

Energy Efficiency: from Policy to Implementation

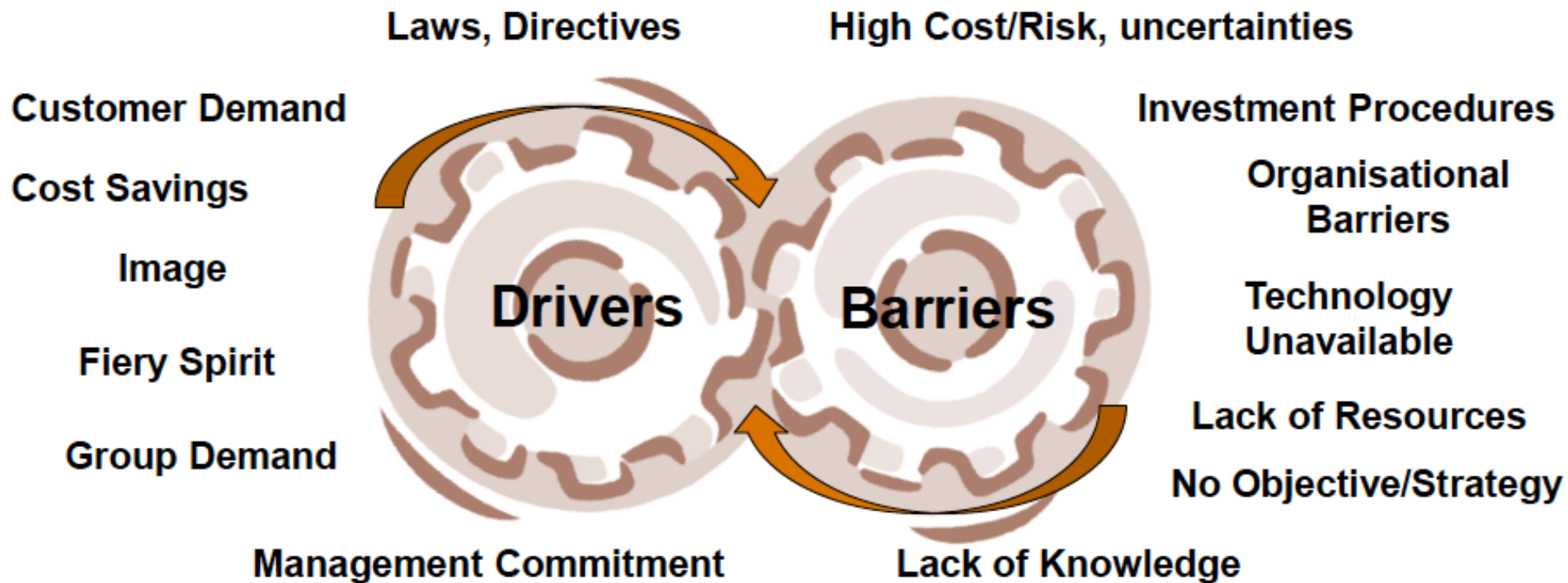
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