

# EMPOWERING INTERMEDIARIES TO TRAIN AGRO-FOOD COMPANIES IN TACKLING ORGANIZATIONAL, CULTURAL AND BEHAVIOURAL BARRIERS FOR IMPLEMENTING ENERGY EFFICIENCY MEASURES.

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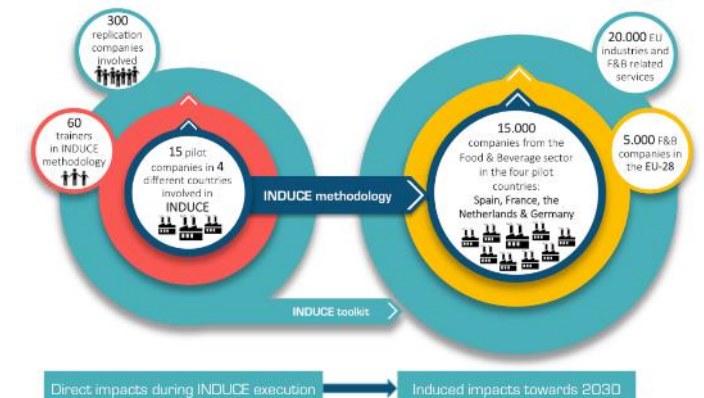


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## INDUCE

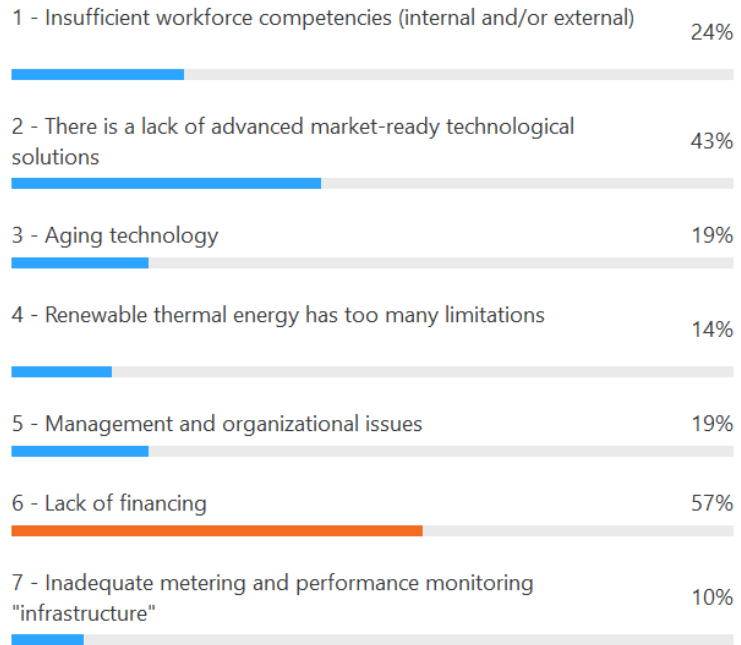
TOWARDS A SUSTAINABLE AGRO-FOOD INDUSTRY. CAPACITY BUILDING PROGRAMS IN ENERGY EFFICIENCY.



