



# ICCEE

Improving Cold Chain Energy Efficiency
in food and beverage sector


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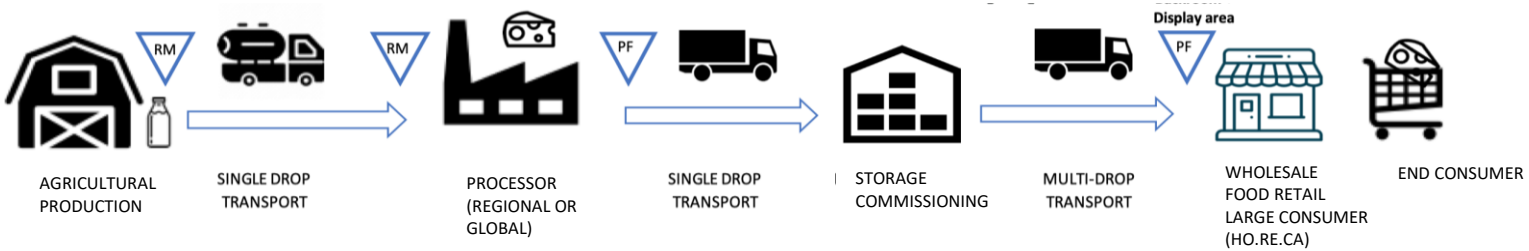
# Cold chain – Food and beverage sector

- Cold chains consist of environmentally controlled logistics chains aiming at preserving the quality of perishable goods, connecting processing, storage, and distribution activities **from farm to fork**.
    - Refrigeration is of a vital importance for the preservation of food quality.




Currently, only 10% of produced foods is correctly refrigerated and up to 30% is lost before it reaches the domestic refrigerator

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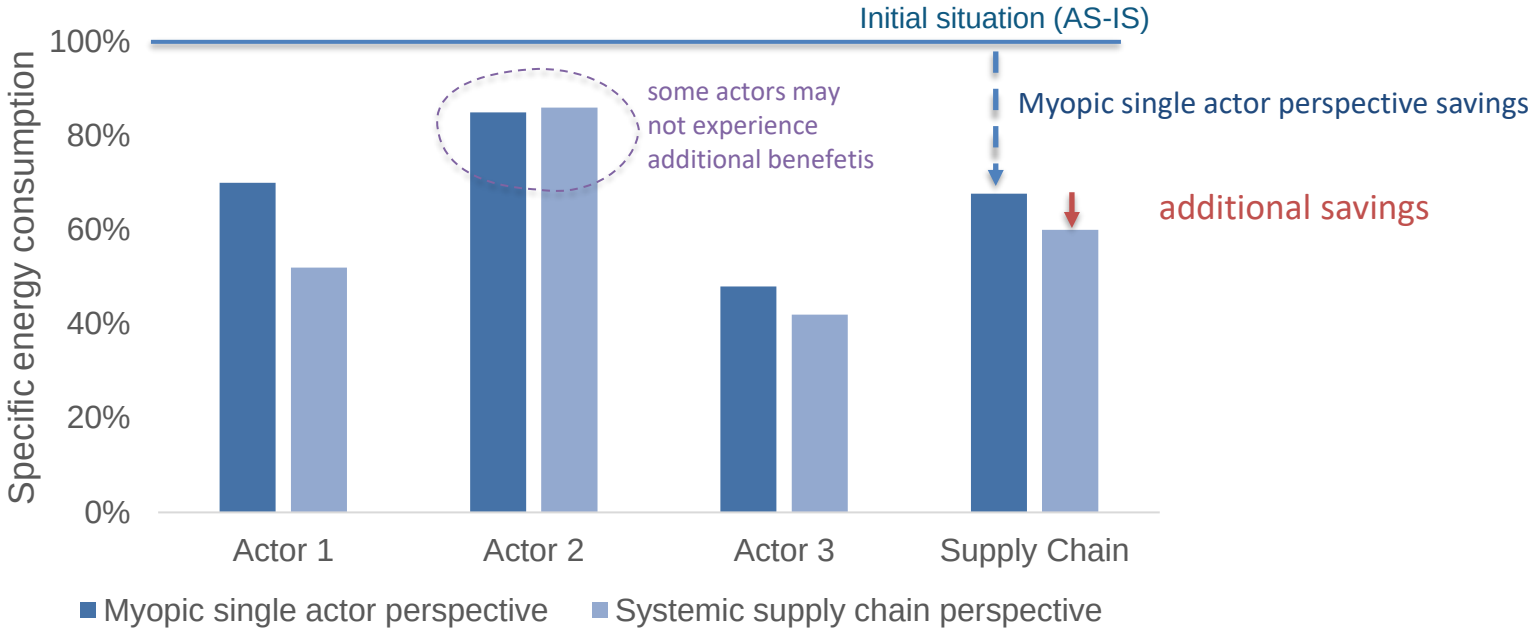
# Overall Cold chain perspective




