



Ricardo
Energy & Environment

Article 8 of the EED: Challenges for large enterprises

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22nd November 2016

Agenda

- Introduction
 - Ricardo Energy & Environment
 - EED Article 8
- Our study on Energy Efficiency in Enterprises
- Challenges for enterprises
 - Participation
 - Compliance
- Conclusions

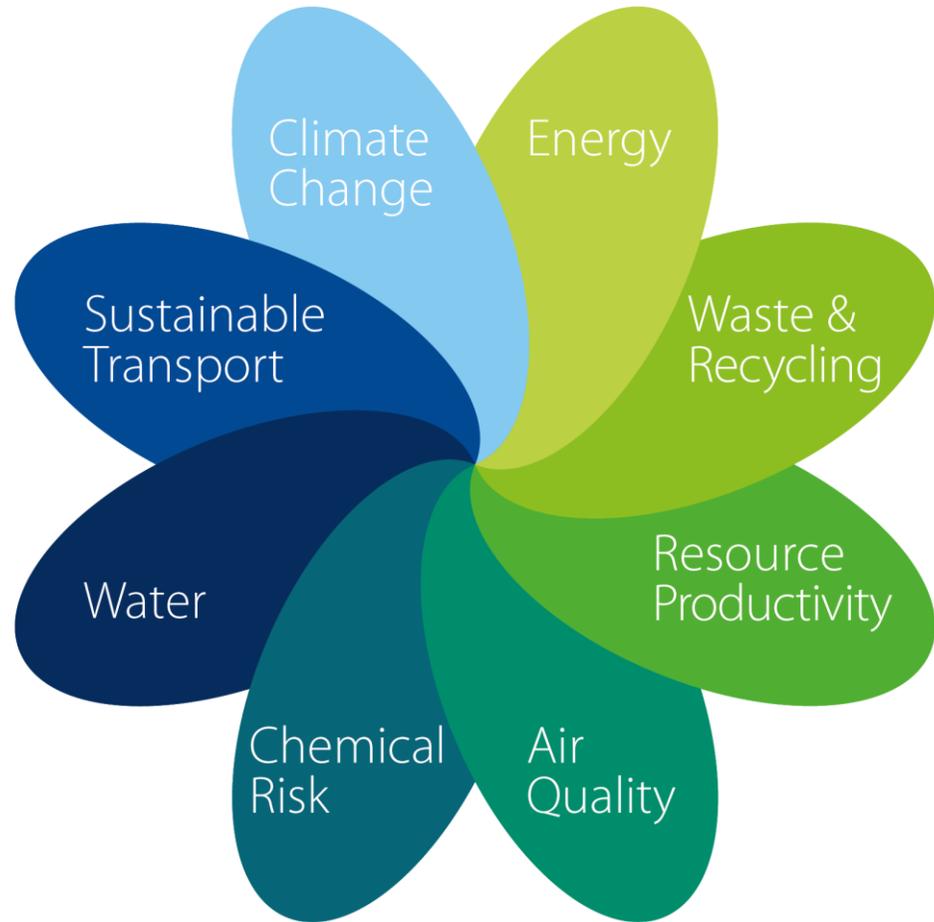
Introduction: Ricardo Energy & Environment



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**Ricardo-AEA
 ESOS, Art. 8
 (DECC & EC)**