# ENERGY (PROCESS) EFFICIENCY: A NO-BRAINER??

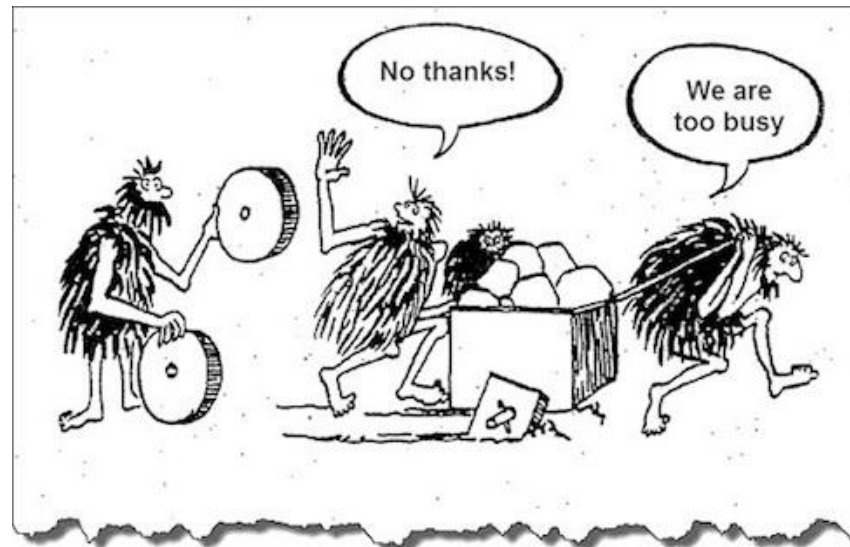
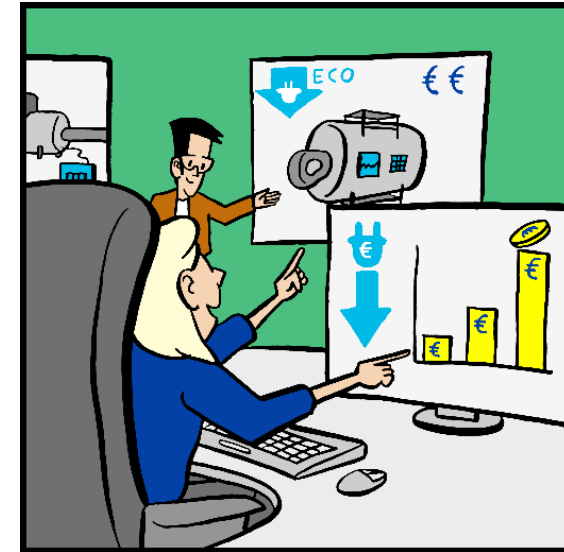
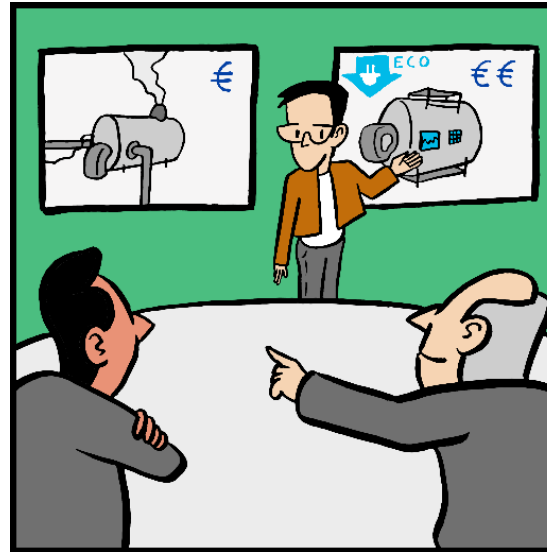
Host is sharing poll results

## 1. What are the greatest challenges you face for higher heat efficiency? (Multiple choice)



Close

Source: UNIDO IWG Workshop #3: Industrial heat solutions to support operational decarbonisation

