ENOUGH

EUROPEAN FOOD CHAIN SUPPLY TO REDUCE GHG EMISSIONS BY 2050

PROJECT ACRONYM	ENOUGH
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PROJECT COORDINATOR	SINTEF OCEAN
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D11.1

Mid-term practice abstract

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[1] PU = Public

PP = Restricted to other program participants (including the Commission Services)

RE = Restricted to a group specified by the consortium (including the Commission Services)

CO = Confidential, only for members of the consortium (including the Commission Services)

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EXECUTIVE SUMMARY

This report gives an overview of the work of WP11 (Cooperation with the European Commission) regarding practice abstracts of the ENOUGH project the first 18 months. The objective of this task is to share the main project results of ongoing experiments to EU. To ensure this, resulting knowledge from the project will be fed into the EIP-AGRI (The Agricultural European Innovation Partnership) for dissemination to practitioners in several rounds.

This report provides the outcome of the first round, i.e. the first practice abstract and project details (objectives, activities) submitted to the EIP-AGRI platform. It also includes the plan for further submissions.

Deliverable 11.1

1 INTRODUTION

This document provides the first practice abstracts of the ENOUGH project, published through the EIP-AGRI common format. The report is a deliverable (D11.1, Mid-term practice abstract) in work package 11 (Cooperation with the European Commission), task 11.2 (Practice abstract).

2 PRACTICE ABSTRACTS

2.1 EIP agri

The European Innovation Partnership for Agricultural productivity and Sustainability (EIP-AGRI) is a partnership launched by the European Commission to promote innovative projects in the agricultural sector and provide a closer relationship between research and practice.

The EIP common format is one of the actions of the EIP-AGRI, enabling sharing knowledge, solutions and research results in a standarised way to make it available and more easily to be put into practice.

The EIP-AGRI common format consists of

1) Obligatory elements
   - Project information (title, period, budget, etc.)
   - Objective of the project: what problems/opportunities does the project address that are relevant for the practitioner/end-user, and how will they be solved? (300-600 characters, word count – no spaces)
   - **Practice abstract (short summary for practitioners)**. The core of the submission. Summary on the (final or expected) outcomes (1000-1500 characters, word count – no spaces). The summary should contain information about (1) the main results/outcomes of the activity (expected or final), and (2) the main practical recommendation(s) (how to make use of the results, and what is the main added value to the end-user if making use of them). The text should be interesting, using a clear and easy language, underlining elements of particular relevance for the practitioners.
2) Recommended elements
   - **Description of project activities** (max. 600 characters, word count – no spaces)
   - Audiovisual material (e.g. videos)

- Project website
- Link to other informative websites

3) Optional elements
   - Additional field for the practice abstract: short summary according to the guidance in the text box above (max. 1500 characters, word count – no spaces)
   - Description of the context of the project
   - Additional information (if required by specific guidance at national/regional level
   - Additional comments

2.2 Administrating the practice abstracts

Practice abstracts are submittet through an Excel file. Gidelines for the submission are available through the websites of EIP-AGRI. The submitted texts are provided below. One of the obligatory elements to fill out in the Excel sheet is the list of partners with including contact person and email address/phone. After dialogue with the Project Officer, it was decided to keep the personal data of the partner contacts out of the submission for the first round of abstracts.

The Excel file was sent to AGRI-EIP-PRACTICE-ABSTRACT@ec.europa.eu with Project officer and Policy officer on copy. The same Excel file will be updated and used for future submissions.

2.3 Project details

2.3.1 Objective of the project

The following text was sent in as the ENOUGH objectives:

The ENOUGH project will provide technologies, tools and methods to contribute to the EU Farm to Fork strategy to achieve climate neutral food businesses. The ENOUGH objectives are: 1) Reducing greenhouse gas (GHG) emissions by at least 50% by 2050; 2) Reducing energy use and increasing energy efficiency; 3) Increasing the overall sustainability of food systems; 4) Providing selected innovative technological solutions and their potential for uptake at EU.

