

CASE STUDIES FOR INDUSTRIAL ENERGY EFFICIENCY IN ZIMBABWE - CTCN PROJECT

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ZIMBABWEAN DELEGATION TO THE ENERGY EFFICIENCY WEEK, PRETORIA, SOUTH AFRICA



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ABOUT THE BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT ZIMBABWE (BCSDZ)



- Formed 26 years ago in 1993 and consists of 100 companies, 500 Individuals
- BCSDZ is a Global Networking Partner of the World Business Council for Sustainable Development
- 10 Technical Committees – ENERGY, WATER, CLIMATE, LEGISLATION, RESEARCH, SUSTAINABILITY REPORTING, WASTE, OHS, CHEMICALS, WASTE

CONTEXT



- Industry key to the socio-economic development of the economy
- SMEs also face financial challenges to invest in energy efficiency
- Obsolete Equipment and archaic technologies make it difficult for SMEs to be competitive
- Generation capacity of 1200MW compared to a Total Demand of 2200MW
- Industrial Energy Efficiency is therefore an imperative

ENERGY POLICY FRAMEWORK

- National Energy Policy
- Renewable Energy Policy
- Electricity Act
- Biofuels Policy
- SI 134 ZSE Listing Rules
- NB: No specific Energy Efficiency Policy

KEY STAKEHOLDERS FOR THE CTCN ENERGY EFFICIENCY PROJECT IN ZIMBABWE





CASE STUDY – Zimbabwe/CTCN/BCSDZ/PWC India – Energy and Water Efficiency Case Studies