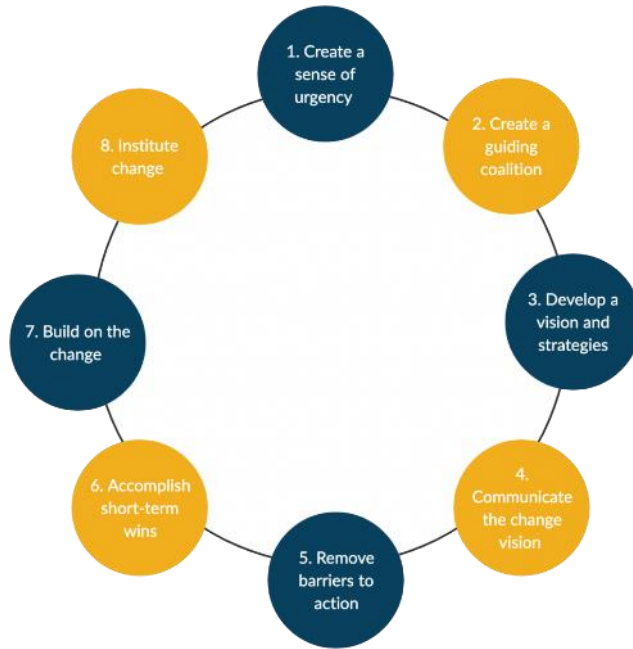


## › PROBLEM, RESEARCH & PRACTICE GAP, QUESTIONS

- **Problem:** Smaller emitters (e.g., agrofood sector) face many challenges in adopting energy efficiency measures due to strong resource constraints, but have received relatively little attention in literature.
- **Literature gap:** Literature on drivers and barriers (e.g. Cagno *et al.*, 2012; Trainni *et al.*, 2017) for adoption of energy efficiency measures provides little insight into:
  - Organizational, cultural and behavioural barriers to adoption.
  - The role of intermediaries in tackling these barriers at the companies they advice and train.
- **Role of intermediaries** (energy managers, energy advisors, auditors):
  - Focused on technical and economic drivers/barriers for adoption of energy (process) efficiency measures
  - No attention to strategic advantages of the investment (Multiple Energy Benefits - Cooremans *et al.*, 2011)  
See [www.mbenefits.eu](http://www.mbenefits.eu) – Final Conference May 11<sup>th</sup> 2021
- **Questions:**
  - What organizational, cultural and behavioural drivers and barriers hamper or stimulate the adoption of energy efficiency measures in companies in the agro-food industry?
  - How can training programs capitalize on these drivers and tackle the barriers?
  - How can intermediaries be empowered in implementing these training programs?



# ORGANIZATIONAL, CULTURAL, BEHAVIOURAL = ?



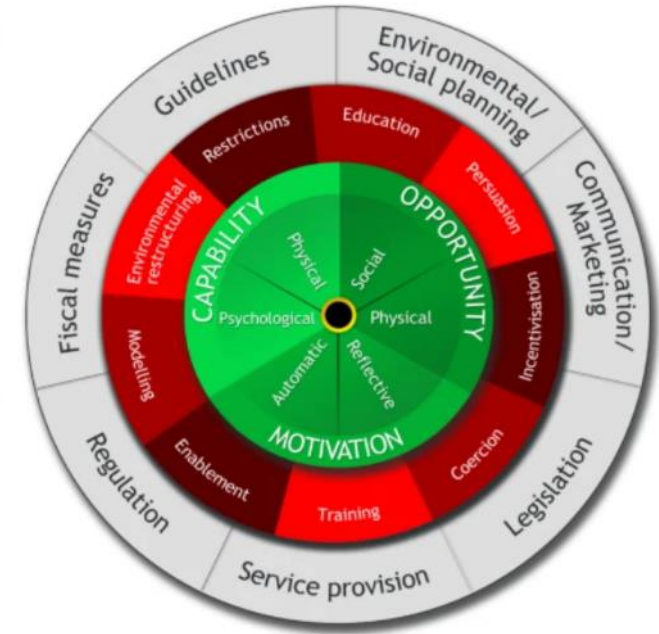
Eight-step change model

Source: Kotter, John P. (1996). *Leading Change*. Harvard Business Review Press.