- Additional energy efficiency measures
- Harmonise interventions
- Increased energy efficiency implementation rate due to lower barriers

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# Getting the F&B cold supply chain on board

**Variety of partners to promote and develop the trainings activities, e-learning, tool and exchange platforms.**

UNIVERSITÀ DEGLI STUDI DI BRESCIA
RIGA TECHNICAL UNIVERSITY
Fraunhofer ISI
University Stuttgart IER Institute of Energy Economics and Rational Energy Use
escan s.l. the energy consulting
IEECP INSTITUTE FOR EUROPEAN ENERGY AND CLIMATE POLICY
adelphi

**Federations and associations provide support for companies' engagement and data collection, dissemination and exploitation of ICCEE's outcomes.**

ECSLA European Cold Storage and Logistics Association
SPES GEIE Spread European Safety
RA ROMALIMENTA
ΑΝΑΠΤΥΞΙΑΚΗ ΕΠΙΜΕΛΗΤΗΡΙΟΥ ΚΟΡΙΝΘΙΑΣ
atee ASSOCIATION TECHNIQUE ENERGIE ENVIRONNEMENT
FIRE FEDERAZIONE ITALIANA PER L'USO RAZIONALE DELL'ENERGIA

**Thus, ensuring wide dissemination of project results and wider impact at the EU level in the agri-food industry.**

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# The project in steps

Sept 2019

today

Aug 2022

Model design and monitoring

Tool development

Tool validation

Capacity building activities

Sharing and exploiting results

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# 2 Pillars

## TOOL

DEVELOP AND APPLY AN **ANALYTICAL ENERGY EFFICIENCY TOOL** TO SUPPORT AND **FACILITATE INVESTMENT DECISION-MAKING**

Will allow users to estimate the energy & environmental performances of a supply chain and its actors and provide:

- suggestions for specific EEM investment
- benchmarking
- what-if analysis

## CAPACITY BUILDING PROGRAMME

A **CAPACITY BUILDING PROGRAMME** AND CREATING A **COMMUNITY TO ACCELERATE CHANGE** IN THE ENERGY CULTURE OF THE FOOD & BEVERAGE SECTOR

**4** main themes:

- Supply chain management
- LCA and LCC
- NEBs and behavioural aspects
- Financial aspects and funding opportunities

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# The Numbers - stakeholders with increased skills/capabilities/competencies

| | Step 1 | Step 2 | Step 3 | TOT during the project | 5 years after end of project |
|---|---|---|---|---|---|
| | 20 National workshops | 4 EU workshops | e-learning | | e-learning |
| Companies | 400 | 32 | 64 | 496 | 160 |
| Energy experts | 400-500 | 100-150 | 200-300 | 1,500-2,000 | 500-750 |
| Non-energy experts | 800-1,000 | - | - | | |

Up to now

10 workshops
> 700 participants

13 participants

To be planned in next months

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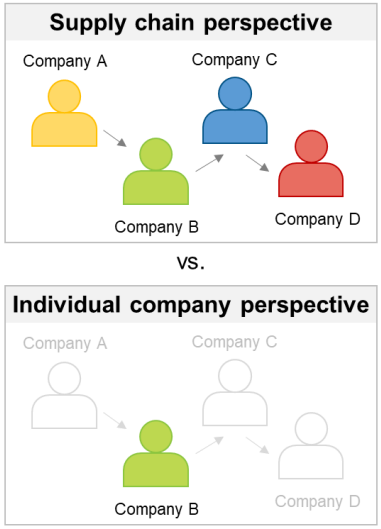
# Understanding non-energy related benefits and behavioural and organizational aspects

