



# Energy Efficiency in Industry - a policy case

Nordic-Baltic Energy Conference

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# Sweden today

- Almost fossil-free electricity production
- Almost fossil-free heat production
- Low CO<sub>2</sub> emissions per capita
- Energy intensive industry, energy use per value has decreased
  - Energy use at same level since -70s



# Energy policy targets for Sweden

50 per cent more efficient use of energy in 2030, compared with 2005

70 per cent less emissions from transports 2030 compared with 2010

100 per cent renewable electricity to 2040

No net emissions of greenhouse gases to 2045



Three pillars for Sweden's energy policy

# Market-based and general instruments

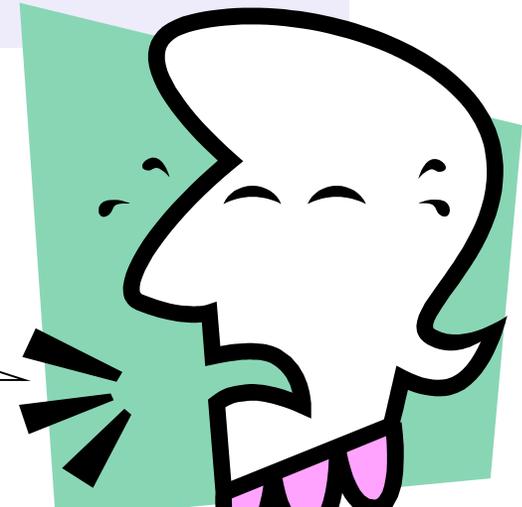
- Energy tax on electricity and fuels
- Carbon dioxide taxation
- Green certificate system for renewable energy
- Emission trading
- Dissemination of information
- Research and innovation
- Programmes and support schemes



# ~~Profitable investments in energy efficiency will always be made without support~~

- Other investments are more profitable
- Focus on core business is given priority
- Not full awareness of profitable measures
- RISK - Production – and/or quality problems

