



*A holistic framework  
for **Empowering SME's**  
capacity to increase  
their energy **efficiency***



## **Assessing the impacts of pre-feasibility energy audits: An empirical investigation of SMEs in the UK**

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# About the Project

- The objective of the project is to “Empower” SMEs across Europe to undergo energy audits and implement their proposals.
- CPD course that educates SMEs on conducting feasibility studies of different energy efficiency measures

# Why Energy Efficiency for SMEs?

- SMEs form 99% of businesses in the UK (number wise)
- SMEs are challenging for energy policy makers to regulate due to their heterogeneity
- SMEs face similar barriers, but require different solutions
- It is challenging to understand how to tackle challenges within SMEs due to lack of resources
- SMEs can make small differences in the energy sector. However, combined, their effects is magnified.

# Potential solutions

- Enhance the skills of 720 energy experts of SMEs across Europe
- Implement Education and Training programmes (CPD courses) under the European Qualification Framework
- Develop an online energy management platform for SMEs
- Develop tools for energy Monitoring and Targeting, and energy Measurement and Verification
- Conduct at least 160 case studies with SMEs across Europe

# Methodology adopted



**Literature review** to understand the status quo and available targeted policy measures



**Survey questionnaire** to understand the energy profile of each SME & the factors that influence the implementation of energy efficiency measures



**Development of SME Energy Efficiency Maturity model** to evaluate the performance of processes, policies, and technologies based on their current energy efficiency levels



**Short training courses** delivered to 100+ participants from SMEs and academia. **Case study** implementation at pilot sites including pre-feasibility energy audits.

