

*“- Energy management in
energy intensive industries &

- Digital technology in
government policies”*

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IEA WS Paris 20171213

Energy Policy Commission Agreement

- 50 % more efficient energy use 2030 (2005, in relation to GDP)
- Sector strategies
- Program to reduce CO₂ emissions
- Program to increase energy efficiency
- Next CEM in Copenhagen/Malmö

Energy intensive Industry

*During 10 years of PFE
we reduced specific
electricity use by 10 % in
addition to BAU*

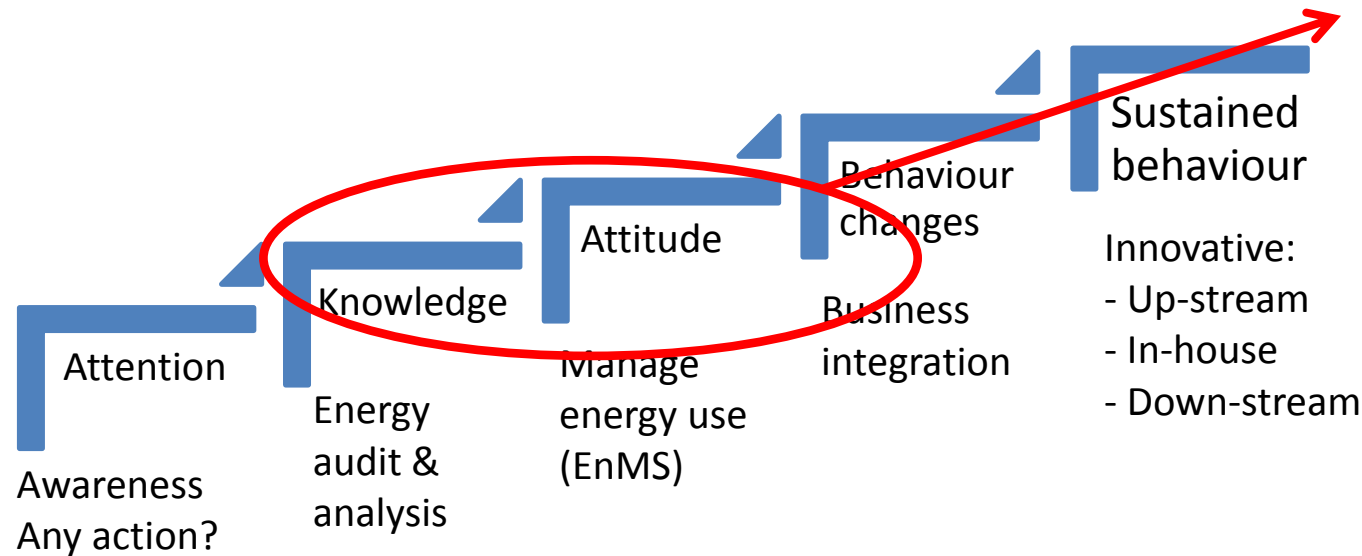
”

Från 2005 till 2009 har
vi minskat vår specifika
elförbrukning med
22 procent.”