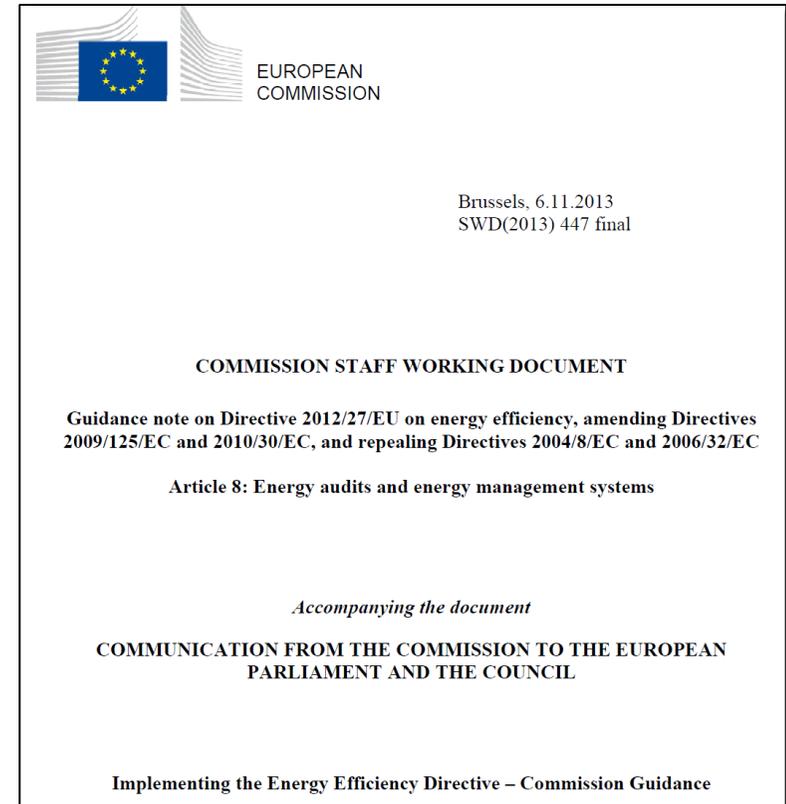


- Internationally-renowned consultancy
- Heritage of world-leading scientific/technical advice and policy support
- Over 400 technical staff

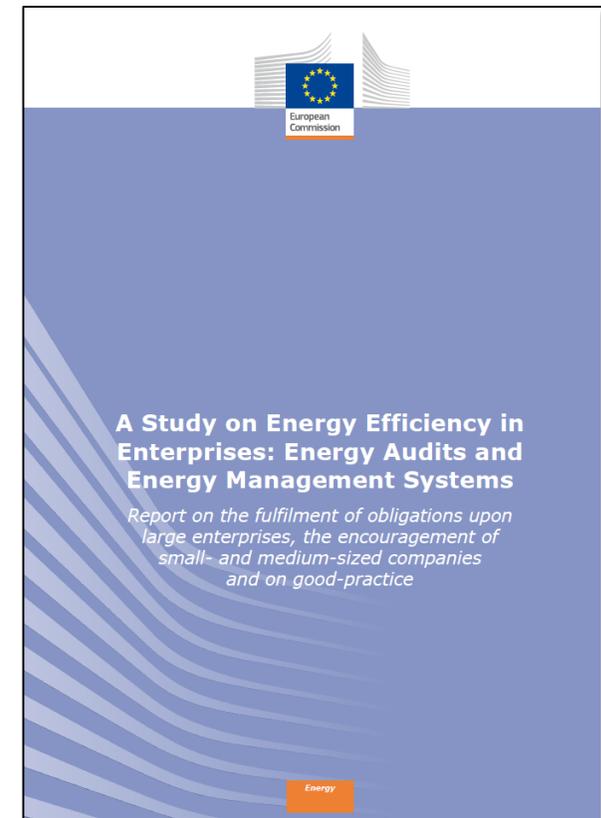


Underpinned by leadership in data management and environmental economics

- EU Energy Efficiency Directive (EED) introduced in 2012 to help the EU reach its 20% energy efficiency target by 2020
- Article 8 of the EED requires Member States to promote and ensure the use of high quality, cost-effective energy audits and energy management systems to all final customers
- Article 8 of the EED mandates high quality and cost-effective energy audits for all non-SMEs, at least every four years, the first deadline being 5 December 2015
- Member States required to transpose the Directive's provisions into their national laws by 5 June 2014, though many Member States did not transpose Article 8 within the deadline
- Interpretations of the Article vary greatly across Member States, which has proven challenging for enterprises that operate in multiple EU countries



- Study for the European Commission, Directorate General for Energy, on Energy Efficiency in Enterprises
- Four main Tasks, with supporting repository of information and communication activities
 - Task 1: Small and medium enterprises
 - Task 2: Large enterprises
 - Task 3: Quality of audits and best practices
 - Task 4: Qualification of energy auditors
- Ricardo worked with Fraunhofer Institute and DNV GL
- Study undertaken from March to September 2015
- Study report issued April 2016
 - [Full report](#) on Tasks 1 & 2
- Webinar focus: Task 2 findings