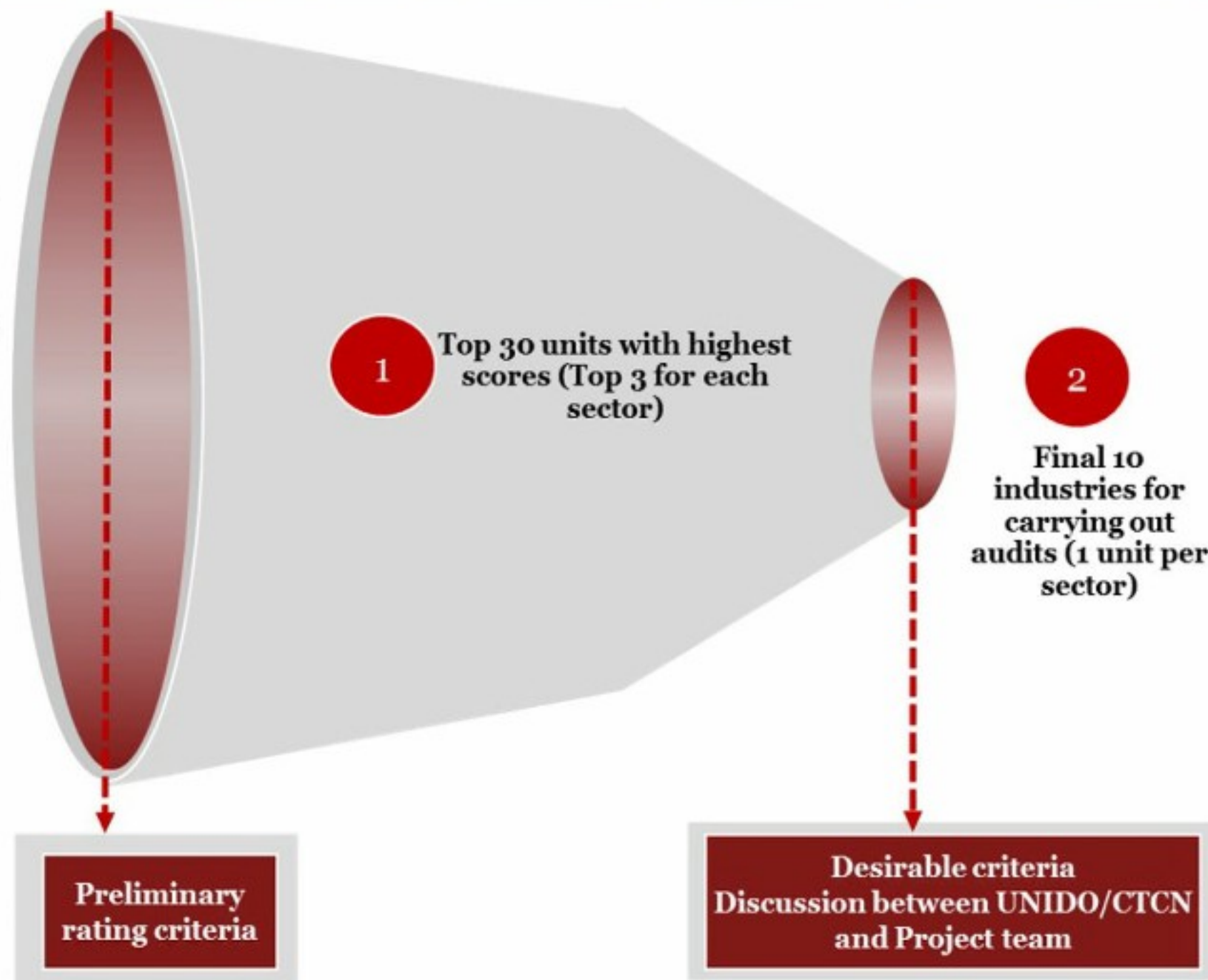
CTCN MILESTONES ON ENERGY EFFICIENCY IN ZIMBABWE



- Training and Capacity Building of 46 experts in Energy Audits/Industrial Energy Efficiency and Renewable Energy for Private Sector
- Energy Audits for 10 high impact industries
- Training in Energy Management Systems based on ISO 50001:2018
- Production of a National Energy Efficiency and Water Manual
- Identification of Renewable Energy Potential in 10 High Impact Companies

Units from following sectors in Zimbabwe

- Food processing and Beverages
- Leather and Footwear
- Agrochemical Production
- Timber processing
- Mining, Mineral processing and Metal finishing
- Cement production
- Cable manufacturing
- Buildings and Construction
- Waste Management and Recycling
- Dairy Sector



