

# From energy audits to action plans for implementation of energy efficiency measures

Elin Svensson, Karin Eriksson, Anders Åsblad, Ingrid Nyström  
CIT Industriell Energi AB

Niklas Hansson  
Länsstyrelsen Skåne

ECEEE Industrial Efficiency 2018 | Berlin 11-13 June  
Business models, finance and investment



## BACKGROUND

---

**Incentives for Energy Efficiency** (2016 – 2019) is a national Swedish project set up and driven by the Swedish Energy Agency together with county administrative boards

### Project aim:

Supporting energy efficiency in industrial SMEs

### Background:

On the grounds of the Swedish Environmental Code, authorities can require companies to housekeep with energy, make energy audits and set up and follow implementation plans for energy efficiency measures. So far, this has not been applied to a large extent, partly because of lack of knowledge and energy competency at the authorities.

### Objectives of the project:

- Strengthened competency in energy issues at the environmental control authorities
- Development of methods, tools and information material

*Incentives for Energy Efficiency is financed by the European Regional Development Fund*

**Better action plans for energy efficiency (EE)** is one of the areas within the project "Incentives for Energy Efficiency" with the goal to bridge the knowledge gap between energy audit and actual implementation.

### Key question

What is needed to get from the results of an energy audit to an EE action plan for investment/implementation?

## WHICH COMPANIES COULD NEED THIS SUPPORT?

---

Starting point: Companies with identified EE measures  
(typically from an energy audit)