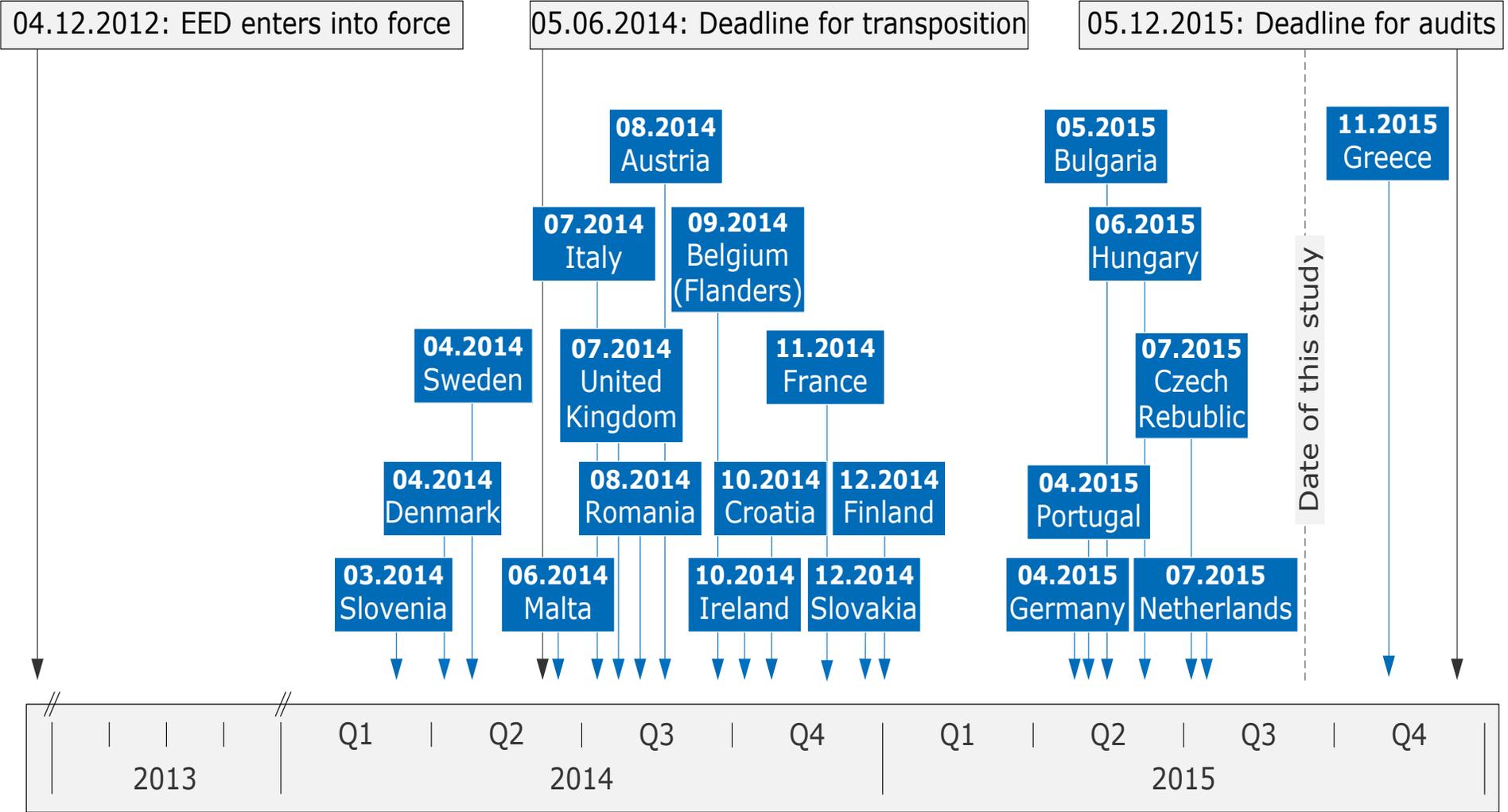


Challenges for enterprises

- Consider the key aspects of regulations that impact enterprises
- Primary challenge area “Do I need to participate?”
 - Transposition timeline
 - Definition of large enterprise
 - Corporate grouping
- Secondary challenge area “What do I need to do comply?”
 - Exemptions and alternative approaches
 - Scope of audits and audit approaches
 - Energy data and de minimis
 - Representative samples
 - Transport energy
 - Energy auditors
 - Compliance documentation and timeline!