Selection Criteria for CTCN industrial energy efficiency project



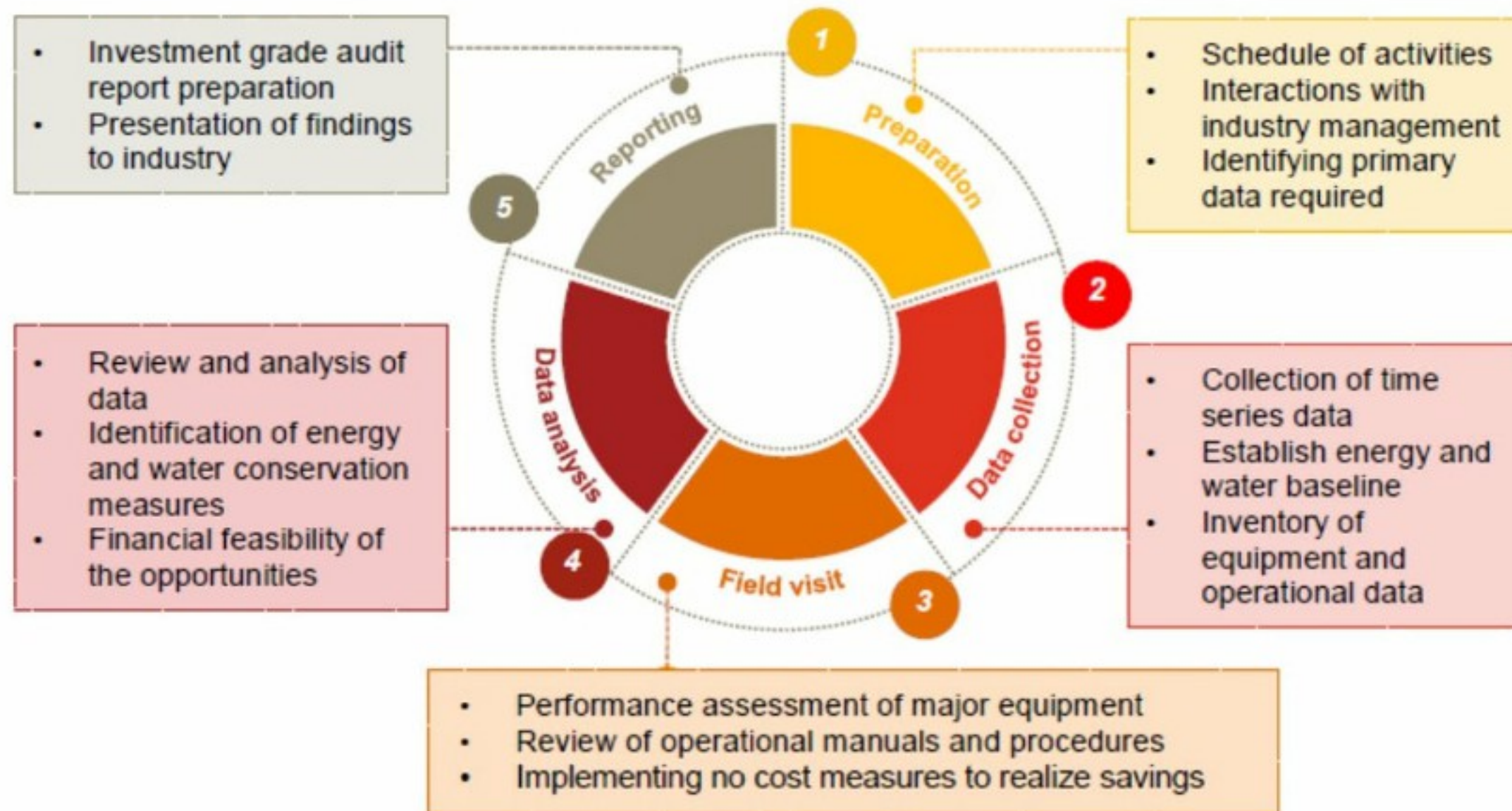


Figure 8 Energy and water audit methodology

Audit Methodology for industrial energy efficiency in Zimbabwe



ENERGY AUDITS IN PRACTICE – ZIMBABWE CTCN PROJECT



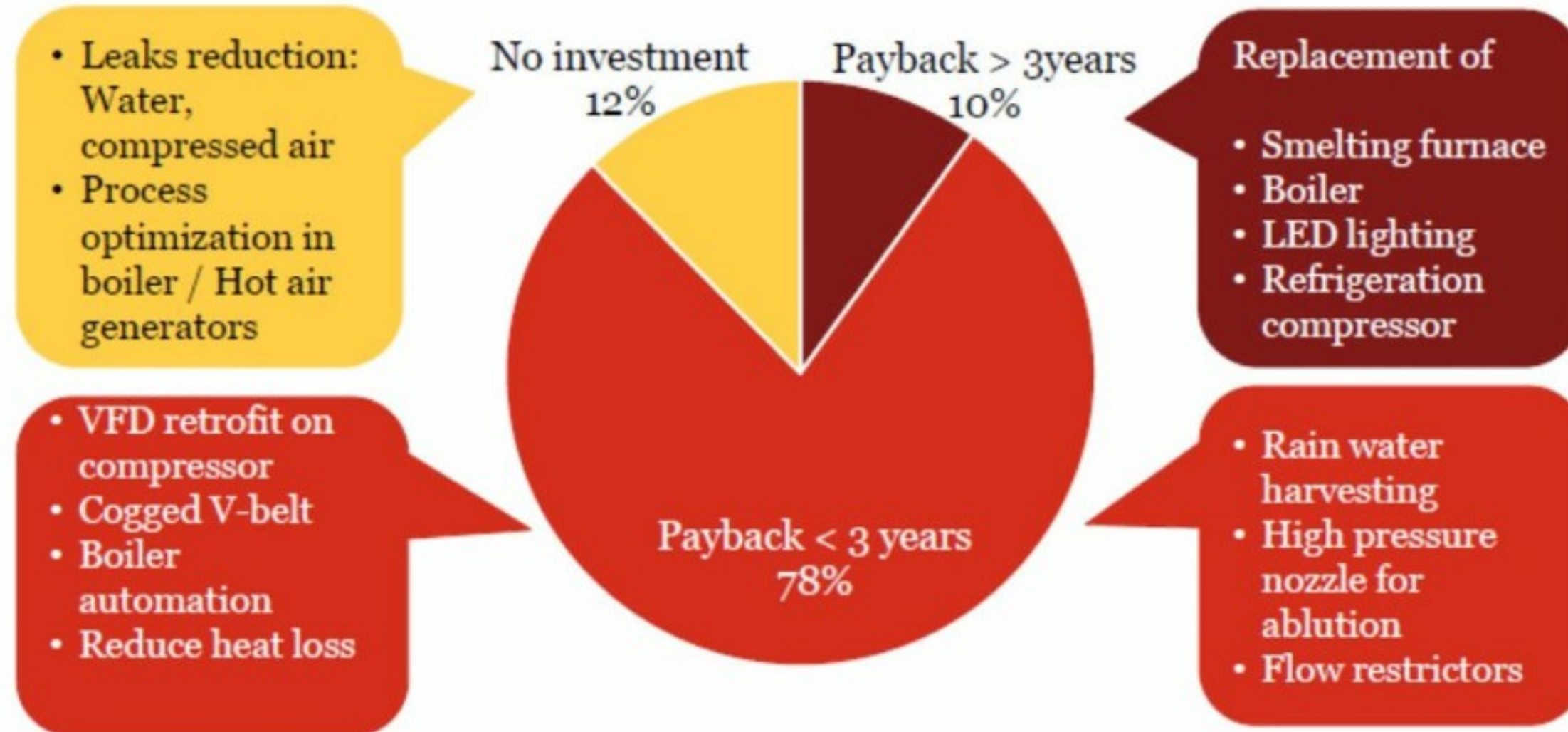
ENERGY AUDITS IN PRACTICE – ZIMBABWE CTCN PROJECT

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Energy and water saving recommendations

