

# ISO 50001 in industry Norwegian experiences



Energy management is the key to improve energy efficiency and reduce CO<sub>2</sub> emissions.

Since 2013, Norsk Energi has assisted more than 100 companies to establish energy management according to ISO 50001.



# About ISO - The International Standard Organisation



- Established 1947
- Launched 21.000 standards
- Members from 161 countries
- Slogan: «Great things happen when the world agrees»

# ISO management standards



		Launched	Certified companies worldwide
ISO 9001	Quality management	1987	> 1.000.000
ISO 14001	Environmental management	1996	> 320.000
ISO 50001	Energy management	2011	> 12.000

New edition of ISO 50001 is under development  
The new edition will facilitate better integration with ISO 9000 and ISO 14000



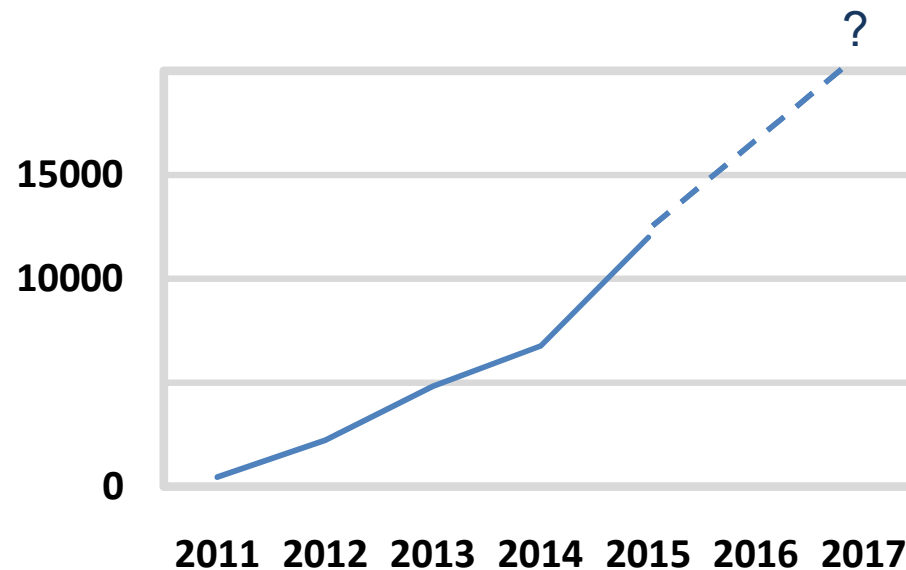
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KOLTOVARSTVO  
ENERGIJA