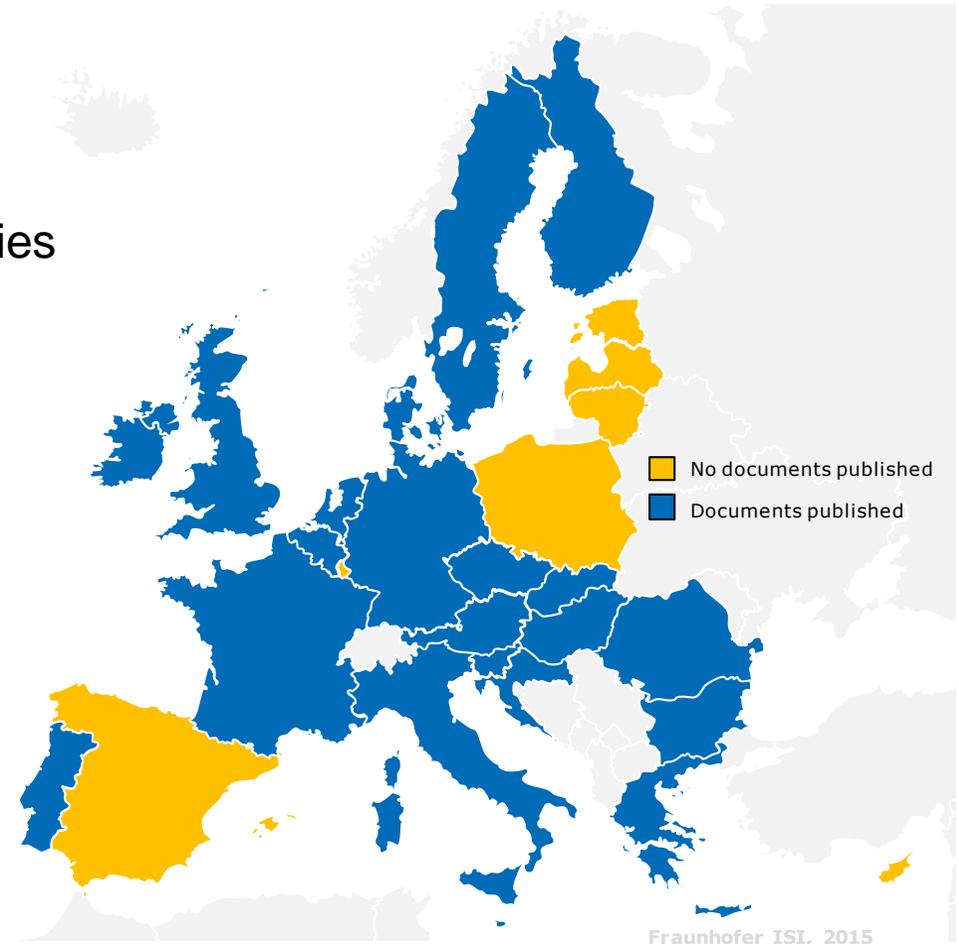


Challenge: Transposition status – at time of study



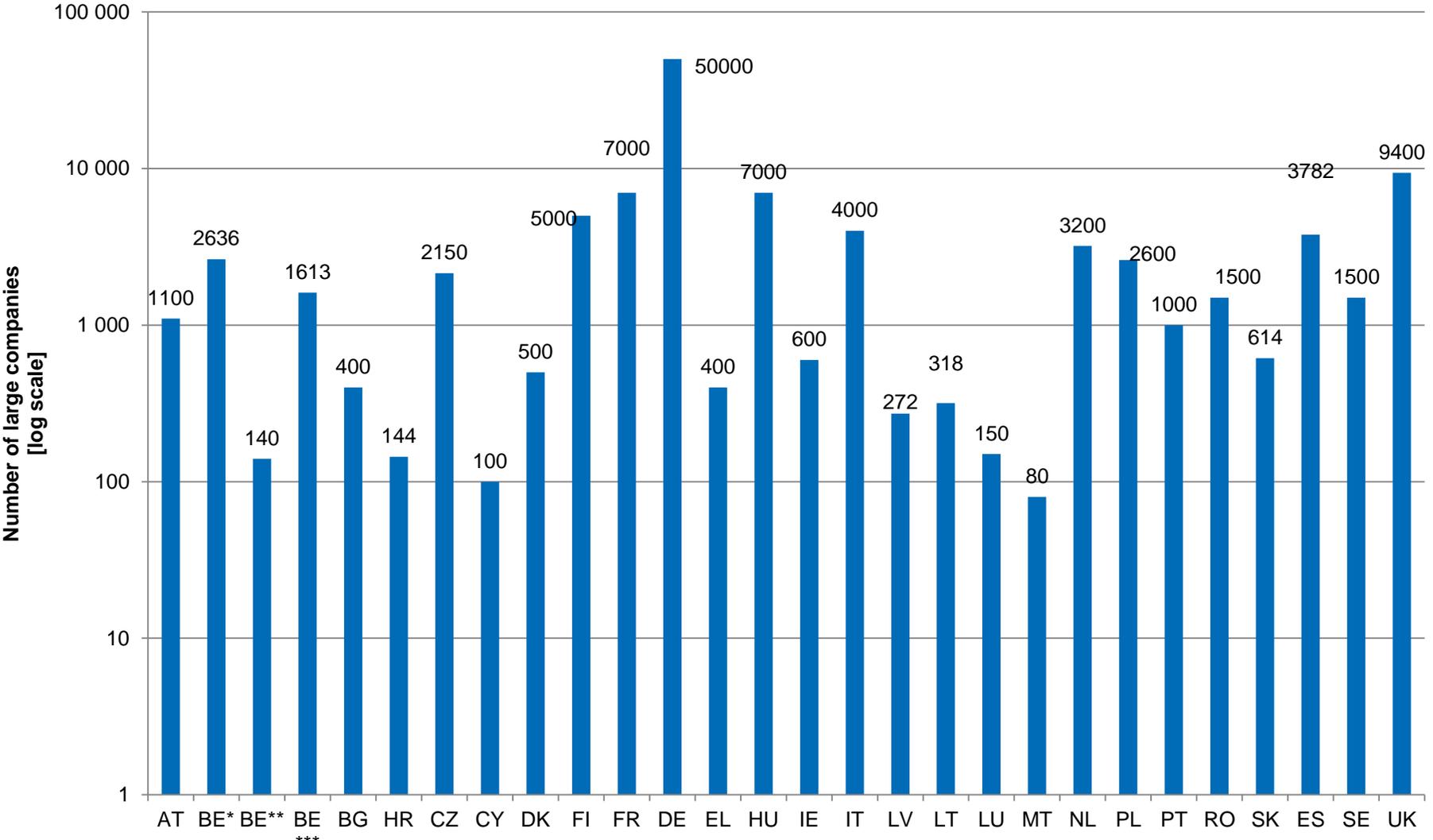
Challenge: Transposition status

- At time of our study
 - Ambiguity on need to comply
 - Limited ability to implement effective compliance governance across boundaries
- As of today
 - Regulations transposed in all Member States
 - Spain transposed on 13 February 2016
 - Poland transposed on 20 May 2016
- Clearly a challenge for many enterprises



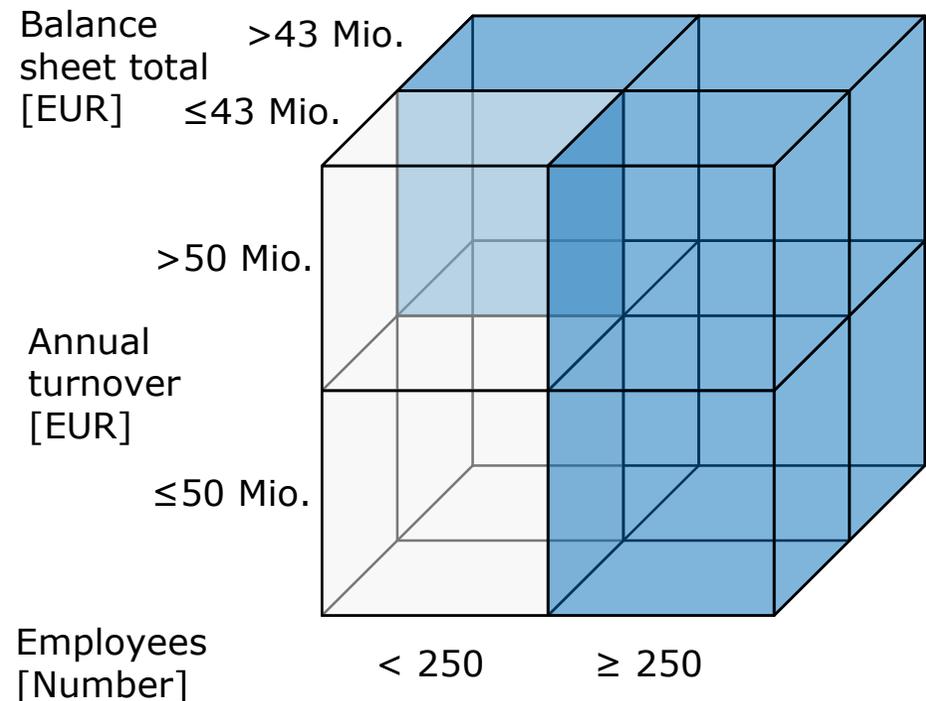
State of transposition of national implementation documents related to Article 8 in the EU-28 (Situation in September 2015)

Number of Large Enterprises



Challenge: Definition of “large enterprise”

- EU definition of SME:
 - “...enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.”
- Therefore, a “non-SME” should be any enterprise that has:
 - ≥ 250 employees; **OR**
 - Annual turnover $>€50$ million **AND** annual balance sheet total $>€43$ million.
- However, Member States have differing interpretations:
 - Brussels: ≥ 250 employees; **AND/OR** turnover $>€50$ million; **AND/OR** annual balance sheet total $>€43$ million
 - France: >250 employees **OR** turnover $>€50$ million; **AND** annual balance sheet total $>€43$ million



Large enterprise criteria summary table



| Country | Employees | Link employees to financial criteria | Annual turnover | Link between financial criteria | Annual balance sheet |
|--------------------|--------------|--------------------------------------|------------------|---------------------------------|----------------------|
| Austria | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
| Belgium (Flanders) | > 250 | OR | > EUR 50m | OR | > EUR 43m |
| Bulgaria | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
| Croatia | ≥ 250 | OR | ≥ EUR 34m | OR | ≥ EUR 17m |
| Czech Republic | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
| Denmark | ≥ 250 | AND | ≥ EUR 50m | AND | ≥ EUR 43m |
| Estonia | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
| Finland | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
| France | > 250 | OR | > EUR 50m | OR | > EUR 43m |
| Germany | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
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| Hungary | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
| Ireland | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
| Italy | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
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| Poland | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
| Portugal | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
| Romania | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m |
| Slovakia | > 250 | OR | > EUR 50m | AND | > EUR 43m |
| Slovenia | ≥ 250 | OR | ≥ EUR 35m | AND | ≥ EUR 17.5m |
| Spain | > 250 | AND | > EUR 50m | AND | > EUR 43m |
| Sweden | ≥ 250 | AND | > EUR 50m | AND | > EUR 43m |
| United Kingdom | ≥ 250 | OR | > EUR 50m | AND | ≥ EUR 43m |

