the latest.

II. Current Status

In 2020, ADM set reduction goals for energy, emissions, water and waste collectively called Strive 35. The emissions goal is to reduce absolute Scope 1 and 2 GHG emissions by 25% over the 2019 baseline by 2035. In 2021, ADM set a goal to reduce absolute Scope 3 emissions by 25% over the 2019 baseline by 2035. As announced in April 2022, we are working with the Science-based Targets Initiative (SBTi) to obtain their approval that our sustainability targets align with ambitious goals to limit the average rise of global temperatures to 1.5 degrees Celsius.

Emissions from ADM operations are primarily a function of energy use and the type of fuel we use to power our operations. Reduction efforts have therefore been focused on improving energy efficiency. The ADM Utilities Center of Excellence (CoE) has developed a glidepath to achieve the company’s Strive 35 goals. The plan outlines specific projects to help meet our reduction targets, and the team continues to identify new technologies that can reduce our footprint beyond current targets. We are working on emission reduction projects at our processing complexes using the best technologies available. This work includes, where possible, transitioning from higher carbon energy to lower carbon energy by leveraging advanced technologies such as carbon capture and storage (CCS), renewable electricity, and renewable fuels. In addition, we continue to look for ways to reduce our overall energy footprint through our global Energy Treasure Hunt Program and further focused efforts on optimization within our production processes.



Projects we have continued to progress in 2022 which will have a major impact on our emissions goals within the next 5 years include:

Energy Consumption

- We have set an interim goal to achieve at least 5% reduction in energy intensity for manufacturing operations in the next five years. Efforts include focus in both plant utilities areas and in our production processes. Utilities areas of focus include flue gas heat recovery and deaeration system optimization as well as development of more energy efficient cleaner gas fired cogeneration projects replacing some existing less efficient coal-fired operations. Process improvement efforts include focus projects related to drying, evaporation and centrifugation which will yield both thermal and electrical savings. Use of the Global Energy Treasure Hunt program will also continue to maintain an evergreen pipeline of improvement projects.

Energy Transition

- We are pursuing selection of innovative technologies for reducing point source GHG emissions at three of our largest cogeneration facilities that may provide ADM a method to reduce Scope 1 and Scope 2 emissions by approximately 3,000,000 metric tons when fully implemented.
- We have discontinued coal usage at our Mankato cogeneration facility, and we will transition from coal to natural gas at the Lincoln and Des Moines sister facilities next year, with an estimated reduction of around 180,000 metric tons per year of GHG emissions.
- Project development is underway in South America and Europe to increase the use of renewable biomass in place of natural gas as fuel for steam boiler operations which on a combined basis could reduce Scope 1 emissions by more than 60,000 metric tons per year.
- We are conducting engineering work at an ADM facility in France for a process to generate biogas from a low value waste stream that could be used to offset conventional natural gas resulting in a reduction of Scope 1 emissions by more than 40,000 metric tons per year.
- ADM's first wind project is expected to be operational in mid-2023 and will provide our Brazilian operations with renewable power reducing our Scope 2 footprint by more than 19,000 metric tons per year.
- We are working with new technology providers on feasibility of CO₂ capture for alternative beneficial use. Successful implementation could yield more than 10,000 metric tons per year reduction at the targeted trial facility and could prove out the potential for further use of the technology.

III. Going Further

As the world continues to experience the impacts of climate change, it's critical to the success of our company to work toward a meaningful, long-term reduction in our carbon footprint. Our short- and medium-term goals are important steps in the right direction, but we need to go further. Over the next six months, we will be working with a third-party consultant to assess a pathway to net zero emissions and to define our measurement methodology. In the meantime, our teams continue to



identify additional reduction opportunities to stay abreast of new technologies that can help us along our path.

Currently Available Technology

- Renewable electricity purchases through power purchase agreements and/or renewable energy certificates can reduce Scope 2 emissions that remain after energy efficiency initiatives have been implemented. In 2021, ADM's Scope 2 emissions from electricity purchases were approximately 2.3 million MT CO₂e. We are investigating opportunities to increase our use of renewable electricity at multiple facilities.
- ADM owns its own transportation fleet. By continuing to replace our current fleet with alternative fuel vehicles, we can lower our Scope 1 footprint. ADM is moving forward with several projects to use cleaner fuels in its fleet of boats, including biodiesel and liquefied natural gas. In its trucking fleet, ADM conducted two pilot projects to trial compressed natural gas and 100% biodiesel as fuels. Electric trucks are available; however, the current cost is generally considered to be prohibitive and charging infrastructure is not consistently available. In 2021, our Scope 1 emissions from transportation (trucking, barge, and ocean freight) were approximately 489,000 MT CO₂e.
- There are several options for onsite electricity generation including solar and wind that will result in lower GHG emissions than burning coal or natural gas. The overall balance of energy used in our operations is thermal, which is not produced by onsite renewable electricity generation; however, we continue to explore opportunities to install additional renewable generation capacity at facilities.

Future Technology

- The U.S. Department of Energy is supporting the development of small modular nuclear reactors (SMRs) as a way to use nuclear technology to provide generation at a smaller scale (tens to hundreds of MW). If SMRs became commercially viable in the future, these could be used to produce electricity onsite with zero GHG emissions. We are currently engaged in a feasibility study to determine the viability of nuclear power as a supplement or replacement for thermal energy from fossil fuels.
- Currently, hydrogen and renewable natural gas are not widely available. At some ADM locations, methane is captured from anaerobic wastewater treatment and used onsite as fuel or to generate renewable natural gas. We are participating in multiple collaborations focused on the feasibility of developing hydrogen infrastructure in different geographies where we operate.
- Our Decatur, Illinois facility is located above a large geological formation called the Mount Simon sandstone that has the capacity to permanently store millions of metric tons of CO₂. We have been operating carbon capture and injection equipment for over a decade at the facility. Currently, only pure CO₂ from fermentation is captured and sequestered; however, technology that allows for post-combustion capture would enable significant reductions in Scope 1 emissions where the exhaust gas can be captured, scrubbed, and transported to a sequestration location.



High-Quality Offsets

- Direct air capture could provide a method to generate high-quality offset credits that could be used to compensate for emissions that could not be reduced through efficiency or fuel switching projects.
- ADM has successfully operated a bio-energy carbon capture and sequestration (BECCS) project capturing and permanently sequestering carbon emissions from fermentation. Expansion of BECCS can generate meaningful offsets for residual emissions that cannot be avoided.

As we continue to progress in our carbon reduction journey and technologies develop, we will provide updates to this report.