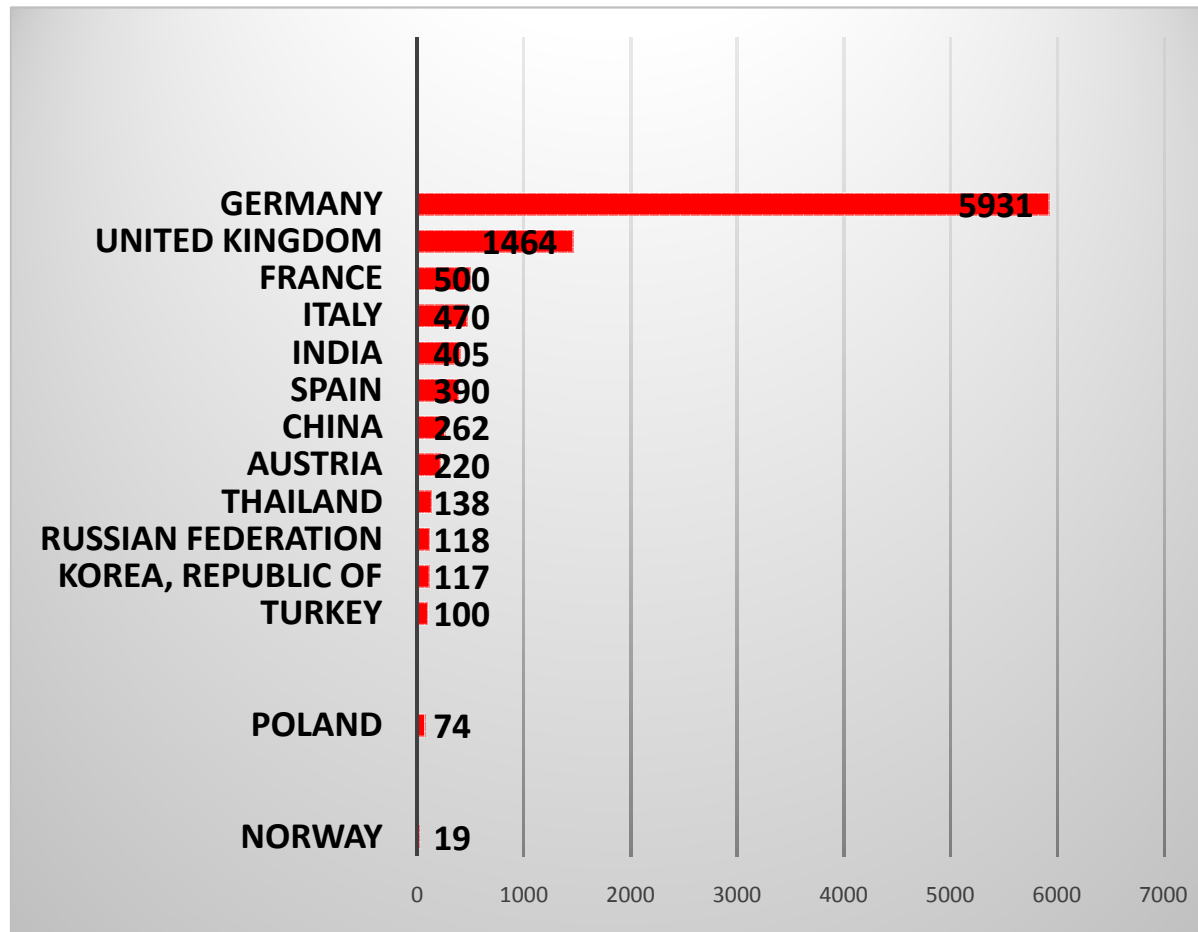
# ISO 50001 certified companies worldwide (2015)



Since ISO 50001 was launched in 2011, about 20.000 companies are certified worldwide



# ISO 50001 certified companies worldwide (2015) Germany is the leading country



# ISO 50001 in Norway



## Facts:

- Few companies certified according to ISO 50001
- Many companies have established energy management, but without certification

## Why is it so?

- Establishment of energy management systems according to ISO-50001 is a requirement in the emission permits for large companies.
- Industry get state support for establishment of energy management systems

# Norway supports energy efficiency through ENØVA



- Enova SF is a state enterprise, owned by the Ministry of
- Petroleum and Energy
- Established in 2001
- ENØVA manage the Energy Fund which gives investment support to projects
- 1008 projects supported in 2016
- Disbursements in 2016: 2570 million NOK ( 280 million EUR )
- Energy saving of projects supported in 2016: 3821 GWh



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# State support programs for energy efficiency



State support for introduction of energy management is one of five different programs for promotion of energy efficiency:

1. Investment support for district heating infrastructure
2. Introduction of new energy technology
3. Investment support to industry, buildings and DH boiler houses
4. Support to feasibility studies in industry
5. Support for introduction of energy management