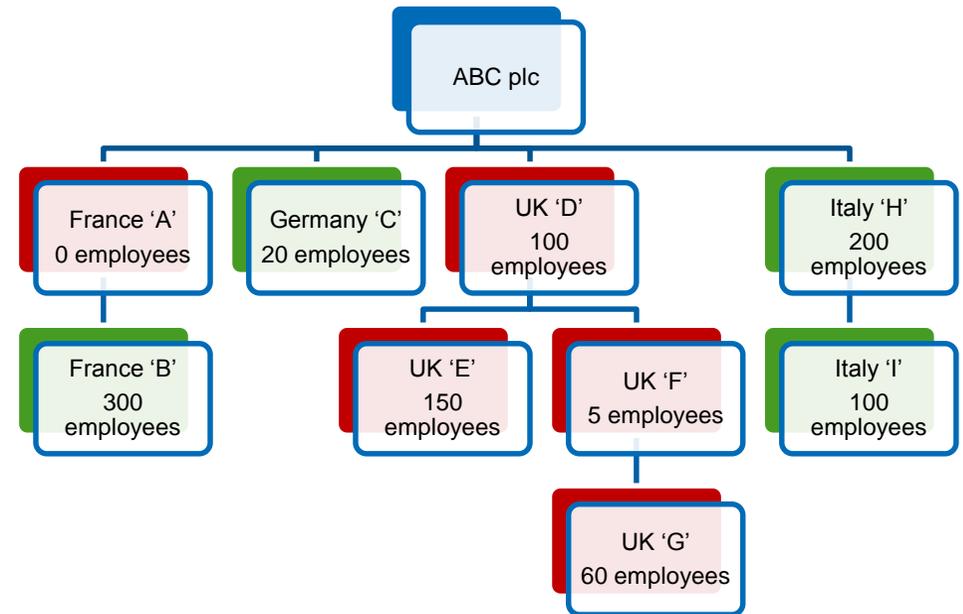
Large enterprise criteria summary table



| Country | Employees | Link employees to financial criteria | Annual turnover | Link between financial criteria | Annual balance sheet | Additional requirement |
|--------------------|-----------|--------------------------------------|-----------------|---------------------------------|----------------------|------------------------|
| Austria | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m | - |
| Belgium (Flanders) | > 250 | OR | > EUR 50m | OR | > EUR 43m | - |
| Bulgaria | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m | Yes |
| Croatia | ≥ 250 | OR | ≥ EUR 34m | OR | ≥ EUR 17m | Yes |
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| Finland | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m | - |
| France | > 250 | OR | > EUR 50m | OR | > EUR 43m | - |
| Germany | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m | - |
| Greece | ≥ 250 | OR | > EUR 50m | AND | > EUR 43m | - |
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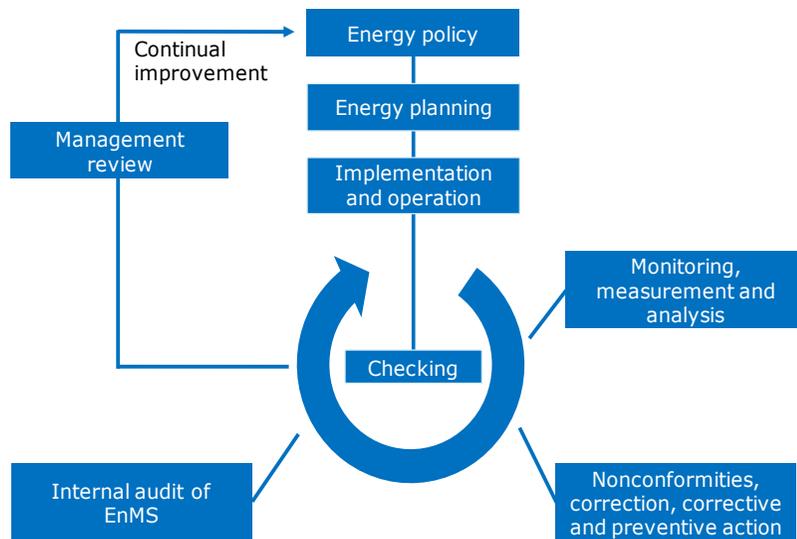
Challenge: Corporate groups and global operations