– Jerry Larsson



Policy Ambitions



Energy Management Program

Policy intervention



Push
Suppliers
Consultants

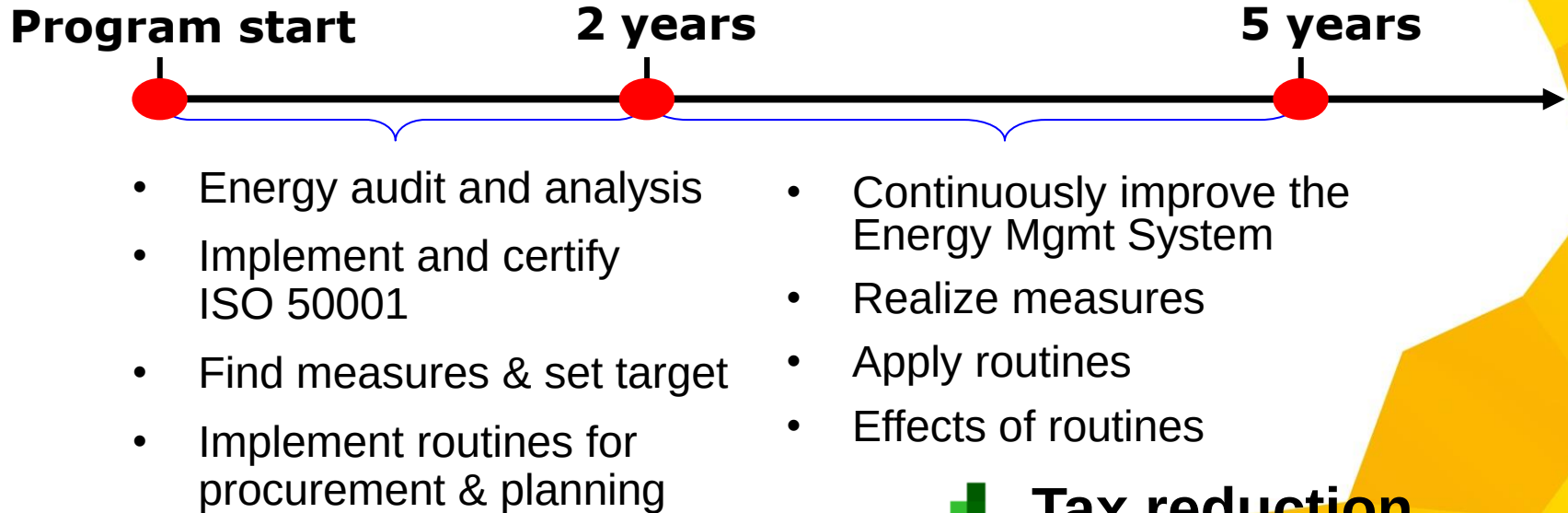
**Implementation of
ISO 50001 in
enterprises**

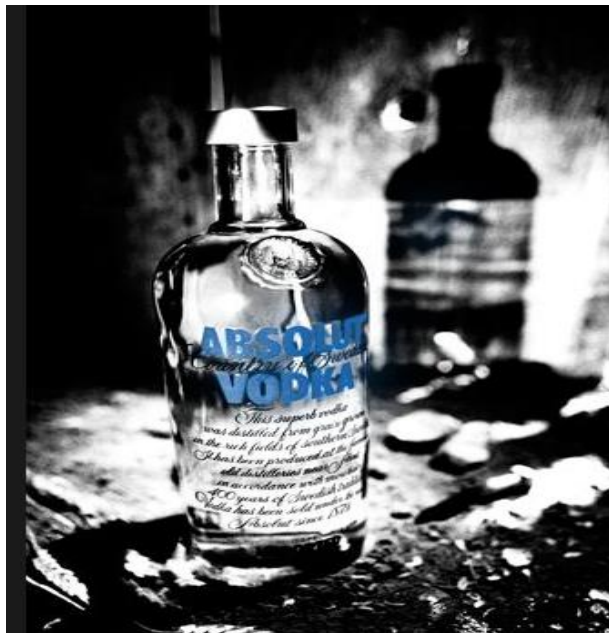
Management
commitment

Infrastructure
Institutional support

ISO 50001 in Swedish PFE (2004)

(Covers 25 % of energy use)





ENERGILEDNINGSSYSTEM

SS 62 77 50

CERTIFIKAT

SP är ett av SIVEDAC ackrediterat organ för certifiering av energiledningssystem
SP is a Certification Body, accredited by SIVEDAC, for certification of energy management systems



CERTIFICATE

nr/no. 41 94 ELS

Härmed intygas att/This is to certify that:

V&S ABSOLUT SPIRITS

har ett energiledningssystem som uppfyller kraven enligt SS 627750:2003 och
SFS 2004:1196 §§ 9 och 10 (PFE) vad gäller:
has an energy management system that fulfils the requirements of SS 627750:2003 and
SFS 2004:1196 §§ 9 and 10 (PFE) with respect to:

Utveckling och tillverkning av finsprit för Absolut Vodka och Level Vodka.
Development and manufacturing of Premium and Super Premium spirits to Absolut
Vodka and Level Vodka.

