

Programme for energy efficiency in industry (PFE) - gains and controversies

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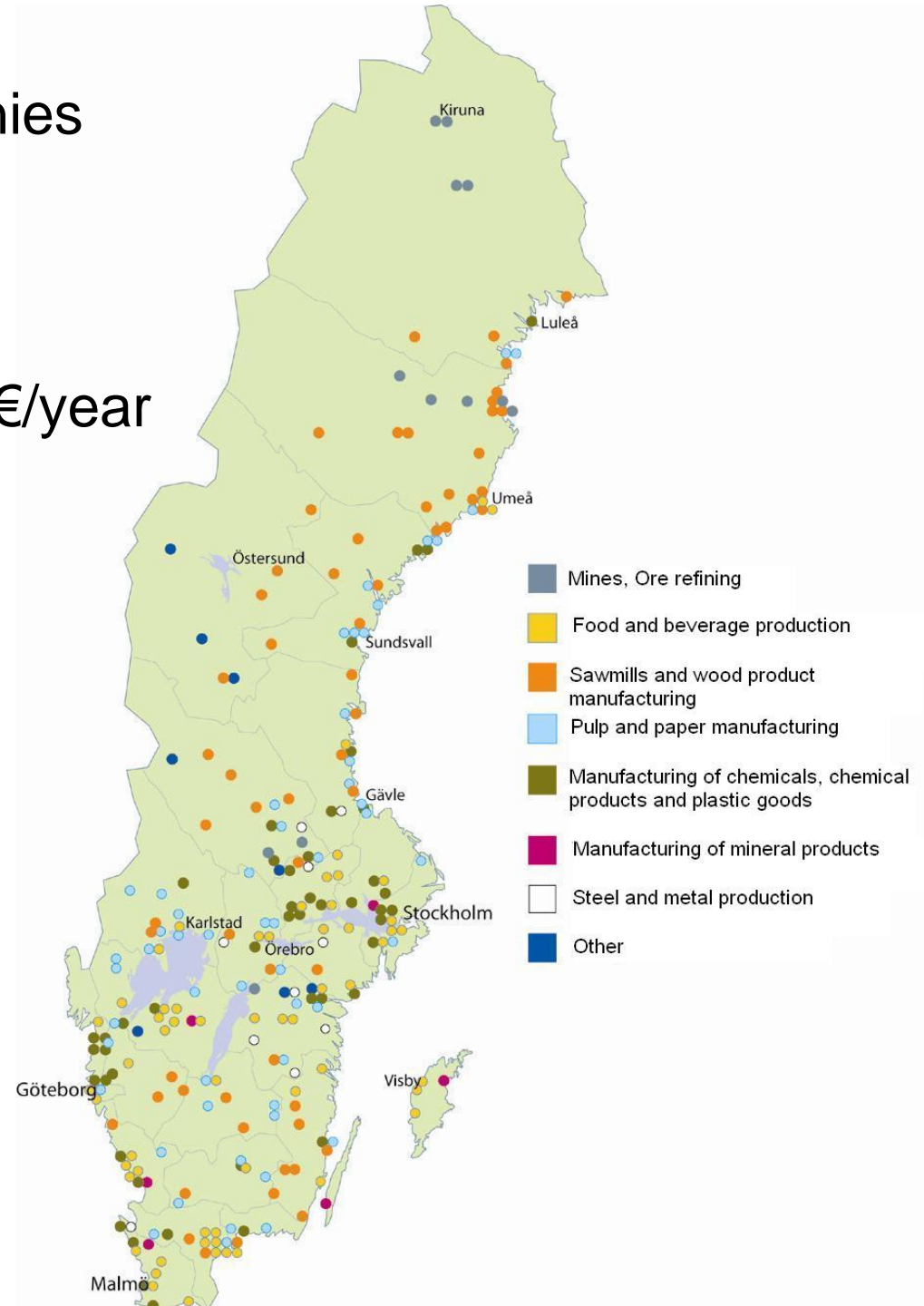
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PFE – A BRIEF OUTLINE

- Big energy users in industry don't pay minimum tax on electricity (in accordance to Directive 2003/96/EC) provided they participate in the programme.
- PFE requires companies to introduce an energy management system, identify and carry out measures for energy efficiency for electricity.
- PFE started to wind down in 2012, because the EC sees it as state subsidies to industry. Participants continue with their activities until 2017.
- By 2011, a total of 110 companies had participated.

- 110 participating companies
- 250 plants
- 30 TWh electricity/year
- Tax reduction 15 million €/year



CRITICISM FROM THE NATIONAL AUDIT OFFICE (NAO), PART 1

- NAO observes there are no quantified targets for energy efficiency. The Swedish Energy Agency (SEA) agrees, but claims target was to invest equal amount of money in energy efficiency as companies have gained from tax reduction.
- Also, the estimated efficiency effect resulting from taxes was expected to appear as savings through the programme.

CRITICISM FROM THE NATIONAL AUDIT OFFICE (NAO), PART 2

- NAO says there is no mechanism to exclude participating companies.
- This is something to learn from. As PFE was structured any participating company could (theoretically) have claimed the tax would not have had any impact on actions, i.e. it would not have generated any efficiency gains and thus no actions would be required under PFE.
- A participating company could in theory have enjoyed tax reduction without corresponding actions.