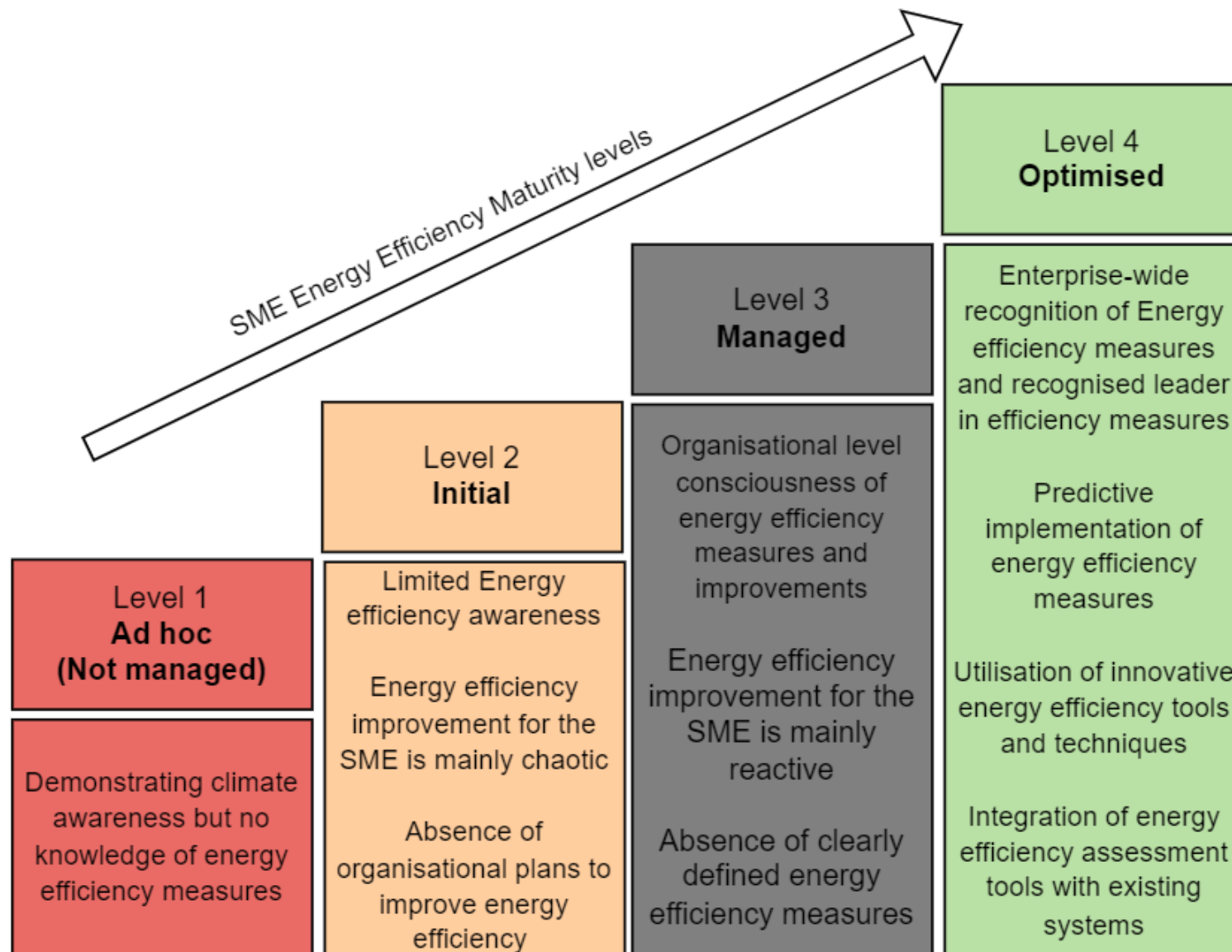


**Data analysis** of the data collected from SMEs.



**Development of energy efficiency reports** for each SME to support target setting and transition to higher stages of the SME energy efficiency maturity model

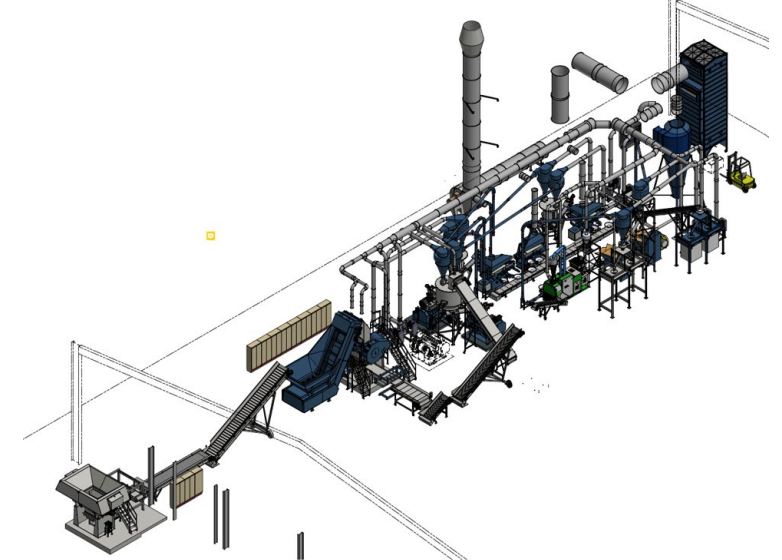
# Maturity model to support use of pre-feasibility energy audit





# Case Study (company A)

- SMEs is involved in **electrical wires recycling** business
- Due to poor infrastructure connecting them to the mains; reliance was on **diesel** generators
- Over **500 MWh/year** was generated from diesel
- The course and pre-feasibility energy audits assisted the SME in evaluating and consequently implementing PVs that would save over **30%** of the diesel used