*We need policy  
measures and  
incentives*



# Change in organisations

**To improve you need to do things in a different way**

**And you need to sustain behaviour changes over time**

**And keep on improving**

**Design policies to catch the drivers!!**

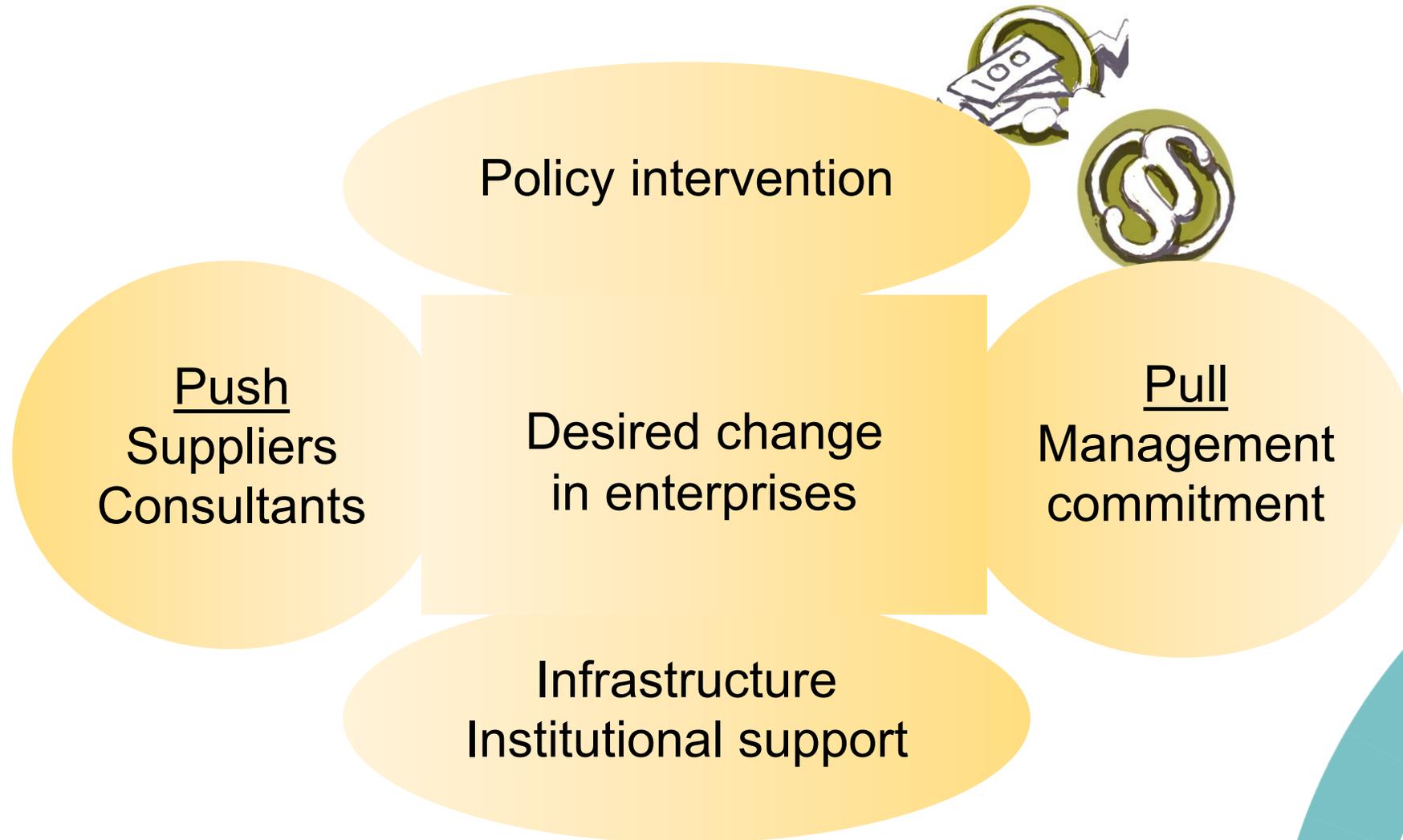


# McKinsey, change in organisations



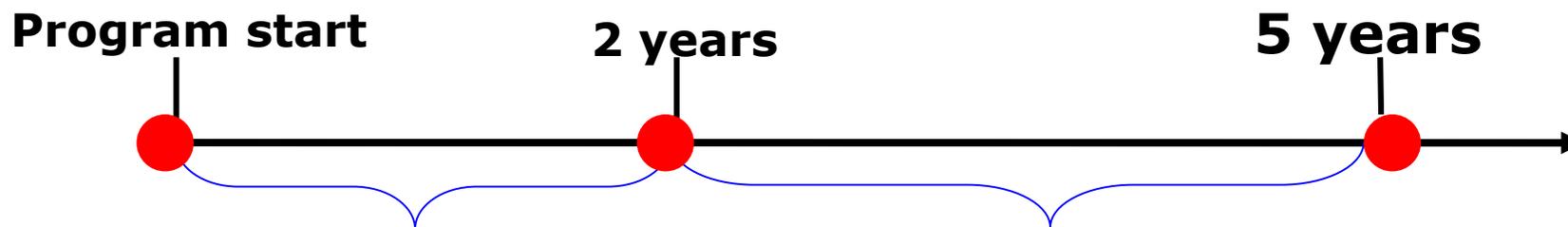
“...approaches must be ***tailored*** to the specific challenges, skills, and change readiness of a given part of the organization....  
... ***designing a methodology*** for setting appropriate goals and performance objectives.. ... determining specific ***information needs*** that, of course, will vary by level and unit..  
...For most parts of an organization, this effort will ***start simply and become more advanced*** over time”

# Energy Management Program



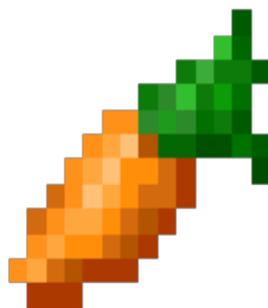
# ISO 50001 in Swedish PFE

*(103 companies 30 % of total energy use)*



- Energy audit and analysis
- Implement and certify ISO 50001
- Find measures & set target
- Implement routines for procurement & planning
- Continuously improve the Energy Mgmt System
- Realize measures
- Apply routines
- Effects of routines

**Tax reduction  
0.5 Euro/MWh**



# Organisational Changes



- Planning and control
- Capital budgeting
- Human resources
- Company culture or energy awareness