- EED stipulates that the non-SME criteria should be applied to a company's global group operations, but not all Member States have interpreted it this way
- Consider the example of 'ABC plc'
 - France 'B' *does* fall under the obligation, but France 'A' *does not*
 - Germany 'C' *does* fall under the obligation
 - None of the UK operations fall under the obligation
 - Italy 'H' and 'I' both *do* fall under the obligation
- Inconsistency causes confusion
- Question 'cost effectiveness' for some



Exemptions and alternative approaches

- Energy consumption threshold:
 - May exempt some companies from obligation, or,
 - Permit companies to perform ‘simple’ audits
- Energy management systems (e.g. ISO 50001, ISO 140001)
- Engagement in voluntary schemes



Energy system model according to ISO 50001:2011

Czech Republic: Companies with an energy consumption of less than 35,000 GJ/year (10 GWh) are exempt from the energy audit requirement.

Malta: Large enterprises whose energy consumption is below 50,000 kWh (4.3 toe) per annum are excluded from the energy audit obligation.

Luxembourg: Companies with energy consumption less than 100 MWh can complete a "simplified" energy audit. [The "simplified" energy audit has not yet been defined.]

Sweden: Foreign-owned companies in Sweden that consume less than 500 MWh are only obliged to report an analysis of their energy consumption in Sweden.

Challenge: Scope of audits

- Audits should cover energy from:
 - Buildings
 - Industrial processes
 - Transport
- Energy data not always readily available for buildings and transport
 - Particular challenges for companies with large property portfolios or fleets
 - Challenges when buildings are rented rather than owned
- Scope of transport energy varies across Member States
 - Some transport energy obvious
 - Company cars not always included (e.g. when driven for personal use)
 - Data processes less evolved and established for many



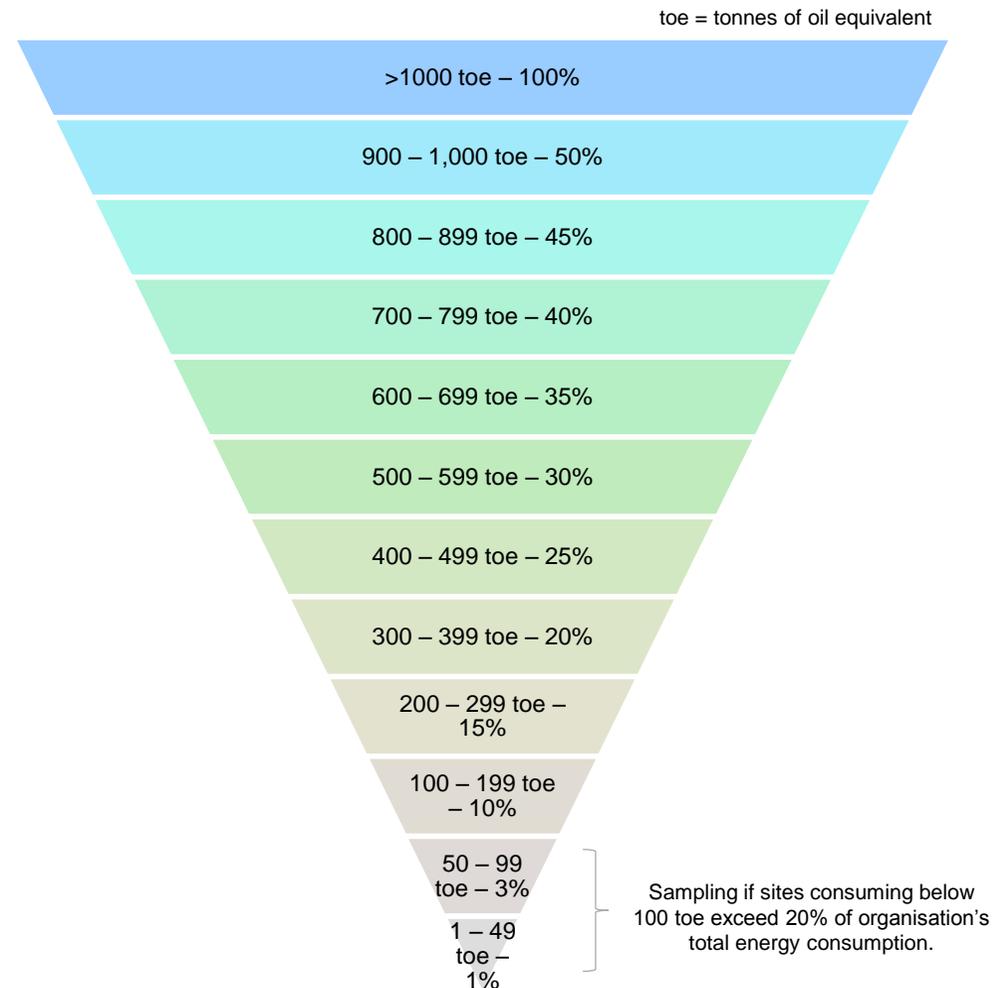
Challenge: Auditing approaches

- Auditing standard
 - Mostly EN 16247,
 - but in some cases there is no defined requirement
- De minimis – ability to exclude some energy consumption from audit
 - Netherlands – 0%;
 - UK – 10%;
 - Spain – 15%;
 - France – up to 35% (dependent upon when you complied)
- Representative sampling for similar sites
 - Some Member States have provided specific guidance on how to sample