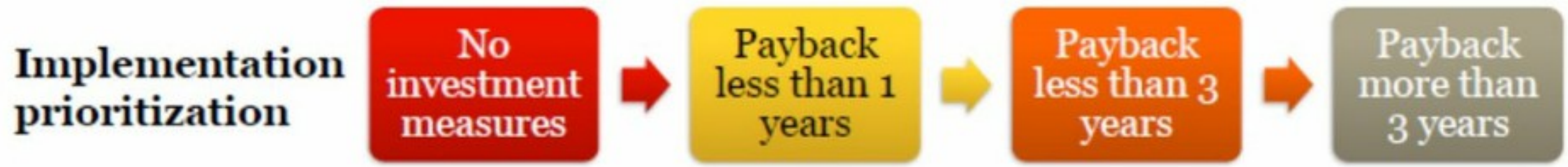
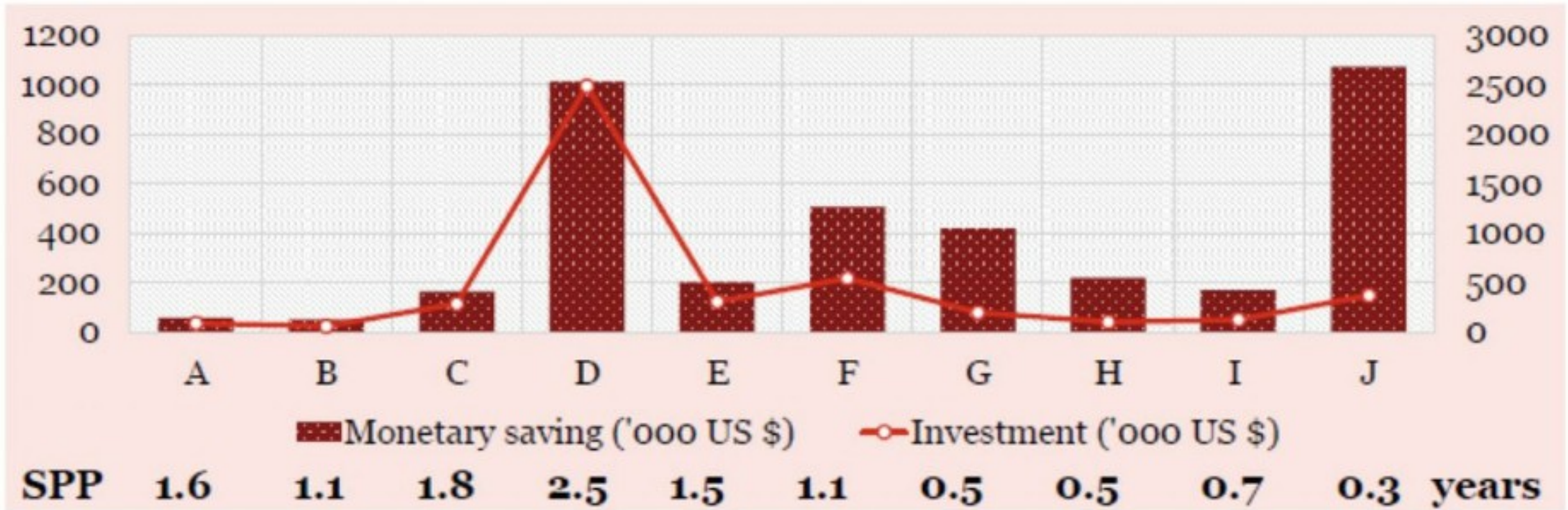
No. of energy and water recommendations identified: 161