# ENOVAs program for introduction of energy management

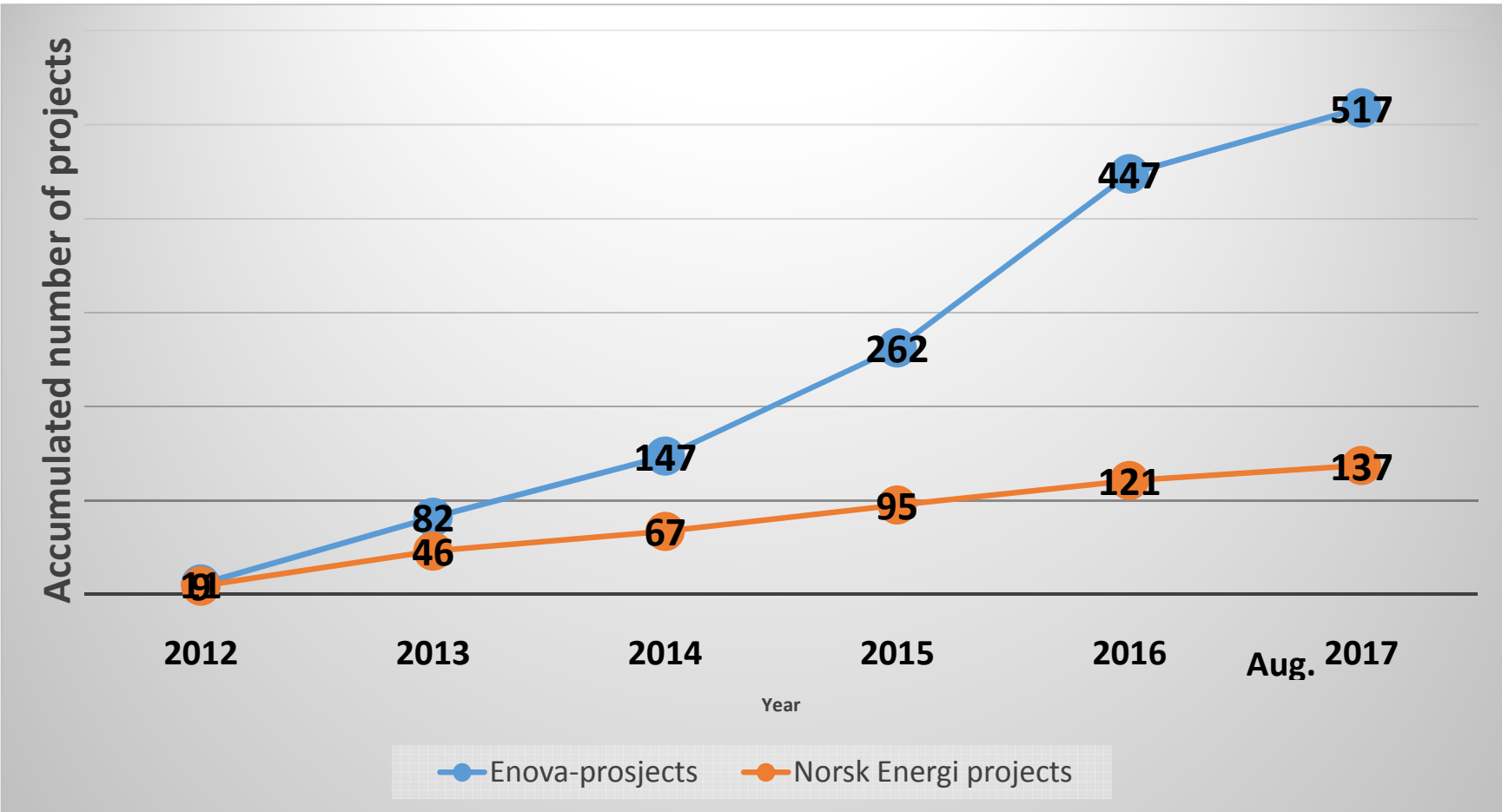


- Supports energy management in industry, transport sector and construction.
- Supports establishment of energy management systems in accordance with ISO 50001, but certification is not a requirement.
- Supports up to 50 % of costs

	Energy consumption	State support for energy management	
Small companies	1 – 10 GWh / year	< 50 % of costs	< 200.000 NOK (=90.000 PLN)
Large companies	> 10 GWh / year	< 50 % of costs	< 1000.000 NOK (=450.000 PLN)



