Final practice abstract WP4: Integration of heating, cooling, AC, thermal symbiosis and energy storage within and between sectors

Simulation tools can be essential to provide reductions in GHG emissions from the food supply chain. In particular, such tools can help in identifying critical points where efforts should be concentrated to reduce energy consumption and GHG emissions. To helps users (e.g., policymakers, businesses, students) test different strategies and technologies to reduce emissions in the food chain, the ENOUGH web-based tool was developed to simulate emissions across the entire food supply chain, calculate energy use, CO_2- emissions and product quality indicators. A thorough investigation into the potential energy integration and waste heat recovery potentials within food supply chains is also undertaken, primarily employing exergy analysis to identify thermodynamic inefficiencies and optimize energy utilization. The ENOUGH tool differentiates itself from traditional Life Cycle Assessment (LCA) tools by focusing specifically on dynamic modeling of cold chain logistics, providing real-time data on product quality decline, energy consumption, and emissions. Designed to be accessible and user-friendly, the tool enables non-expert users to model scenarios, encouraging broader adoption among various stakeholders.

The tool is freely available through any web browser, and available at the ENOUGH website enough-emissions.eu (including reports on how the tool is made).

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

ENOUGH webpage: https://enough-emissions.eu/
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