

# *Swedish energy networks among industrial SMEs*



## Linköping University

Reinventing research and education

Svetlana Paramonova, Linköping University, Energy Systems

Sandra Backlund, Linköping University, Energy Systems

Patrik Thollander, Linköping University, Energy Systems



# Improving energy efficiency at industrial SMEs

30% of industrial energy use in Sweden

Possible ways to overcome the barriers to energy efficiency:

- Energy audits
- Energy networks

# Energy efficiency networks

## Switzerland

- EnergyModel, 1987
- Fossil fuel surcharge exemption
- 70 energy efficiency networks, 2000 companies
- energy-cost reductions €110000

## Germany

- Learning energy efficiency networks (LEEN), 2002
- 50 networks functioning
- 2,5% electricity-efficiency improvement
- energy-cost reductions €120000





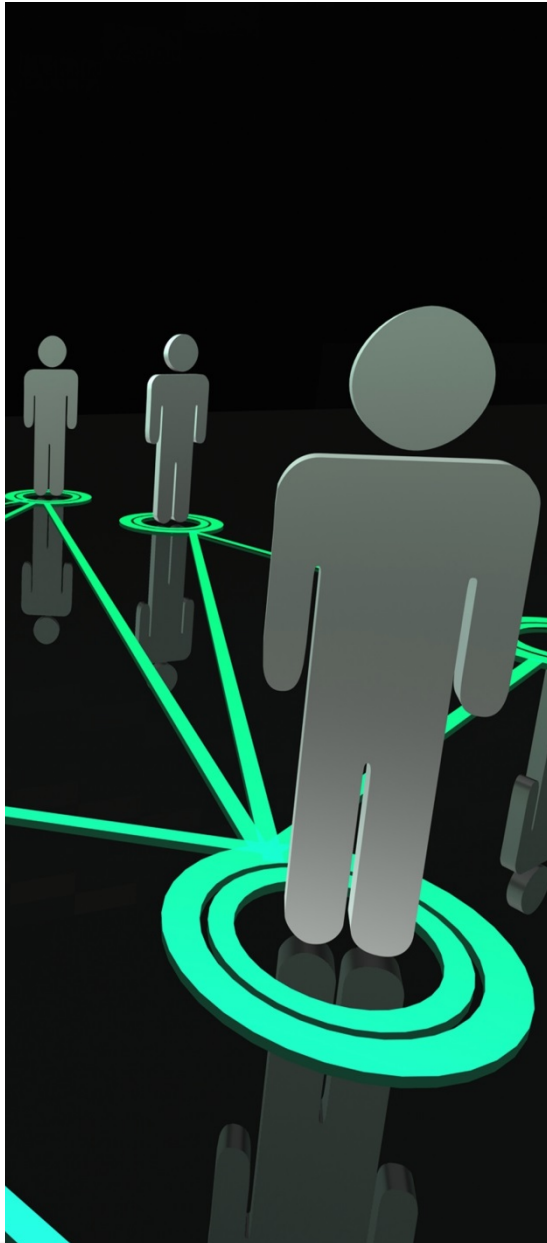
# Formation of Swedish energy efficiency networks

## Initiation

- Different communication channels:
  - Business associations, chamber of commerce, workshops, lists of existing cooperations, municipality's channels, companies' meetings, mails
- Existing connections: sectoral or local
- International standards (ISO 14 001 )

## Goals

- Participants: share knowledge & minimize costs
- Private companies: initiate a systematic work on improved energy efficiency
- Energy agencies: facilitate climate and energy strategies on a municipality or county level



# Characteristics of Swedish energy efficiency networks

## **Representatives**

- 4 – 268 companies
- different occupational positions
- ability to deliver a message

## **Lifespan**

- 6 months to several years
- as long as the companies were interested

## **Costs and contracts**

- Government support or membership fee
- The majority did not use contracts
- Something “similar” to a contract

# Structural organization of energy efficiency networks

- Lack of structured organization
  - I. An energy audit is not always a requirement, no common approach to commit to network
  - II. A simplified paper template to register energy use, consultants provided by the Swedish Energy Agency or found by the companies, regular meetings and technical lectures
  - III. No pressure from initiator to conduct audit, visiting facilities and theoretical sessions, measurements
  - IV. Audits as common routines in 4 networks, help with implementation, regular meetings and database
  - V. Initial lectures by external experts, check-lists, grants for measures
  - VI. Internal education to find improvement potential, meeting to see each other's performances: energy indicators, action plans, discussions





# Coordinator's and consultant's roles

## Coordinator's role

- Hard to make the companies meet without the external help
- Companies did not know that they had such a potential for improved energy efficiency

## Consultant's role

- Different quality of energy consultants' work
- A risk that companies rely on everything that the consultants say
- Help from colleagues, a list of good-quality consultants
- Communicational skills

# Follow-up of the Swedish energy efficiency networks



- Lack of sufficient established follow-up routines
- Hard to monitor the routines:
  - General and hard-to-measure goals
  - variations in production and product profile and changes in the market



# Swedish energy efficiency networks

- An interest in creating energy efficiency networks
- A potential contribution to the EU climate strategy
- Support energy audits
- The need for a driving force: to drive the work, organize the meetings, invite external experts, create engagement
- Support from management
- Existing management systems
- Origin of coordinator

# Potential for improvements



- The need for standard or agreement
- The quality of the energy consultants' work
- A quantified common goal and individual goal for each participating company
- Some sort of fee

Thank you for your attention!

*svetlana.paramonova@liu.se*



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