# Status May 2017 of the energy management programme



# Results from programme-evaluation

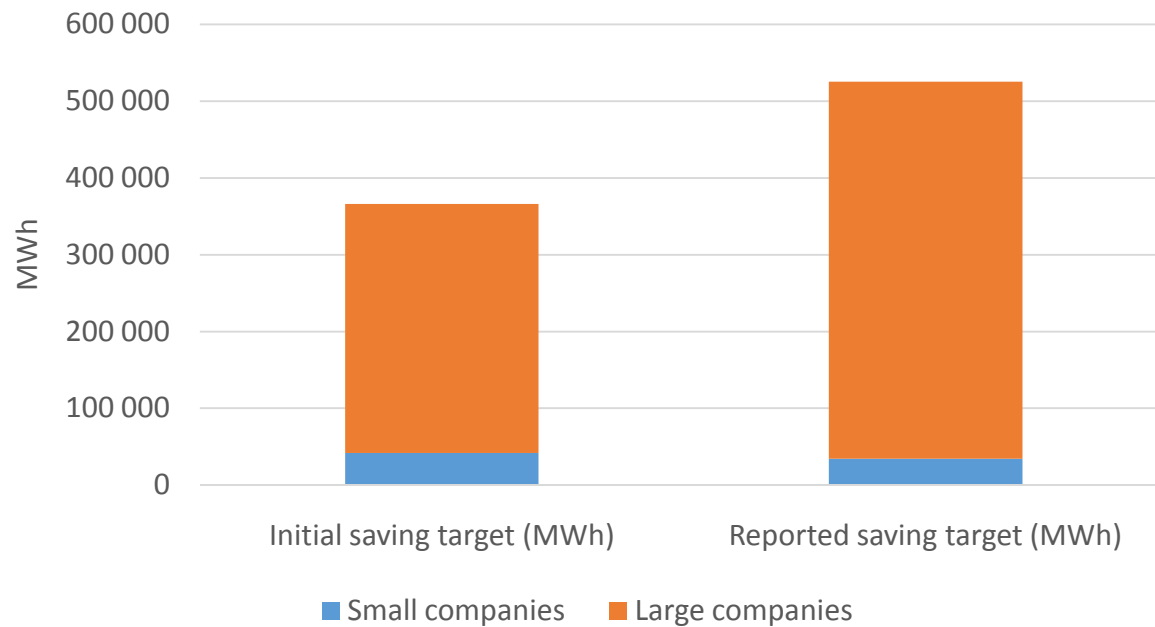
Enova, June 2016



Portefolio of ongoing or finished projects: 307

Part of ambitious projects( $\geq 10$  GWh/year): 42%

Reported energy saving target is 143% of initial saving target



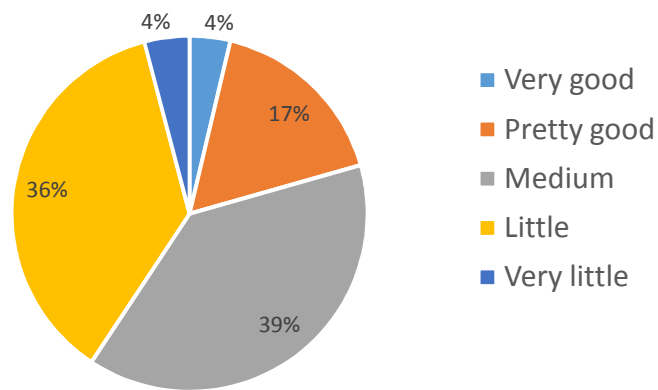
# Results from programme-evaluation

Enova, June 2016



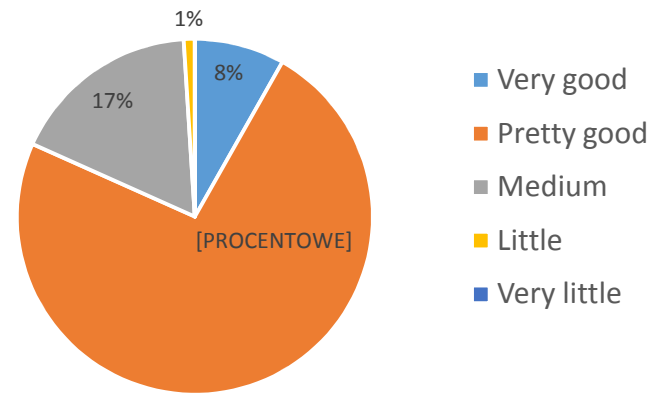
Competence on EM before project

142 replies



Competence on EM after project

142 replies



## Competence on Energy Management (EM):

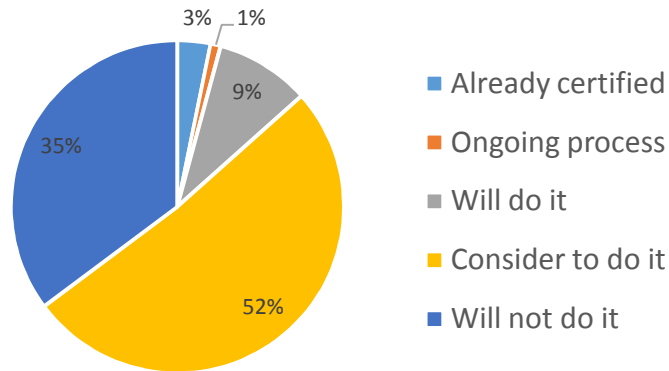
- Before: 21% very or pretty good
- After: 82% very or pretty good

# Results from programme-evaluation

Enova, June 2016

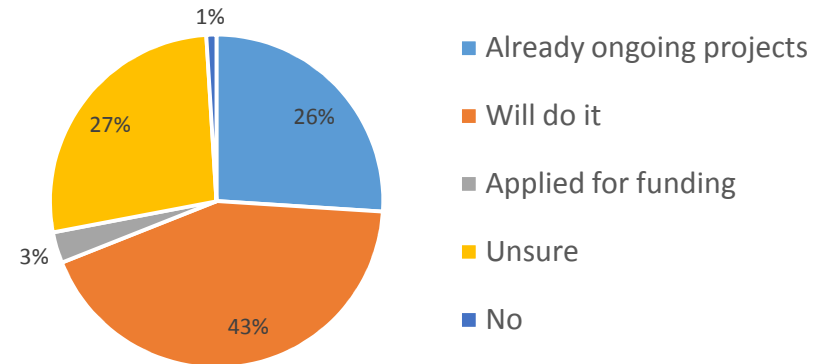


ISO 50001 certification?  
142 replies



This means that 73 companies consider ISO 50001 certification, but so far only 30 Norwegian companies are certified

Realization of energy efficiency measures?  
142 replies



Results from another national study<sup>1)</sup> show that companies with EM have a higher realization rate of energy efficiency measures

1) Energy saving potential in the food and drink sector – Enova/NEPAS 2007

# What have we learnt ?

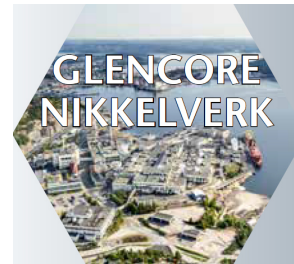


- Top management committment is a precondition for success
- Hire a consultant to bring in experience from similar projects and secure progress and compliance according to the standard
- The most successful projects manage to combine a strong internal project leadership with sufficient external experience and guidance.

# Articles about six case-studies from Norway translated to Polish



Oil & gas



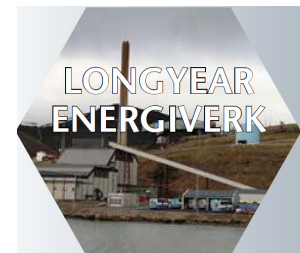
Nickel plant



District heating



Food & drink



Coal power plant



Transport