

# COWS FUEL SWEDEN'S CARS - THE BIRGERSSON FAMILY OWNING HAGELSRUM FARM IS THRIVING ON BIOGAS

## CASE STUDY



Partnering with:



### THE CLIENT

The Birgersson family has been operating the Hagelsrum farm with 650 milking cows since 2008. With initial plans to build a small digester and CHP unit, plans quickly changed when electricity prices dropped in 2011. The family installed DMT's biogas upgrading facility in 2018. Now the family has expanded biogas production and is using the excess Bio-CNG to develop their own fuelling stations. Furthermore, some of the Bio-CNG is also sold to Eon's existing biogas stations.

### ABOUT THE PROJECT

Just outside the town of Målilla, the Hagelsrum farm houses 650 dairy cows producing seven million litres of milk annually. This 500 hectare farm is run by the Birgersson family who also raise calves and grow fodder crops.

In 2008, the family began developing a 2300 m3 digester and CHP unit. The intent was to produce electricity for the farm and sell the surplus to the national grid. But after electricity prices plummeted in 2011, the Birgersson family had to adapt and made plans to refine their biogas to produce compressed natural gas (CNG).

With a master's degree in biochemistry from Linköping

**"The fact that we were going to invest in gas stations was something that grew gradually. When we could not find an outlet for our gas, we had to create the market ourselves."**

*- Åke Birgersson, Hagelsrum, Sweden*

**Start of Operation: June 2018**

**Location: Hagelsrum, Sweden**

**Product: Carborex<sup>®</sup> MS**

**Plant Capacity: 250 Nm<sup>3</sup>/h**

**Biogas Feedstock: Manure & Crops**

**Application: Bio-CNG**

University, Tom Birgersson was involved in the project's development and played a key role. Acquainted with the quality of DMT's upgrading technology from previous successful projects, he selected DMT to deliver his upgrading installation. In 2018, the farm was successfully producing Bio-CNG. This green gas has a methane concentration of 97 percent for the purposes of vehicle fuel.

### THE RESULT

The Birgersson family added another 4600 m3 digester. Upscaling total electricity production to 14 GWh, they decided to create their own fuelling stations.

In 2019 and 2020, they opened four biogas fuelling stations in Målilla, Vimmerby, Högsby and Hultsfred. Målilla serves as the mother station and warehouse for the vehicle gas. From the farm, the gas is transported in a pipeline just over five kilometres long. In addition to their own distribution network, they also supply biogas as fuel to Eon's biogas stations along Road E22. The activities from the Birgersson's biogas upgrading facility and fuelling stations show investment in biogas is profitable.