Theory of Basic Values

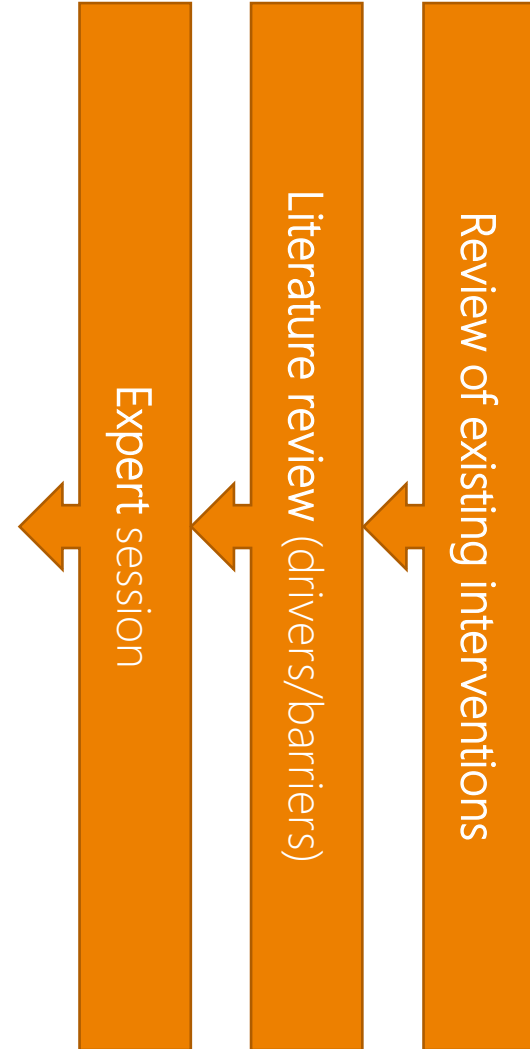
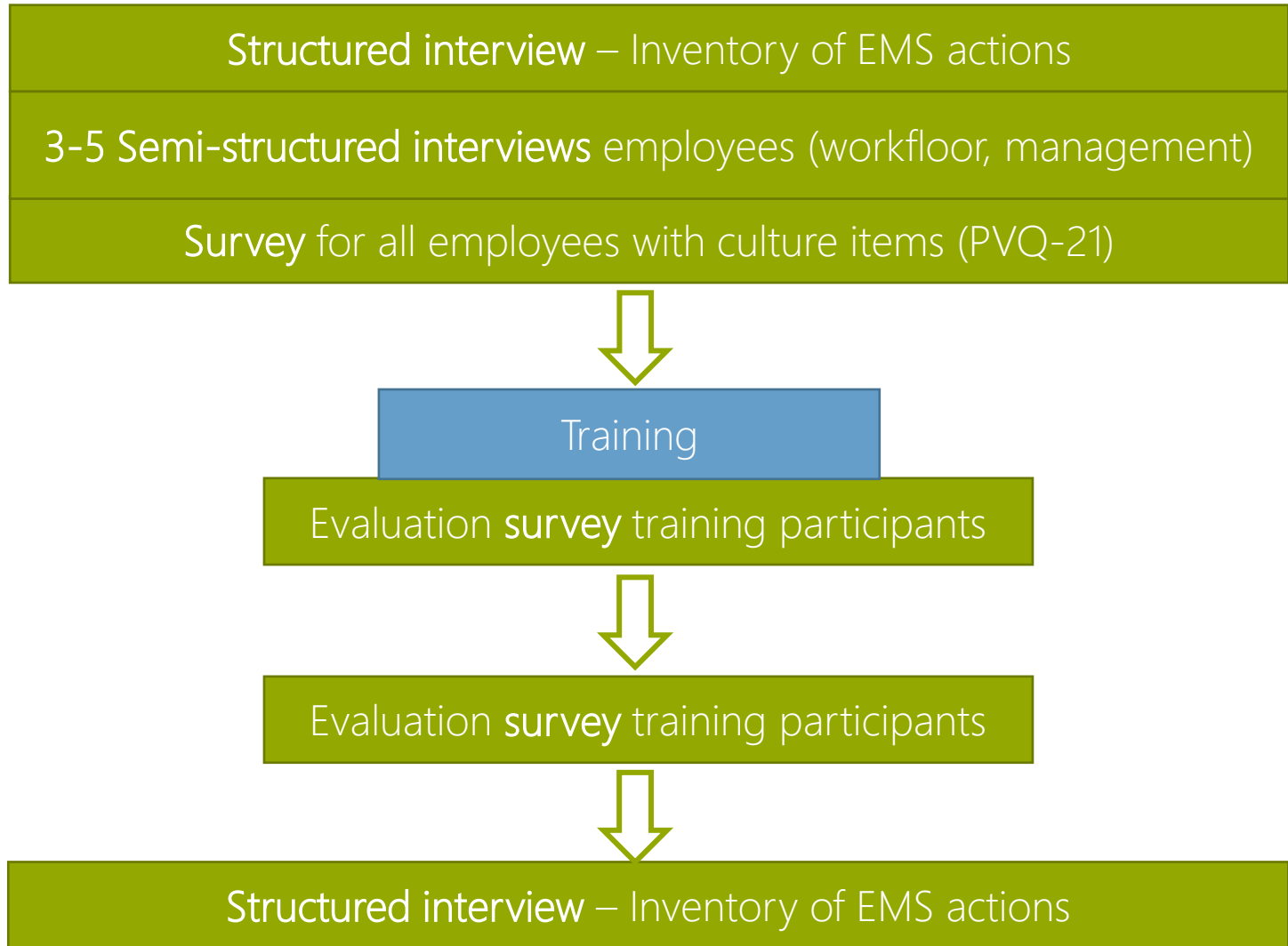
Source: Schwartz, S. H. (2012). An Overview of the Schwartz Theory of Basic Values. *Online Readings in Psychology and Culture*, 2, 1.