2.3.2 Project activities

Project activities are not obligatory, but recommended. Due to the wide variety of activities in the ENOUGH project, it was chosen to fill out a short text about project activities:

For the first time emissions from food production, processing and packaging, transportation, storage, retail display, catering and home consumption will be assessed as separate groups to identify where the greatest potential for emissions reduction and mitigation action can be applied. Strategic maps, digital tools and smart data will be developed and used to explore possible solutions. At the core of the ENOUGH project is the demonstration of technologies to reduce emissions. Their potential will be qualified and quantified in real life situations, and the most promising technologies will be widely communicated to the food industry.

2.4 First practice abstract

The first practice abstract was decided to be about the project in general and its expected outcomes. The following text was submitted:

Food systems are globally responsible for around a third of total greenhouse gas (GHG) emissions. These numbers are poorly quantified and lack detail for specific sectors and food groups. The food

industry has made significant efforts to reduce emissions already with simple optimisation procedures and changes, so further reduction will require advanced technology.

The ENOUGH project (enough-emissions.eu) brings research, universities and industry together to tackle these challenges. We will generate new information on emissions from the food chain, develop strategic road maps (technical, political and financial), develop digital tools and smart data analysis methods to quantify and benchmark energy use and emissions in the food chain.

Promising decarbonisation technologies in real food industry environment will be demonstrated to provide European food companies tools and quantified information on the benefits and financial paybacks of low emission technologies. The technologies will be tested with regards to identified key products (meat, fish, dairy and fruit and vegetables) and opportunities for cross sector applicability. The focus will be thermal processes as the key products are perishable and require thermal processes throughout their life. Some key technologies are high temperature heat pumps (HTHPs) working with natural refrigerants and processes related to energy efficiency of cooling, freezing, heating and storage of food. Several demonstrations are also planned to generate hot water and steam in real life situations. Another important sector identified is transport, including for example home delivery. The outputs will be widely communicated to relevant food companies, policy makers and interested groups.

2.5 Second practice abstract

According to the latest study from the FAO[1], the total global GHG emissions from agrifood systems have increased by 9% from 2000 to 2020. This represent about one third of the global GHG emissions and is estimated to currently be 16 Gtonnes CO2eq.

Information related to GHG emissions is already contained in a number of trusted inventories (e.g. FAO, EDGAR-FOOD). However, these inventories have limitations as they often use different approaches and apply different boundaries and terminologies. They often do not have the level of granularity required to identify the key areas of the food chain where GHG emissions can be reduced or provide information on predicted future emissions.

In ENOUGH we are working to overcome these limitations by developing several tools to calculate GHG emission from the European food chains in 2019 (reference year), 2030 and 2050. The models can identify the food chain sectors and technologies which are responsible for the majority of the GHG emissions. They will also be able to assess the impact of future emissions scenarios and their impact on emissions from individual countries. Through this work a complete and precise emissions database with reliable predictions of GHG emissions will be established. The work will ultimately provide information on the impact of technical, climate and socio-economic changes to the food system and which interventions are likely to have the greatest overall impact to reduce GHG emissions. It will also help the European policy makers to set appropriate legislation to mitigate emissions from the food sector in the future.

[1] FAOSTAT Analytical Brief 50: GHG emissions from agrifood systems: Global, regional and country trends.

3 CONCLUSIONS AND FURTHER STEPS

The ENOUGH project will continue submitting practice abstracts as results occur. At least three practice abstracts are foreseen. In parallel several factsheets will be published on the ENOUGH webpage. All partners are invited to prepare factsheets with information about our project activities, results, and other relevant information. These factsheets have its own ENOUGH template. The practice abstracts will also be made into factsheets, so they can be found in the ENOUGH webpage in addition to the EIP-AGRI platform.

An Excel sheet is made containing suggestions of potential practice abstracts and/or factsheets in the future. This sheet will be updated and followed up continuously.

enough-emissions.eu

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The sole responsibility for the content of this paper lies with the authors.

It does not necessarily reflect the opinion of the European Commission (EC).

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