





#### CALL FOR NEW DEMONSTRATORS

With four new demonstrators accepted in 2022, we have now 18 ENOUGH demonstrators, but we still have room for more! A few additional demonstrators are required to cover both existing and new areas of the ENOUGH project. These demonstrators should show the potential of innovative technologies and better practices to reduce the environmental impact of the food chain. The consortium is currently looking for demonstrators particularly in other sectors than the already included, for example within baking, cooking, catering and beverages.

New demonstrators should show both commercial potential and results in energy and carbon savings. The results obtained should be available within the lifetime of the ENOUGH project. The technology and methods should be transferrable to other industries, companies and sectors: industry involvement will be essential! Selected demonstrators will be allocated funds to undertake activities and the nominators of demonstrators may be asked to become an ENOUGH partner.

If you know or are interested in being part of the ENOUGH consortium by proposing a suitable demonstrator, please contact the ENOUGH coordinator.

#### SOME OF ENOUGH'S DEMONTRATORS

# Thermal HTHP integration dairy

UK, Process,

Dairy

Steam generation to be tested with an integrated refrigeration ice bank and HTHPs.

#### Next generation refrigerator

Turkey, Domestic, Dairy / Fruit & Veg. / Meat / Fish Refrigerant blend and EEV to improve energy efficiency of household refrigerators.

## Climate neutral packaging

France and Belgium, Packaging, Fruit & Vegeables

Alternative solutions for applications of high carbon footprint packaging materials that are at TRL6.

## HTHP dairy Austria

Austria, Process,

Dairy

Waste heat from the ammonia HTHP, used for production purposes, to supply new hot water consumers.

## **Energy smart dairy**

Norway, Process,

Dairy

Installation of a cold thermal energy storage system to optimise the CO<sub>2</sub> refrigeration stystem.

## 150°C steam production heat pump

Norway, Process,

Meat

Ammonia-water ACHP to replace fossil fuel boilers by reaching a temperature of 150°C in the heat sink.

# Thermal storage for refrigeration cycle

France, Retail,

Dairy / Fruit & Veg. / Meat / Fish
Thermal storage unit with PCM to be inserted in a closed-door display cabinet for DSM scenario test.

#### Fresh & Green Delivery

Northern Italy, Transport,
Dairy / Fruit & Veg. / Meat / Fish
Combination of solar energy with CO2
refrigeration units to reduce GHG emissions in delivery trucks.

## **RQ-based DCA storage**

Belgium, Storage, Fruit & Vegeables

Dynamic controlled atmosphere storage to reduce the respiration heat of fruits, saving 10-20% of cooling energy.



# ABOUT THE ENOUGH PROJECT

Started in October 2021, the ENOUGH project provides technologies, tools and methods to contribute to the EU Farm to Fork strategy, to achieve the decarbonization of the food chain. The food sector is responsible for a large amount of greenhouse gas emissions today and the goal of ENOUGH is to achieve climate neutral food

businesses. ENOUGH will study the food value chain from post farm gate to consumer, including processing, storage, transport, retail and domestic. This 4-year project is composed of 28 partners from 12 European countries and is coordinated by the SINTEF Ocean in Norway.



\*\*\* \* \* \*<sub>\*\*</sub>\*