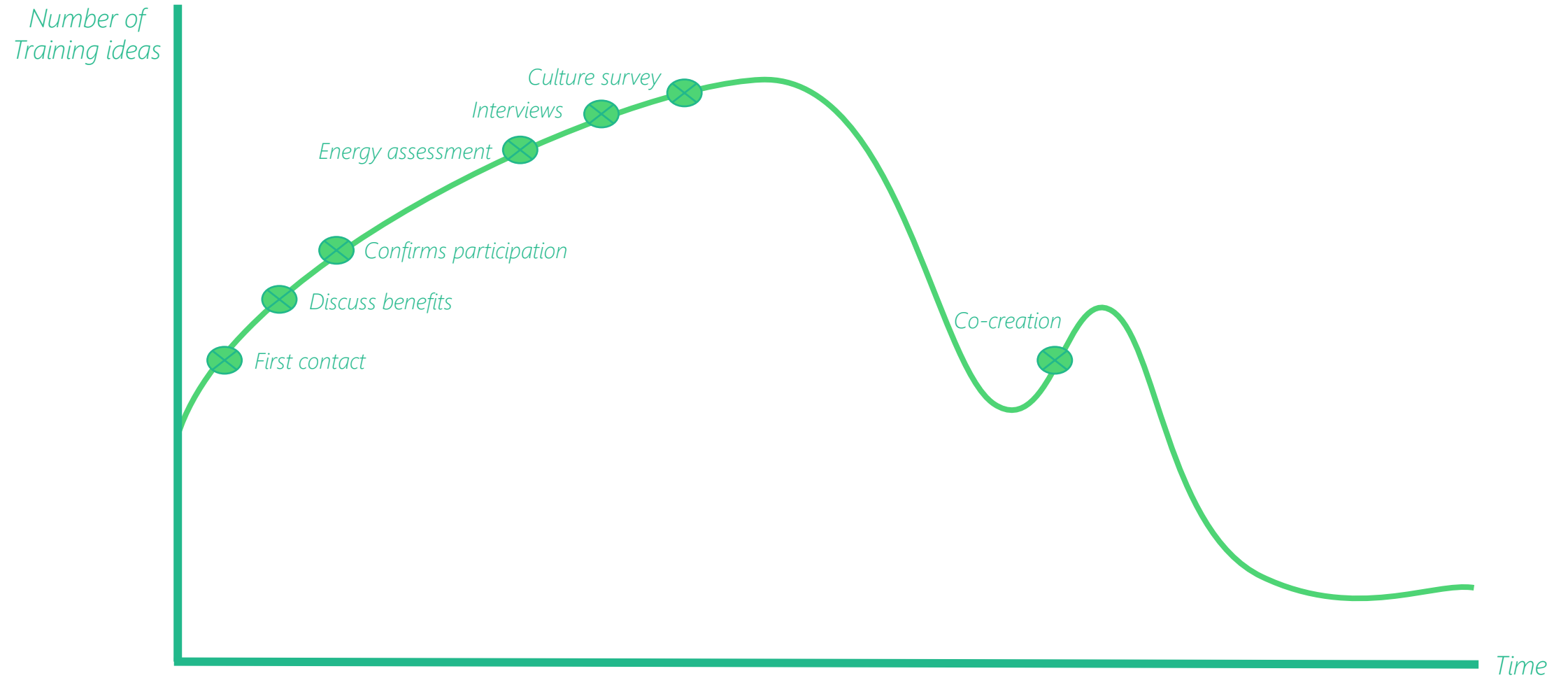
Behaviour Change Wheel

Source: Michie, S., van Stralen, M.M. & West, R. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Sci* 6, 42 (2011).