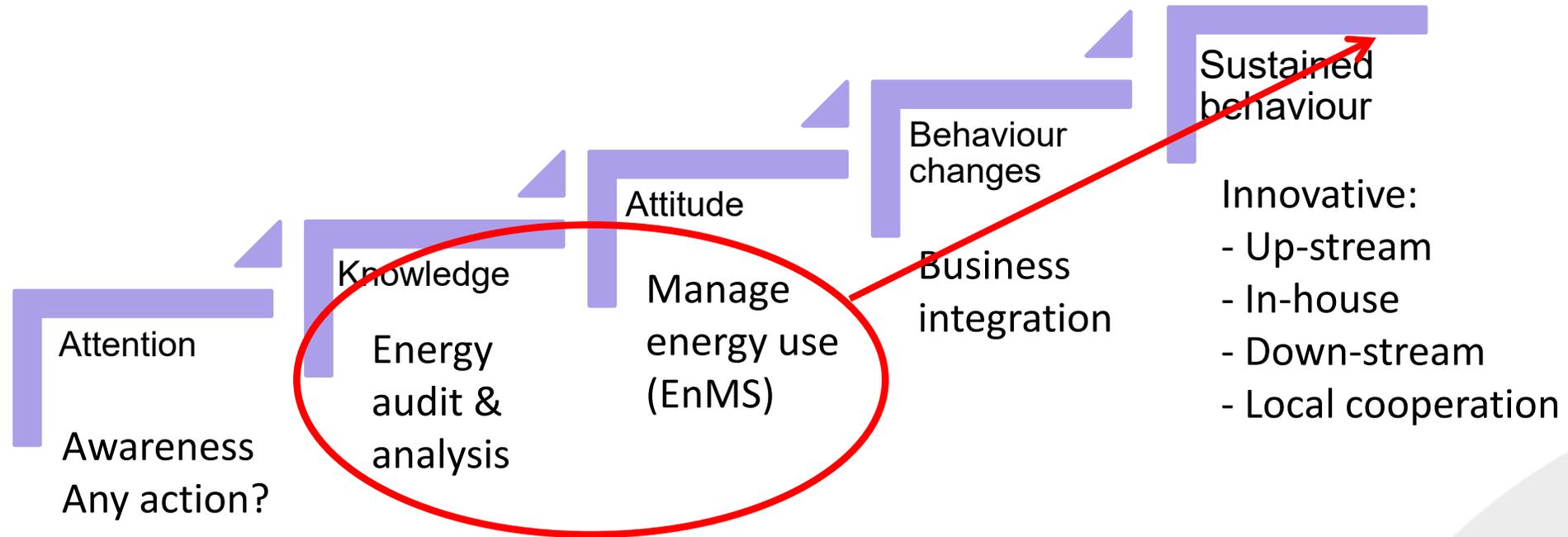
**Result: 10 % less electricity use  
in addition to BAU  
(3TWh)**

# Benefits for the Swedish Energy Agency

- PFE turned a difficult information task into **a successful communication project**.
- Knowledge sharing in **networks**
- To successfully improve companies' energy performance, an EnMS must be **integrated** in companies' business models, structure and culture, rather than implemented as a stand-alone action.