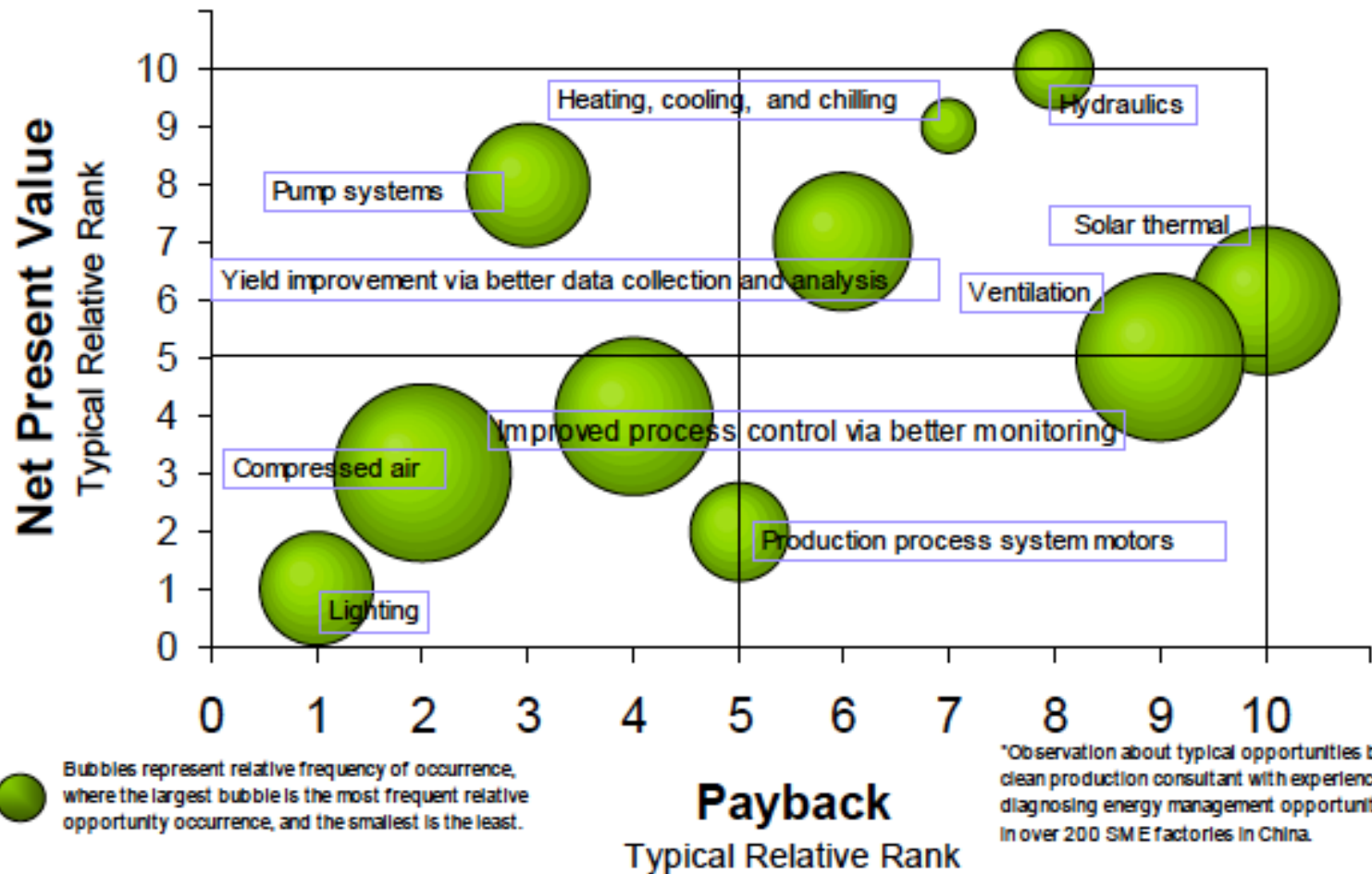
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Drivers and barriers for energy efficiency implementation