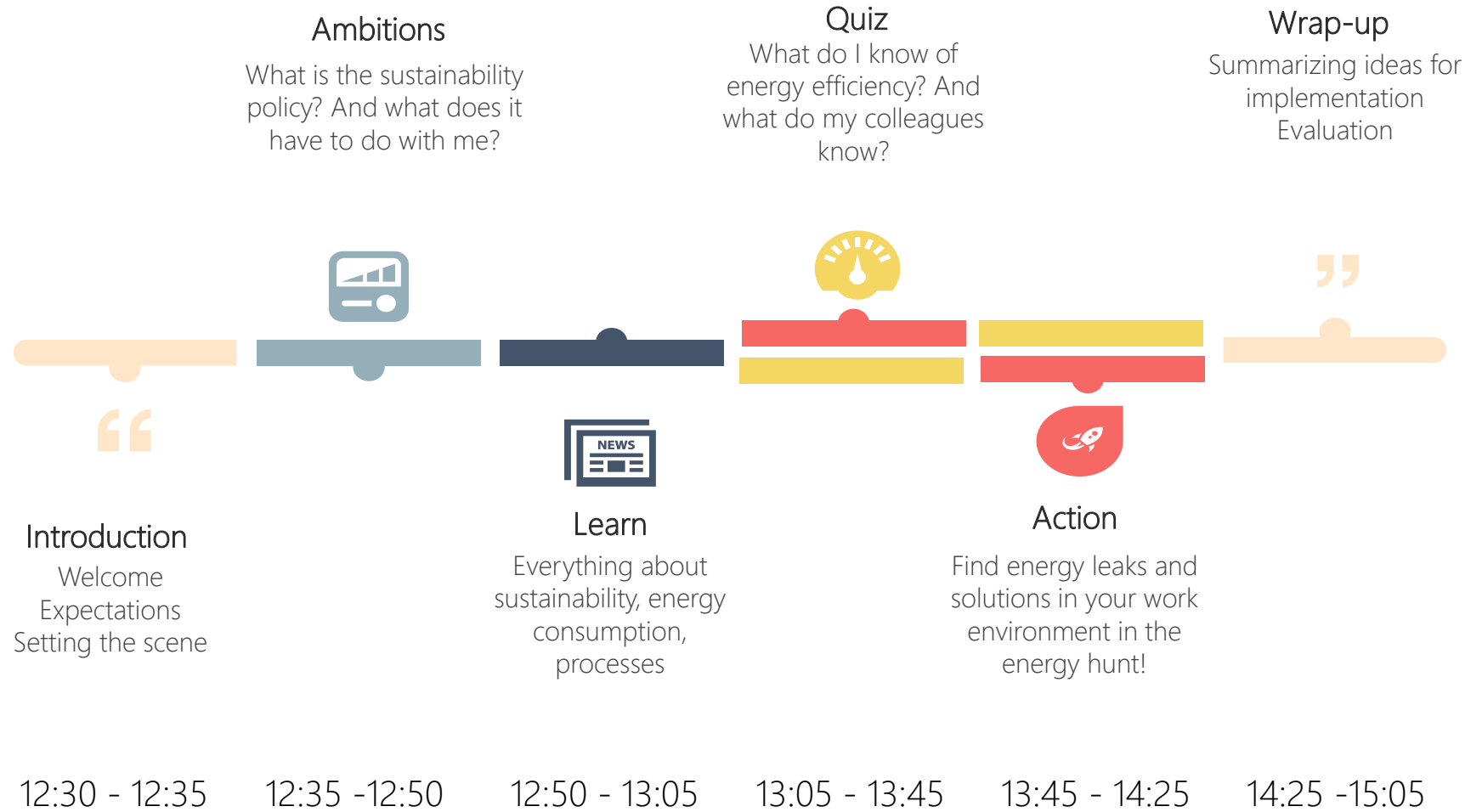
## › METHOD



# HUMAN-CENTERED DESIGN (WWW.IDEO.ORG)



# INTERVENTION EXAMPLE – PRODUCTION LEVEL



## › INTERVENTION EXAMPLE – MANAGEMENT LEVEL

Intervention with the ASAP tool: **A**ligning Sustainability impact **A**ssessment of **P**urchasing decisions