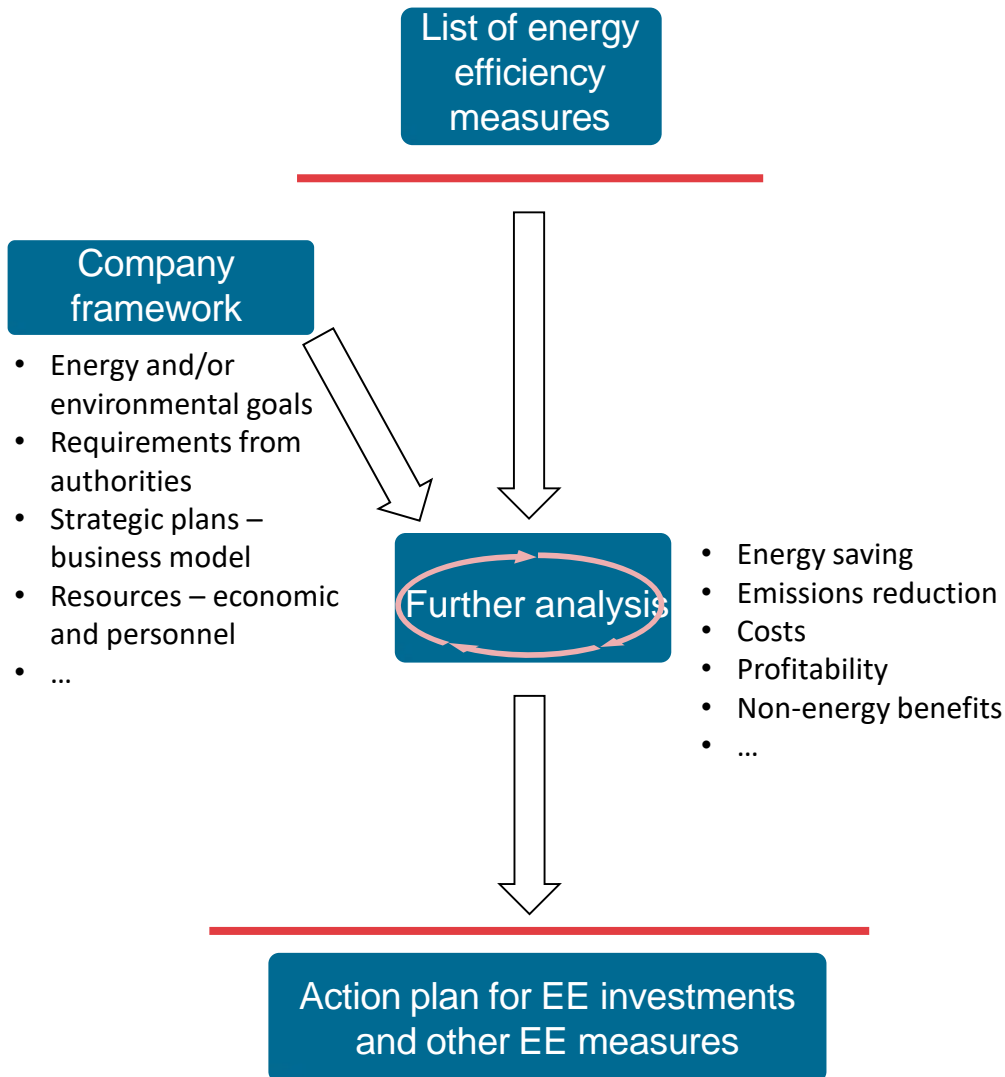
Might need guidance in how to

- make more detailed assessments of energy savings, emissions, investment profitability, life-cycle costs, etc.
- prioritize among different options
- convince management to allocate resources / make investments
- document and follow up measures
- fulfil the requirements of the Environmental Code



Typically  
(but not necessarily)  
manufacturing SME  
without EMS

# WHAT IS NEEDED TO GET FROM ENERGY AUDIT TO EE ACTION PLAN?



Needs for better information and tools had been observed in the following areas:

- How to assess the **quality of the energy audit**
- Process and criteria for **prioritization and documentation** of EE measures
- **Technical assessment:** General advice and collected selection of information with tips for further reading
- **Economic assessment:** Investment evaluation with special emphasis on **LCC** and **non-energy benefits** (how and why)
- Content and structure of a good **EE action plan**

## RESULT: GUIDEBOOKS

### Two versions

#### **Better action plans for energy efficiency: a guide for companies** (long version)

*Guides the entire process from the suggested list of EE measures to the final action plan*

#### **From energy audit to action plan** (short version)

*Quick overview of the basics for developing an EE action plan and prioritizing investments and other measures*



# RESULT: GUIDEBOOK



## Content:

- Who is the guide for?
- The list of energy efficiency measures
- From listed measures to action plan
- Technology assessment
- Investment evaluation
- Non-energy benefits
- The action plan for energy efficiency
- Implementation and follow-up

Inspirational examples  
from companies

# RESULT: SUPPLEMENTARY TOOLS

## LCC calculation tool

**LCC calculation tool**

**Generella indata**

Kalkylperiod (år)	20
Kalkylrenta (%)	6,0%
Energipris 1 (kr/kWh)	0,10
Energipris 2 (kr/kWh)	0,10
Energipris 3 (kr/kWh)	0,10

**Data för olika åtgärder/utrustningsalternativ**

	Alt A	Alt B	Alt C
Åtgärd/utrustningsalternativ	Pump A	Pump B	Pump C
Investeringsskostnad (kr)	8000	12000	6000
Årligt energibehov, energilag 1 (kWh)	2000	2000	2000
Årligt energibehov, energilag 2 (kWh)	2000	2000	2000
Årligt energibehov, energilag 3 (kWh)	2000	2000	2000
Drift- och underhållskostnad (kr/år)	0	0	0
Övriga årliga kostnader (kr/år)	0	0	0

**Resultat**

	Alt A	Alt B	Alt C
Nuvarande investering minus restvärde (kr)	8000 kr	12000 kr	6000 kr
Nuvarande drift- och underhållskostnader (kr)	2000 kr	2000 kr	2000 kr
Nuvarande drift- och underhållskostnader (kr)	2000 kr	2000 kr	2000 kr
Nuvarande energikostnader (kr)	2000 kr	2000 kr	2000 kr
Nuvarande energikostnad, LCC (kr)	10000 kr	14000 kr	8000 kr

## Templates for EE action plans

**Action plan for energy efficiency**

N:o	Action	Responsible	Status	Deadline	Method for evaluation
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Updated, date: \_\_\_\_\_

Action plan approved by: \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_



## CONCLUDING SUMMARY AND OUTLOOK

---

During 2018 the guidebooks and tools start being distributed to companies, thereby contributing to closing the gap to actual implementation of EE measures, by

- guiding and supporting companies in their process of developing an EE action plan approved by company management and accepted by environmental authorities, and
- serving as knowledge and information material for authorities in their role of supervising and supporting companies in their implementation of EE measures.

The project [Incentives for Energy Efficiency](#) will be finalized and evaluated in 2019.



Thank you!

Elin Svensson, PhD  
[elin.svensson@cit.chalmers.se](mailto:elin.svensson@cit.chalmers.se)