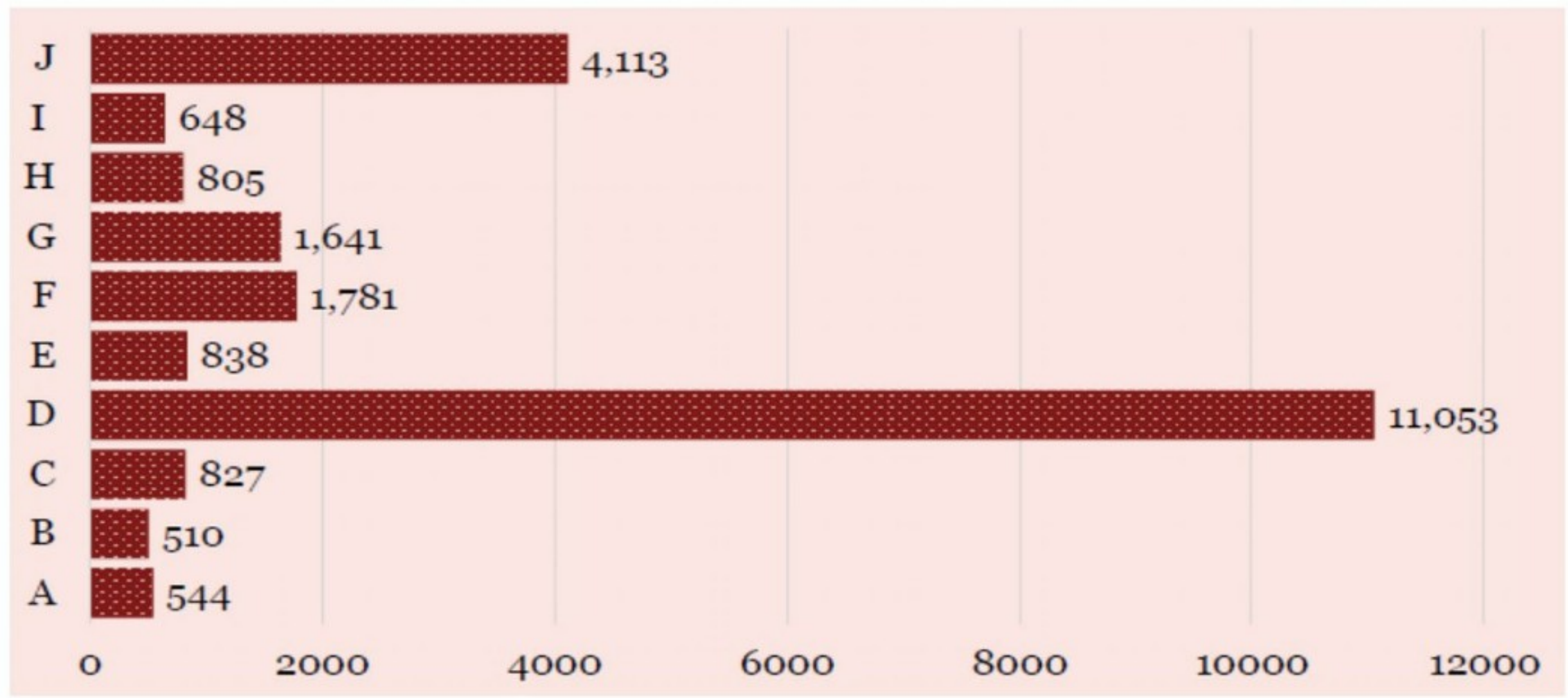
Source: BCSDZ/CTCN/UNIDO/PWC: 2018

Investment potential and monetary saving

Investment proposed: US \$ 4.53 million
Monetary saving potential: US \$ 3.85 million



GHG Reduction Potential (tCO₂ equivalent)



CTCN MILESTONES ON ENERGY EFFICIENCY AND RENEWABLE ENERGY IN ZIMBABWE



- Increased adoption of Industrial Energy Efficiency in industry
- Increased networking between technology developers and private sector
- Adoption of benchmarking in energy benchmarking and energy performance review
- Increased energy reporting in corporate sustainability reports
- Improved Power Factor
- Mainstreaming energy efficiency in purchasing decisions
- Increased Productivity

What should be done to encourage that Energy Efficiency and Energy Audits?

Promote the savings that have been achieved in companies so far

It should be made mandatory by government for companies to have at least an audit every two years.

Government incentives on acquisition of new technology

More demonstration plants and capacitation of Zimbabwean engineers.

involve top management commitment especially in industry

Develop a policy framework, programs and incentives

Like what Alf did, the ten companies must be your pilot companies and the savings of \$, energy and CO2 emissions can be presented to other companies to promote uptake

Create energy saving awareness

Awareness is important about the achievements so far achieved to encourage those that want to go the EE way

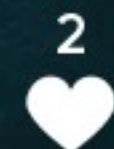
What should be done to encourage that Energy Efficiency and Energy Audits?

Cohesive policies which talk to efficiency and implementation of other cleaner forms of energy such as renewable energy, battery storage etc.

Awareness of benefits of energy efficiency and potential

LESSONS LEARNT IMPLEMENTING INDUSTRIAL ENERGY EFFICIENCY IN CTCN ZIMBABWEAN PROJECT

- Lack of financial resources to support RE/IEE Investments
- Low perception of Energy Efficiency
- Technical capacity for installation, operation and maintenance
- Lack of implementation of Energy Management Systems e.g ISO 50001:2018
- Obsolete technologies and equipment
- Lack of awareness and management commitment
- Weak business case and low bankability of existing IEE projects
- Short term financial perception by selected enterprises
- Lack of proper sizing and feasibility studies on IEE technologies