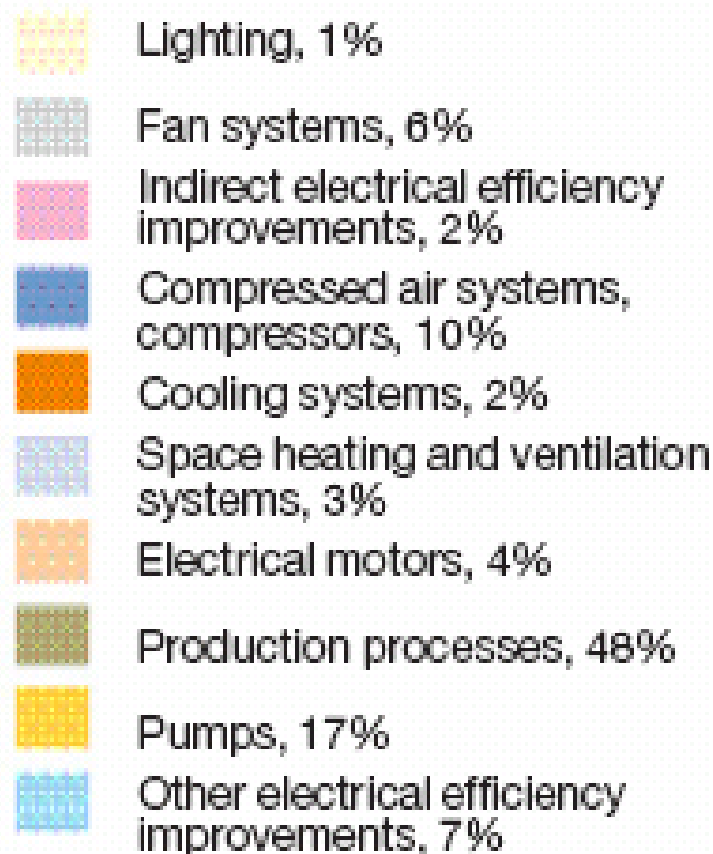
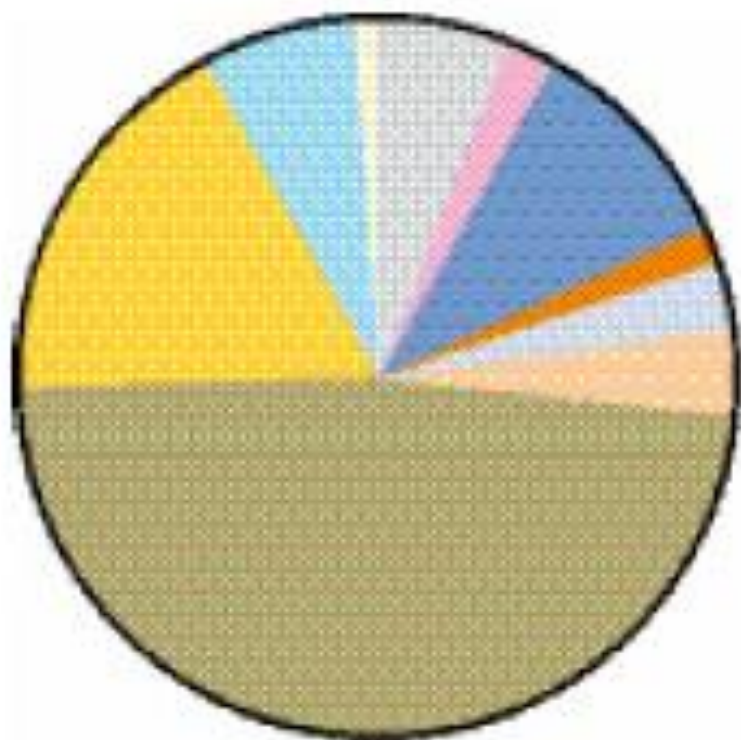
HOWEVER...

- All participating companies have introduced energy management systems, routines, and benchmarks. These have been used for evaluation, not the estimated energy efficiency gains.
- Thus, no violation of the terms have been detected and the question remains theoretical.

QUANTITATIVE EFFECTS

- Participating companies have reported a total gain of 1.45 TWh electricity saved after 5 years of participation (total industrial use of electricity is 53 TWh in Sweden).
- The NAO has not been able to detect a significant difference in change in electricity use between PFE companies and others, i.e. PFE appears to result in little or no efficiency gains.

First 5 years: 1,47 TWh electricity savings



QUANTITATIVE EFFECTS, PART 2

- The NAO has used a top-down method for their calculations, while the SEA has used bottom-up methods.
- There exists no real reference group because practically all companies with very high electricity consumption have participated.
- Method for measuring should have been decided from the beginning.

DIFFERENCES IN REPORTING BETWEEN COMPANIES

- Some companies report every measure they take to the SEA.
- Other companies report just the minimum required.
- Inspections by the SEA *or* companies' own reporting?
- Impossible to separate what would have been done anyway, i.e. difficulties with additionality.

MORE CRITICISM...

- The NAO estimates that participating companies have invested SEK 708 million (appr. EUR 80 million) in energy efficiency while total tax reduction has been SEK 750 million.
- Roughly half of participating companies in 2004 were also allocated emission allowance units for free.
- Thus, a transfer of resources has taken place favouring big industry.

LESSONS LEARNED?

- What is going to be measured?
 - *Is it important to set up a quantitative target from the beginning and define how to measure it? Or will this be counterproductive if the aim is to enhance a broader capacity to work with energy efficiency?*
- How can breaches with the rules be handled?
- Check for "double benefits" for participants.

**Thank you for your
attention**

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