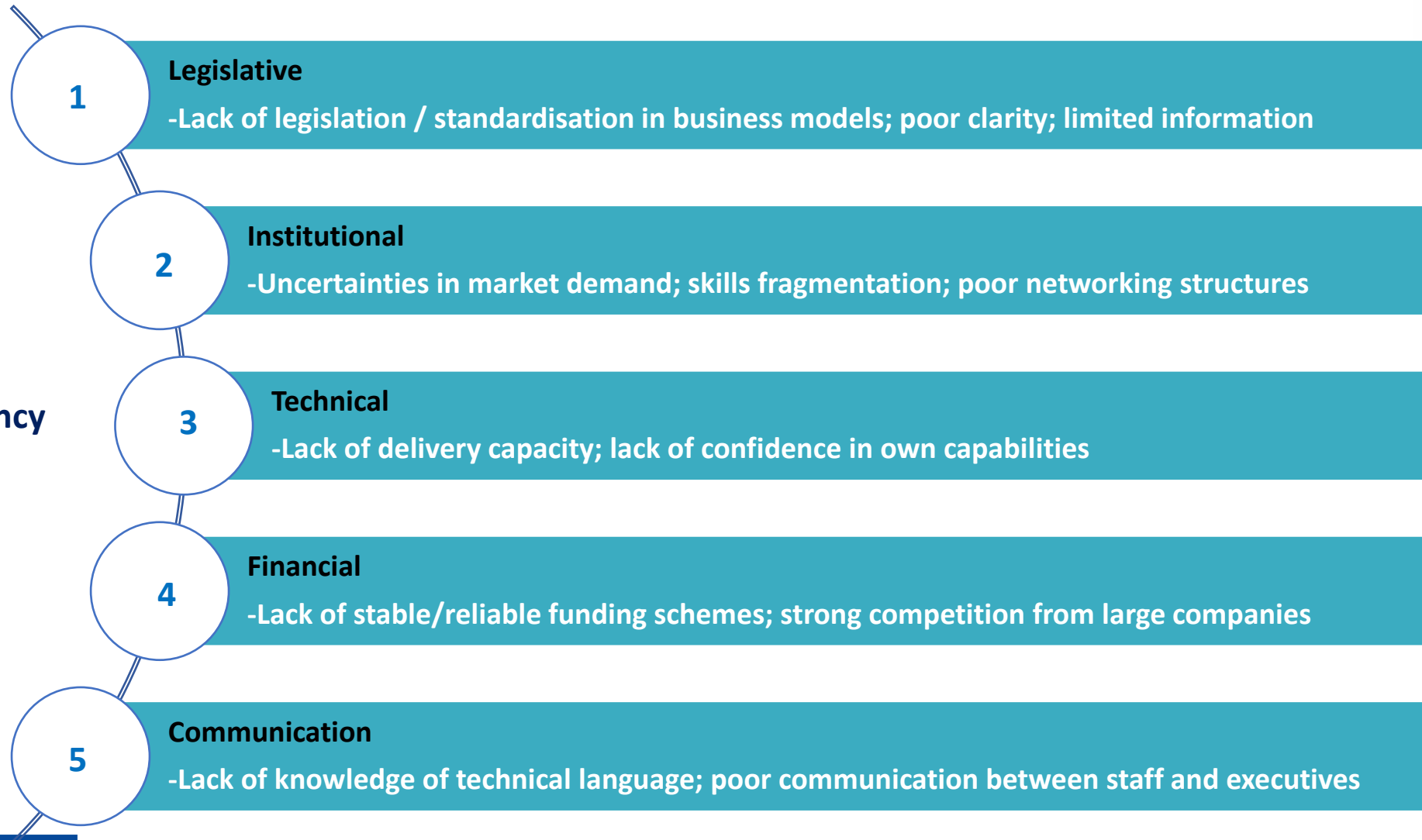
# Case Study (company B)

- SME manufactures **housing uPVC and timber frames**
- The company consumes about **380 MWh/year** from the grid
- The programme helped them install a combination of **PVs, Air Source Heat Pumps (ASHP), and LED lighting system**, as the optimal solution
- The course helped them to evaluate and consequently implement these measures that would save over **10%** of grid electricity usage



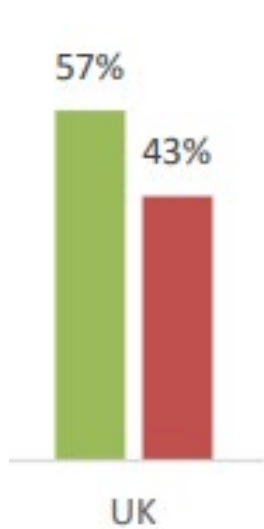


## Barriers hindering the promotion of energy efficiency in UK SMEs

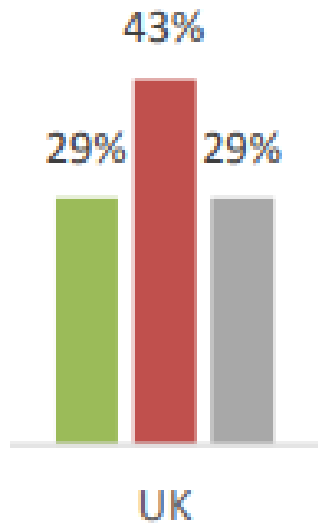


# Results and Analysis

Has your company carried out an energy audit?