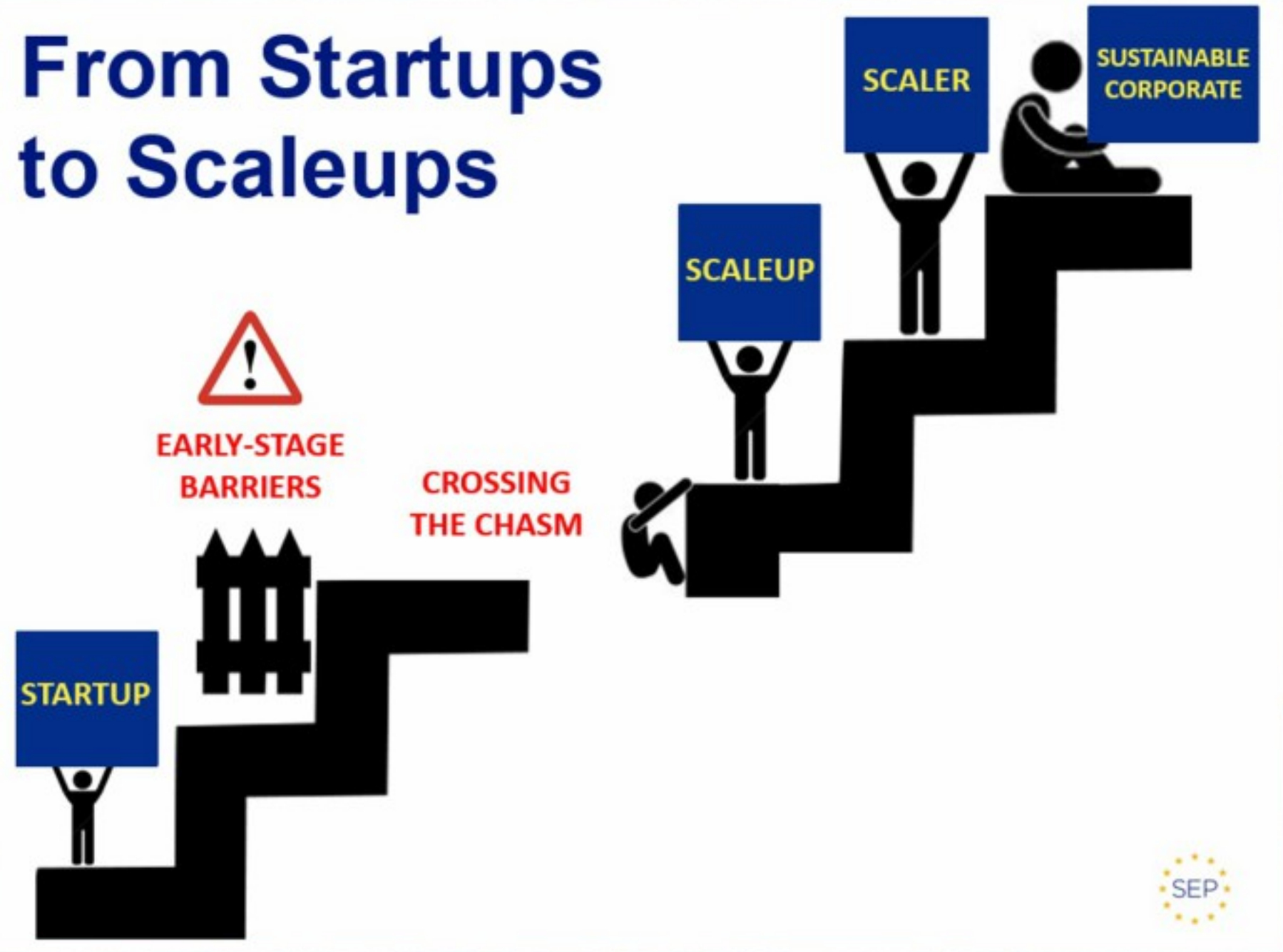


UPSCALING RENEWABLE ENERGY ENERGY

Although pilot projects have been established in various industrial facilities and sectors, the bigger challenge is how we can upscale and replicate success stories in order to achieve a higher impact.