# The Energy Efficiency Stairway



**Management Attention**

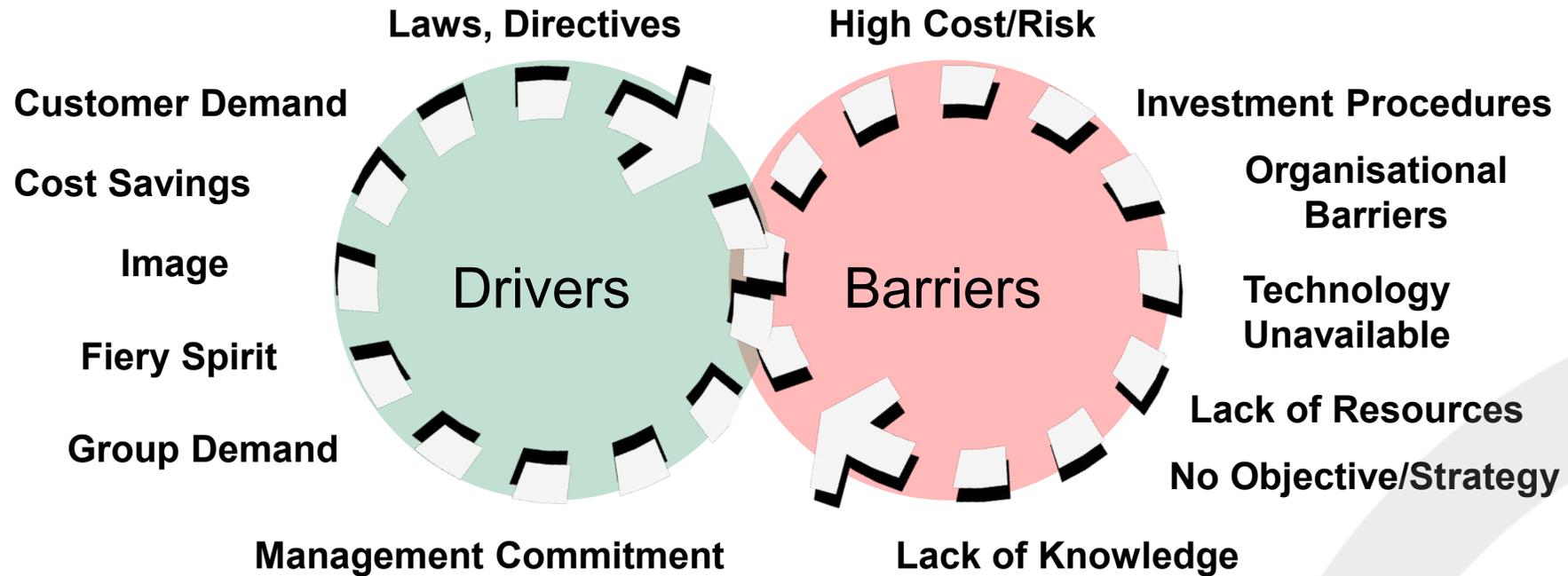
**No Priority**



**Strategic Issue**

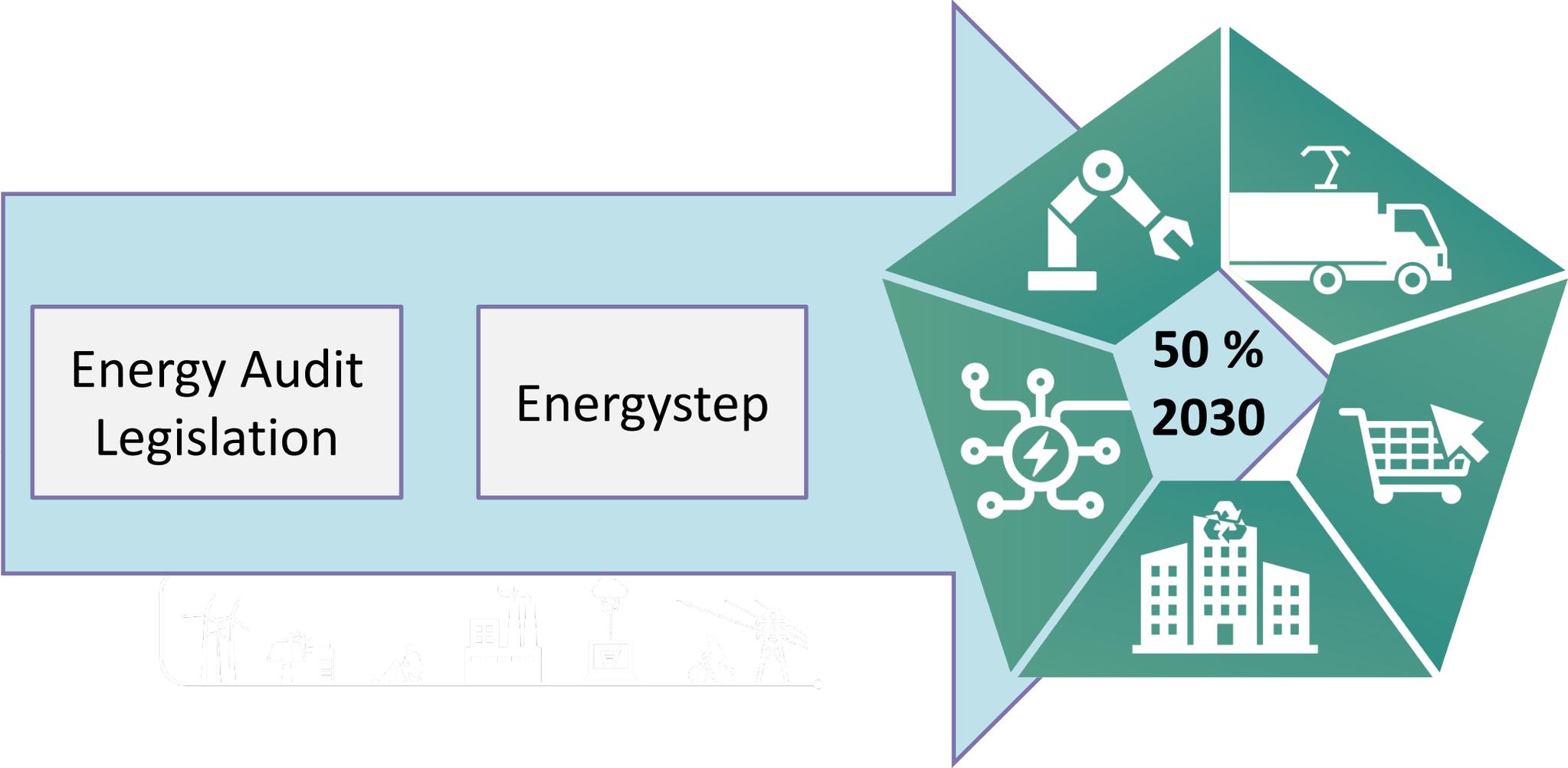
# The Drivers and Barriers Palette

## Energy efficiency in the industry



PFE did address many drivers and barriers

# From Audits to Sectorial Strategies





# Results

## Energy audit legislation

- Total: 188 TWh (> 50%)
- Measures defined: 7 TWh

## Energystep

- Defined: 169 GWh
- Potential: ?

## Sector strategies

- Stakeholder dialogues

# Thank you for your attention!

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You Tube



# From research to dissemination of new technology