- Target group: Stakeholders from food industry operating in different stages of the cold supply chain
- In-depth interviews with 61 participants in 11 countries (Dec. 2019 to Jan. 2020; semi-structured)
- Online multi-language survey with 175 participants (April to June 2020; closed answers)

Survey

- #1: Structure of the cold supply chains in the food industry
- #2: Role of energy efficiency in these chains
- #3: Non-energy benefits from energy efficiency measures
- #4: Behavioural and organizational aspects

Two perspectives

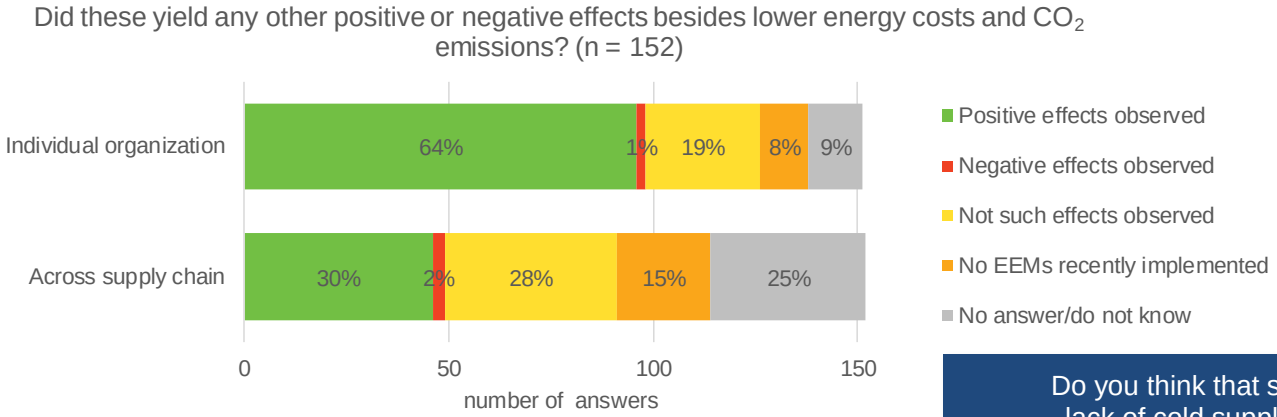


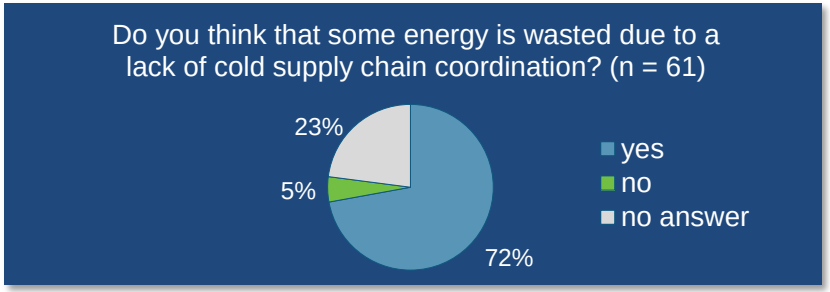
# Intervention strategy: Perception of non-energy benefits according to survey results

Please think of recently implemented energy efficiency measures ...

... in your individual company

... that also affected other companies in the cold supply chain



# Area of interestet WG 8.1 and ICCEE

- What were your barriers (systems, technical, policy, legal) to collecting implemented measures data and how did you overcome them?
- How useable is the data (how well do people complete the data fields, is it robust, mistakes etc)

- What customer facing information do you provide – to auditors or auditees.
  - Do they find it useful?
  - Does it incentivise implementation/action?

- Do national audit programmes use the data?
- How do audits link to incentives and how successful are these in incentivising implementation ?

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# Thank you

www.iccee.eu


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