Certifikatet är giltigt till och med 21 juni 2009. Ytterligare information finns på www.sp.se.
This certificate is valid until and including 21st June, 2009. Further information can be seen at www.sp.se

Borås den 21 juni 2006/21st June, 2006

SP Sveriges Provnings- och Forskningsinstitut
SP Swedish National Testing and Research Institute
Certifiering - Certification


Lennart Månsson

Detta är en avskrift av
Originalcertifikat utfärd
av SP



Organisational Changes



- Planning and control
- Capital budgeting
- Human resources
- Energy culture or energy awareness

Result: 10 % less electricity use

Energy audit obligation: 906 reports - more to come

- Total energy: 178 TWh > 50% of energy use
- The 450 smallest energy users totals 1,3 TWh
- Identified measures presently 4,5 TWh and growing
- Pan-European directive leads to increased use of ISO 50001 (Group demand) and extended ISO 14001

Messages for further development

- Core in energy policies for industry
- Integration (PFE: 90%)

The HLS effective: organizations often implement a number of management system standards, helps to keep things simple

- Keep it simple – Business value!
- Driving forces in Sweden
 - ✓ Group demand
 - ✓ Energy audit legislation
 - ✓ Market demand still weak

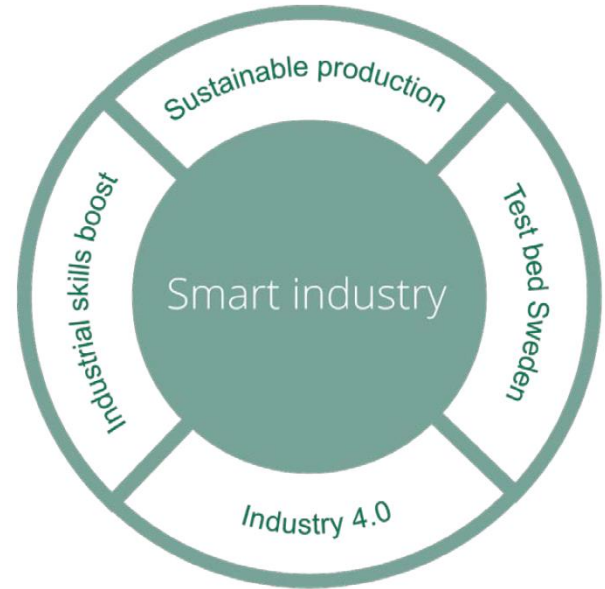
Digital Strategy



- **Digital skills** – Everyone in Sweden will be able to develop and use their digital skills.
- **Digital security** – Sweden will provide the best conditions for securely taking part in, taking responsibility for and building trust in the digital society.
- **Digital innovation** – Sweden will provide the best conditions to ensure that digitally driven innovations are developed, disseminated and used.
- **Digital leadership** – In Sweden, the digital transformation will promote relevant, targeted and legally sound efficiency improvements.
- **Digital infrastructure** – All of Sweden should have access to infrastructure that provides high-speed broadband and reliable mobile services, and that supports the digital transformation.

Smart Industry - Digitalization

Industry 4.0 – Companies in Sweden's industrial sector are to lead the digital transformation and exploit the potential of digitalisation.



Change: Magnitude of Industrialisation

- Build capacity: Stimulate development and use of technology to lead the industrial sector's transformation.
- Exploiting the potential of digitalisation broadly, irrespective of industry, company size and geographical location.
- Encouraging new business models and organisational models in order to tap the potential of the new technology.
- Meeting new knowledge requirements that are brought about by digital development.
- Adapting framework conditions and infrastructure to the digital era.

Production

- Machines and components can communicate with each other (self-regulating production)
- Adapted to individual customer demands and that optimises flow (identifying maintenance requirements)
- Automation, sophisticated robotics, additive manufacturing technology

Products

- Internet of Things: Products equipped with sensors (systems connected to the I'net, communicating with their surroundings)
- Product development: Use of mass of operational and user data (transformed into new smart services)
- Business models: Fast and effective data analysis used for new business models and its competitiveness.

Interaction

- Customer and public placing new demands on companies (opening for new business models)
- Making smart workplaces possible

Thank you for listening!

And thank you: IEA