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Deutsches Institut für
Entwicklungspolitik



Years | 1964–2014

German Development
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Industrial energy efficiency and behaviour

Case study evidence

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- Case study context
- Barriers to energy efficiency
- Potential drivers and policy recommendations

- Presentations from four case studies: South Africa, Colombia, India, Uganda



South Africa

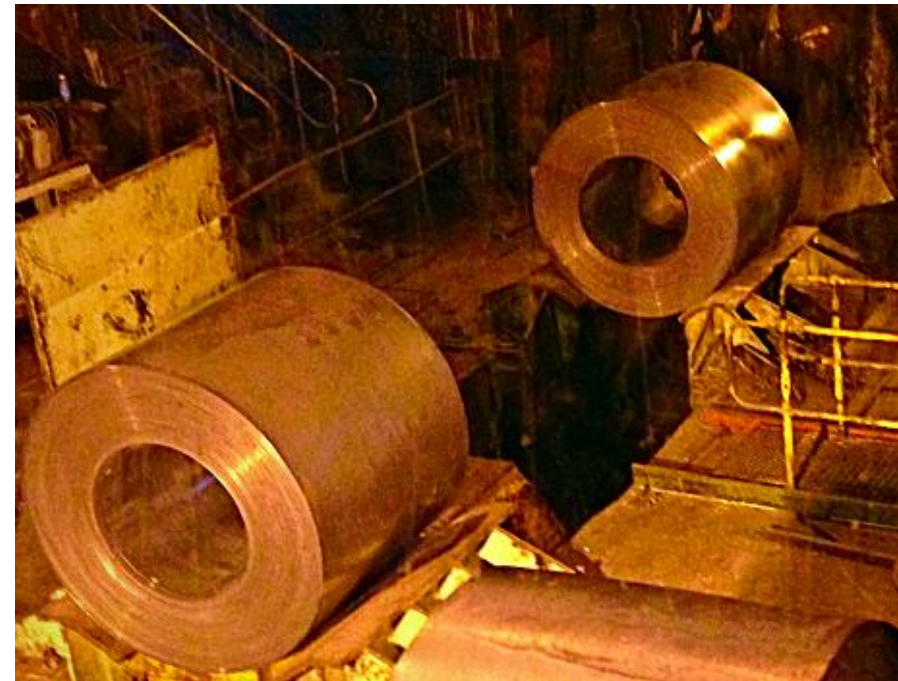
South Africa: ArcelorMittal Saldanha Works



- Critical juncture: Economic downturn, energy supply shortages, and decreasing raw material quality
- Participant in the Industrial Energy Efficiency Project (IEEP) of South Africa
- Production focus on hot rolled coil (HRC) products with a thickness of less than 1.6mm



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ArcelorMittal

Barriers to energy efficiency



- Low cost, mostly reliable energy supply
- Focus on production, not efficiency
- Energy efficiency tasks: No man's land
- Limited CapEx capacity
- Loss aversion (alternatively a driver)



- Complementary top-down commitment with bottom-up drivers
- Systematic challenging of the status quo
- Place energy at “top of mind” (Karlan et al 2012)
- Potential of energy efficiency to contribute near-term and low-cost opportunities for energy savings
- Technology is frequently in focus in training and support programmes: integrate behaviour as well
- Build and draw upon evidence base for support
- Make behaviour a primary and ongoing assessment?



Colombia



- Programme under development by Inter-American Development Bank in cooperation with Bancóldex
- Supply and demand side market gaps have impeded the uptake of energy efficiency in Colombia
- Seeks to recreate aspects which may be found in an energy service company (ESCO) type model
- SME focus in the hotel and hospital service sub-sector



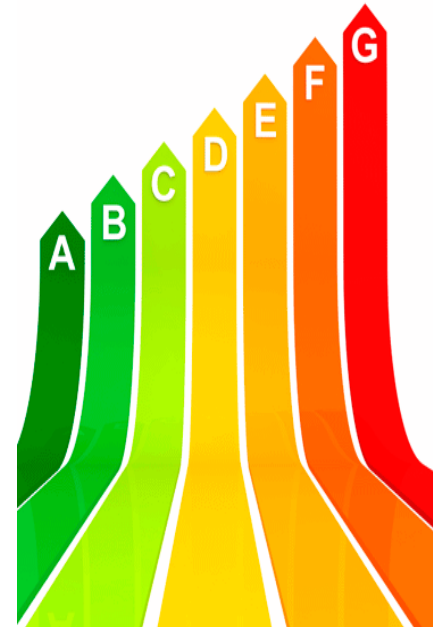


- Quality assurance: Provide independent assurances of service provider technical capacity and warranties of energy savings
- Legal: Standardised, transparent contracts outlining service provision, performance
- Market uncertainty: Provide access to expertise, reduce “knowledge hurdles”
- Risk: Provide risk insurance to cover shortfalls on anticipated returns on investment
- Standards: Development of standards for energy saving monitoring and verification

Design recommendations



- Addressing risk, uncertainty, trust in the absence of ESCO type models
- Limit complexity, standardise contracts or provide model contracts
- Integrate behaviour into energy efficiency support programmes to complement technology upgrading





India



Finance = “hard tool”, behaviour = “soft tool”?

- Finance for energy efficiency investments of MSME, cooperation with SIDBI
- 50 million Euro financial credit to SIDBI
- 0,5 million Euro for technical assistance
 - E.g. Support of MSMEs in application process
 - Support of SIDBI staff in evaluation and monitoring



- *It's too complicated!* Ambiguity aversion
- *Just another line of credit?* Framing
- *Why should I care?* Lack of commitment and positive incentives





- *I want profit now!* Short-term thinking
- *When does the new tech pay off??*
Faulty calculation of payback periods
- *But I've always done it this way!*
Habits and status quo bias



- Clear, salient information and communication
- Fostering commitment
- Fostering direct contact to clients and direct experience
- Feedback/benchmarking systems,
cooperation and learning through energy consultants,
local business associations





Uganda

Uganda: Energy trainings for SME



- GIZ-PREEEP/MEMD training in 2008/9
- Comparative analysis of 29 SME, trained and untrained
- Grain millers, metal fabricators, wood fabricators





- Short-term thinking
- Self-control problems
- Habits and status quo bias
- Trust

Context conditions have a strong influence:

Business skills, lack of capital, access to efficient technology...



➤ Hands-on experience

➤ Peer learning

→ *Local demonstration centres, visits to efficiently working peers, comparisons to similar SMEs*



➤ Trust building e.g. „*trusted seller of efficient technology*“

➤ Reminders to overcome self-control problems

➤ Clear communication, no overload

Combinations of behavioural and non-behavioural measures!

Thank you for your attention!

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