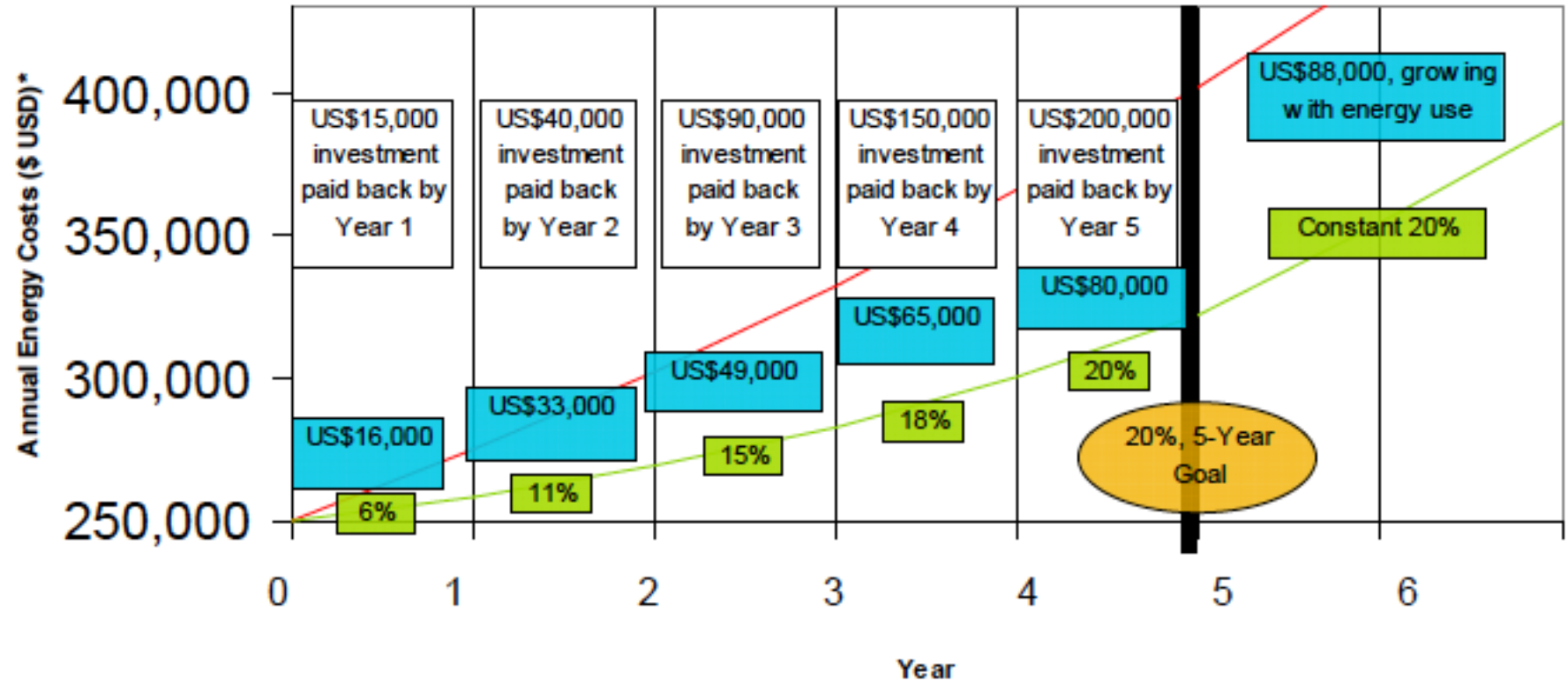


Where should one start? Typical relative energy efficiency opportunities in industry

Top 10 Relative Opportunities



Cost savings potential from energy efficiency: example of 20% target in 5 years



- Business-As-Usual Energy Use. 10,000 MWh Baseline with 10% Annual Growth.
- Efficient Energy Use. 20% Improvement on BAU over 5 Years.
- Annual savings
- Cumulative energy reduction

*Assumes starting annual energy use of 10,000 MWh with average cost of US\$0.025/kWh, and energy use growing at 10 percent per year. Progress toward reduction goal of 20 percent over five years is somewhat front-weighted to reflect typical quick wins in lighting, compressed air, and heating/cooling systems

How to implement energy efficiency?

Policy intervention

- Incentive (or mandatory)
- Taxes, Legislation, Environmental code
- Performance requirements, reporting

Technology & Methodology Push

- ESCOs, EPC
- Suppliers
- Consultants

EnMS

- Energy audit & analysis
- Energy management system
- Procurement and new projects
- Reporting
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Enterprise management activities

- Commitment
- Integrate in management
- Long term targets/strategy
- Require report/follow-up

Institutional Support

- Tools, Build up skills programme
- Agreement structure, Report system
- Dissemination of good practices
- Networking

Overview of policies and measures in EU-27

Regulations	
Energy performance standards	Mandatory inspections and audits
Minimum efficiency standards	Mandatory planning and reporting
Economic and financial incentives	
Grants and subsidies for EE and CHP	Tax exemptions and reductions
Incentives for planners and architects	
Informative instruments	
Labelling (equipment and buildings)	Awards and competitions
Information campaigns	EE information centres
Co-operative measures	
Voluntary agreements	Technology procurement

Typical policies and measures

- Cross-cutting programmes
 - combine multiple measures and target multiple end-use sectors
- Procurement initiatives
 - Environmental criteria included in **public** purchasing processes
- Demonstration (e.g. building and lighting)
 - E.g. retrofits: existing building stock in **public** ownership; measures target primarily heating, cooling and lighting
- Labelling schemes
 - E.g. energy performance labels and voluntary building rating systems

Demonstration example: educational sector energy efficiency in Russia

- 50-70% energy savings technically possible
- 20-25% savings available using low cost measures
- On average 30% energy savings achieved in demonstration schools and universities
- Additional energy efficiency gains from educational programme aimed at secondary school students
→ increased long-term cost efficiency
- Lack of budgetary autonomy limits incentives for local authorities

Success factors

- Partnership / co-operation between industry and government / public administration
- Combining voluntary agreements with regulatory measures
Win-win deal for the government and the participants
- Clear targets, rights and obligations
- Reliable monitoring and reporting
- Creation of relevant Funds by the government, subsidized interest rates for loans, budgetary support at the household level, tax exemptions, emission taxes
- Use low public investment to leverage private investment