Simple tool to help debiasing capital investment decisions by (C-level or sub-C level) decision makers

Ultimate aim: Energy efficiency is a standard procurement criterion

### **ASAP tool**

<b>CRITERION</b>	<b>0 POINTS</b>	<b>1 POINTS</b>	<b>2 POINTS</b>
<b>IMPACT ENERGY SAVING (INTERNALLY)</b>	<b>Low</b>	<b>Average</b>	<b>High</b>
<b>AVAILABILITY EE OPTIONS (MARKET)</b>	<b>Hardly</b>	<b>Fair</b>	<b>Good</b>
<b>PROFITABILITY (FINANCIAL)</b>	<b>Low</b>	<b>Average</b>	<b>High</b>
<b>ORGANISATIONAL FEASIBILITY</b>	<b>Low</b>	<b>Average</b>	<b>High</b>
<b>PREVIOUS EXPERIENCE</b>	<b>Not/negative</b>	<b>Neutral</b>	<b>Good/positive</b>

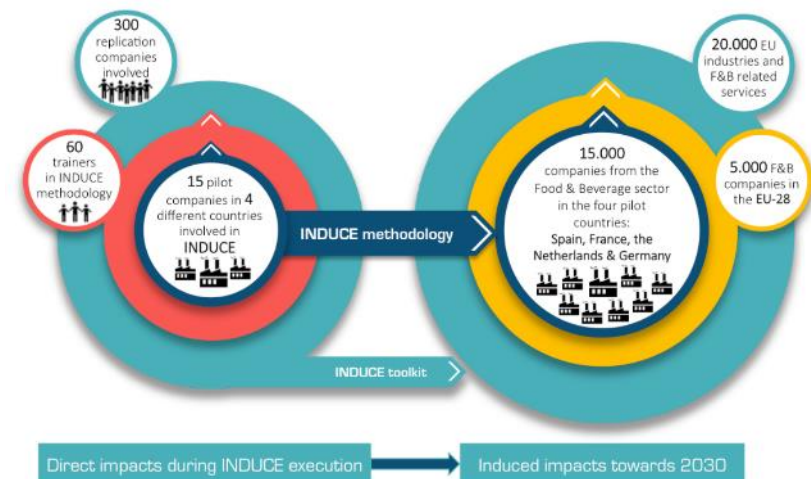


## IMPACT

Table 4. Main impacts of the INDUCE project (source: D5.1)

FACTOR	INITIAL IMPACT (OBJECTIVE)	CALCULATED IMPACT <sup>16</sup>
Number of measures on Energy Efficiency	400	490
Annual energy savings in primary energy (GWh/year)	106	554
Costs energy savings (million €/year)	17,4	20
Investments on Energy Efficiency (Million €)	26,5	21,68
CO <sub>2</sub> emissions avoided (ktCO <sub>2</sub> /year)	13,5	95

<sup>16</sup> assuming 315 companies would have been involved in total



## CHALLENGES

- Normal duration of CSA project versus normal duration of project in agrofood company (ah, is that project still running?)
- Data collection across four countries is a challenge (sensitive questions and privacy considerations)
- Get trainers out of their comfort zone (i.e., actively adopt insights from social scientific perspective in their training practice)
- Make companies opt for management trainings (more C-level commitment would have helped)
- Acknowledgement that (management) behaviour is a major factor of influence in the energy transition!



## › MORE INFORMATION

Thank you for your attention!

For more information and project outcomes:



<https://www.induce2020.eu/>



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### References

Cagno, E., Worrell, E., Trianni, A., & Pugliese, G. (2012). Dealing with barriers to industrial energy efficiency: an innovative taxonomy. In ECEEE Industrial Summer Study (pp. 1-14).

Cooremans, C. (2011). Make it strategic! Financial investment logic is not enough. *Energy Efficiency* 4 (4): 473–492.

Trianni, A., Cagno, E., Marchesani, F., & Spallina, G. (2017). Classification of drivers for industrial energy efficiency and their effect on the barriers affecting the investment decision-making process. *Energy Efficiency*, 10 (1), 199-215.