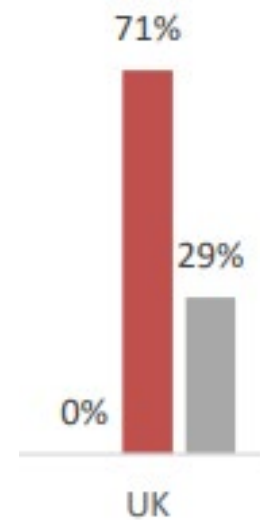


Is there an energy efficiency strategy within the company for the next 3 years?

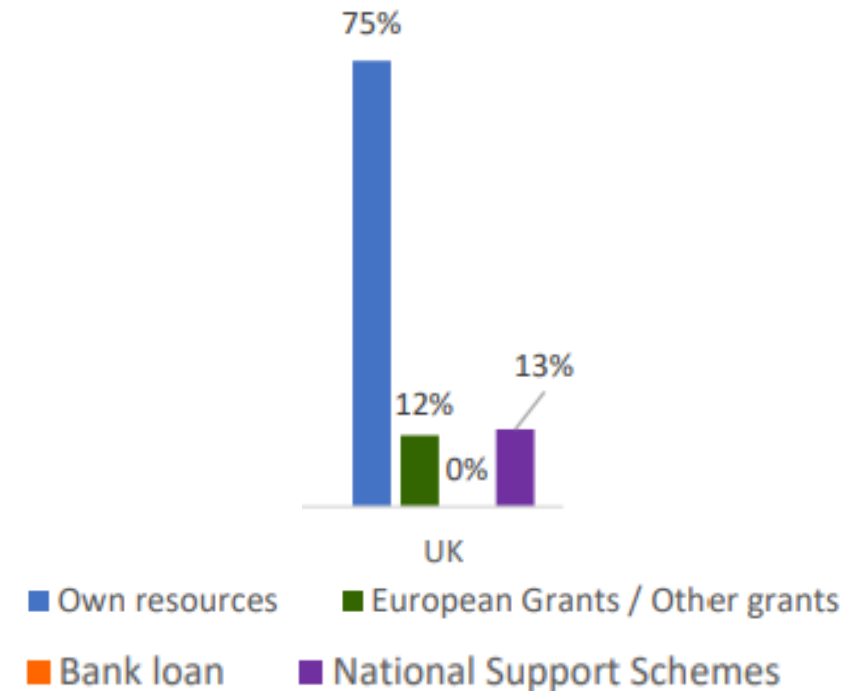


■ Yes ■ No ■ I don't know

Is there a budget approved for investments in reducing energy consumption in the company for the next 3 years?

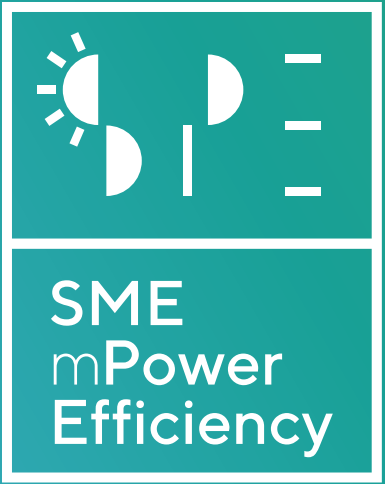


Which are the funding sources for Energy Efficiency investments in UK SMEs?



# Conclusions and Recommendations




- SMEs do not realise their potential for reducing energy consumption due to lack of awareness and resources. Short trainings should be promoted to enhance SME capabilities.
- Most SMEs do not understand their current energy efficiency maturity level and have no defined metrics to measure against. The developed maturity model will be effective in addressing this problem
- SMEs need education on the benefits of employing energy managers
- SMEs are not usually aware of the support available (e.g., grants) to help them implement energy efficiency measures. Dissemination channels should be increased by government and stakeholder organisations.



# Thank you!

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