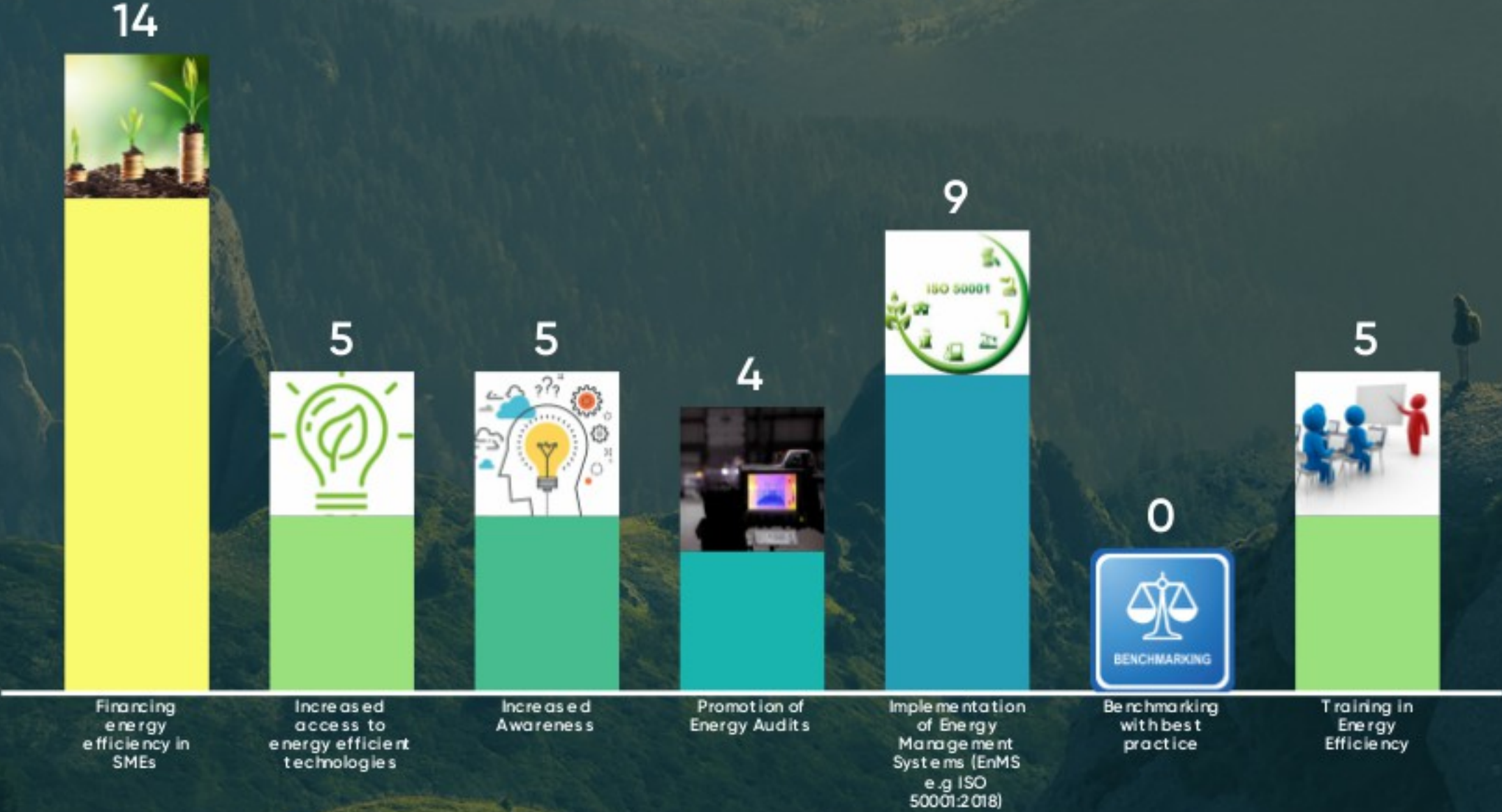


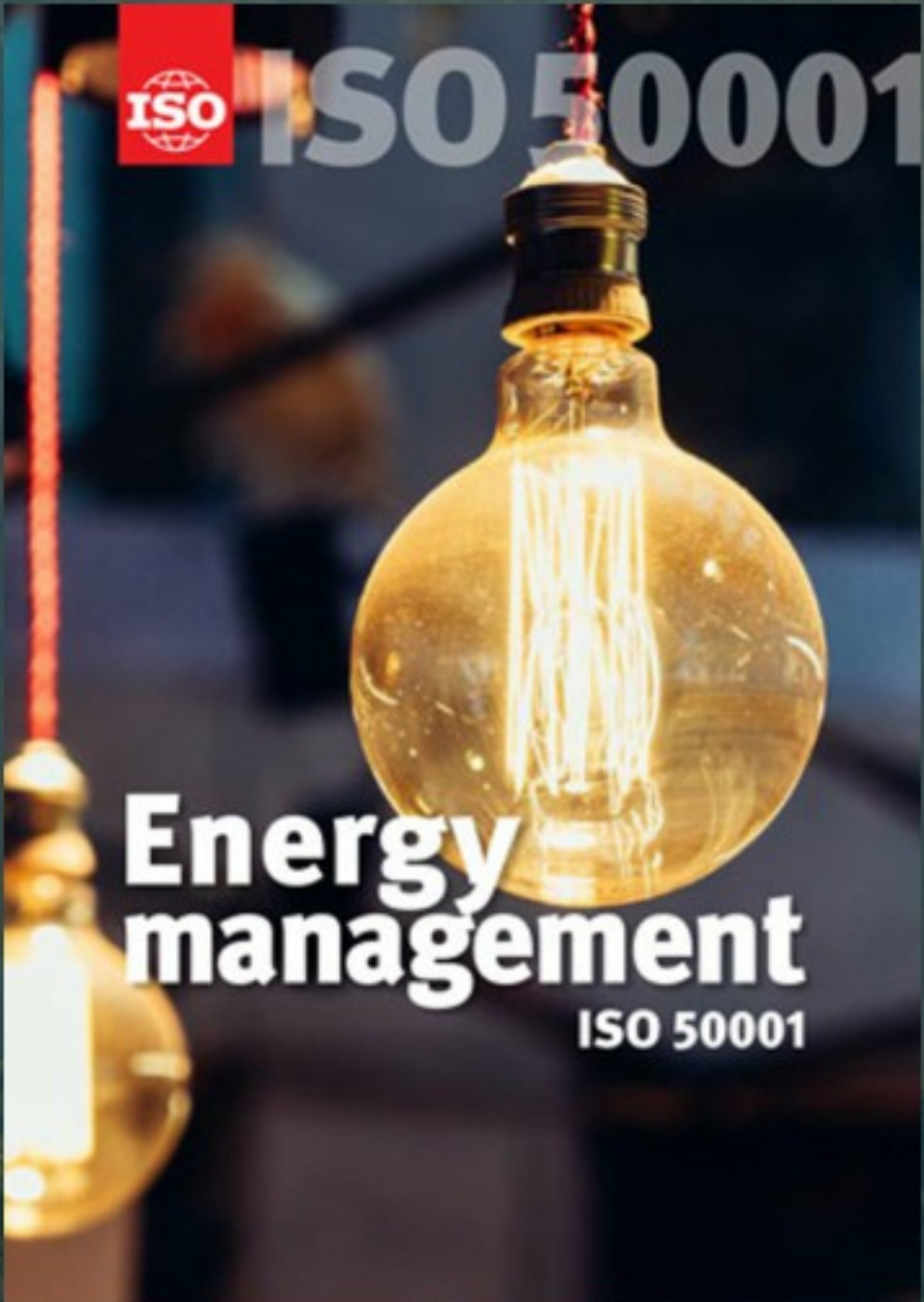
From Startups to Scaleups



IEE should not remain at start-up phase but must overcome barriers to SCALE-UP

in your own country which factors do you consider as most critical in SCALING - UP adoption of Industrial Energy Efficiency in industry



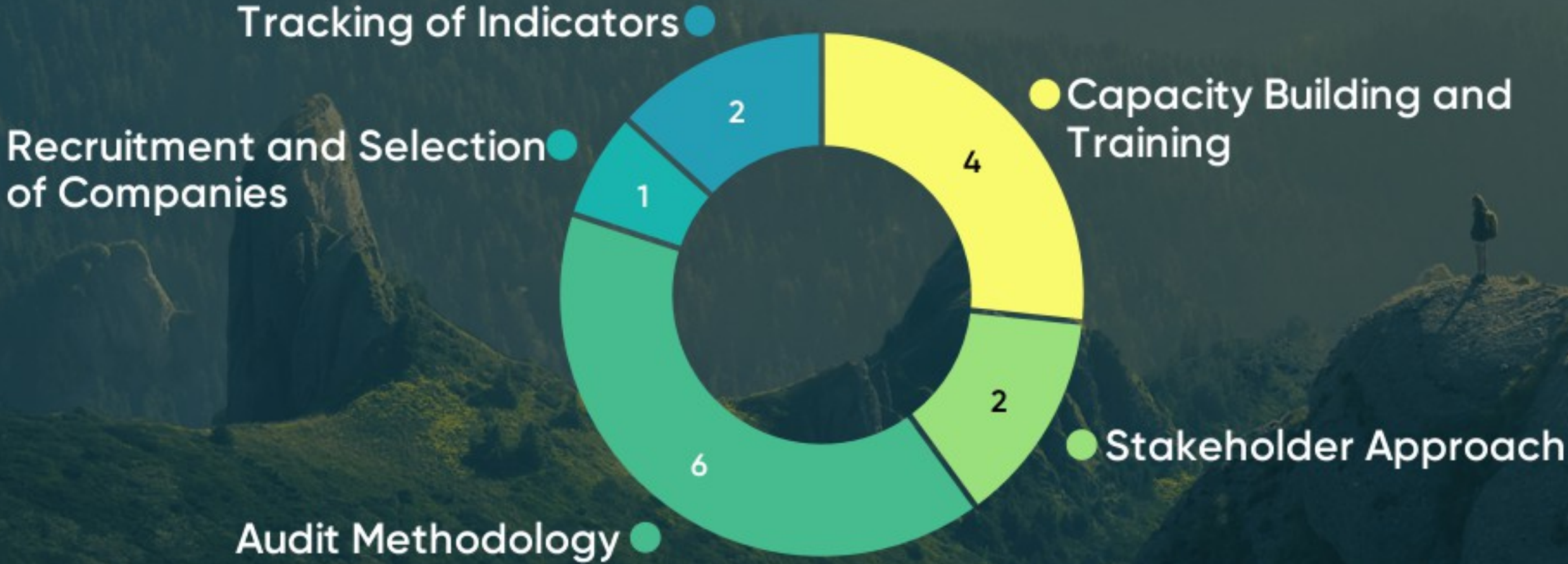


Lesson Learnt: There is need to promote the implementation of Energy Management System



Energy Audits should be encouraged to identify energy savings

Which aspects of this project can you also replicate in your own country?



Questions to the Presenter

20



questions

0 upvotes

A stylized Earth globe with green foliage growing on the continents. The globe is shown from a perspective that highlights the Americas and Europe. The oceans are a deep blue, and the continents are rendered in various shades of green and brown, with dense green foliage growing on the landmasses.

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