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Italy: Recommended sampling for multi-site companies not in the industrial sector (by site):



- In some Member States, companies are permitted to use an internal auditor, but in these cases the auditor must not be involved in the activity that is subject to audit
- Auditor qualification:
 - In some cases, certification from a specific body is required (e.g. UK)
 - Government approval required in some cases (e.g. Brussels, Wallonia)
 - Some regulators have searchable national registries (e.g. Austria, Malta)

1 Energiedienstleistungen

Schritt 1: Externe Energieaudits

Wählen Sie eine Dienstleistungskategorie:

2 Externe Energieaudits

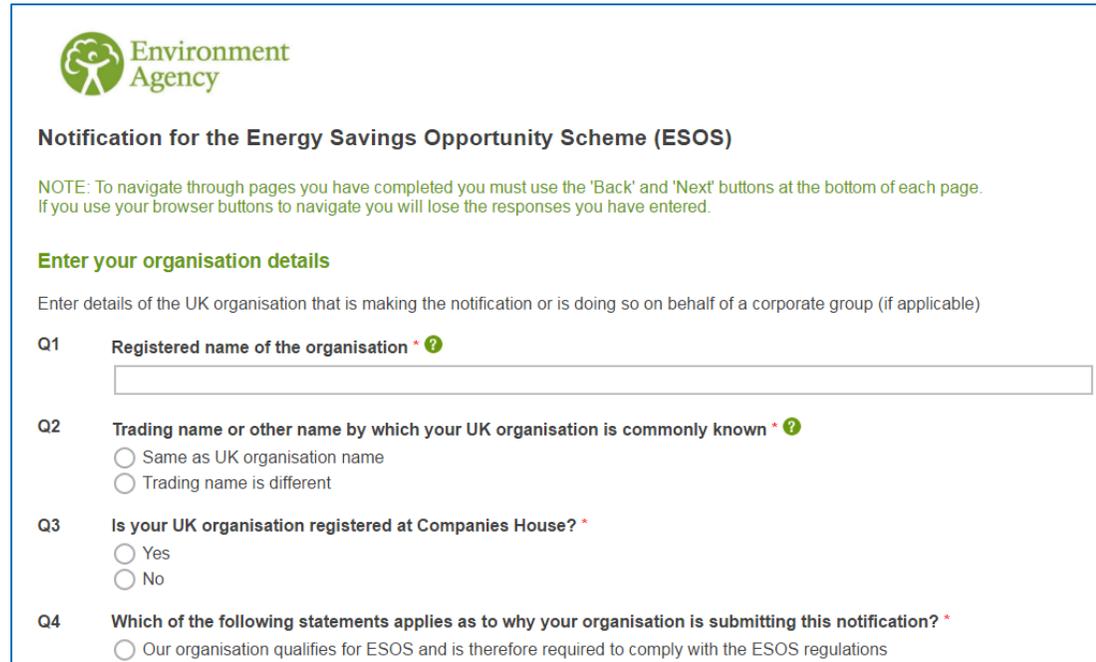
Schritt 2: Gebäude Prozesse Transport

Wählen Sie einen Bereich in der jeweiligen Dienstleistungskategorie:

| Register-Nr. | Nachname | Vorname | Titel | Unternehmen | PLZ | Ort | Land | E-Mail |
|--------------|------------|------------|-------------------|---------------------------|------------|---------------------|------------|----------------------------------|
| Ihr Filter | Ihr Filter | Ihr Filter | Ihr Filter | Ihr Filter | Ihr Filter | Ihr Filter | Ihr Filter | Ihr Filter |
| A1607012 | Adelsmayer | Klaus | Ing. DI(FH), MSc. | Endress+Hauser GmbH | 1230 | Wien | AT | klaus.adelsmayer@at.endress.com |
| A1604001 | Aichinger | Peter | MSc. | SYNECO tec GmbH | 6067 | Absam | AT | peter.aichinger@syneco-group.com |
| A1511009 | Alam | Irfan | | Ameresco Ltd. | SW1W OAH | London | UK | ialam@ameresco.com |
| A1506054 | Albert | Martina | DI, MSE | Effizienzwerk GmbH | 84028 | Landshut | DE | m.albert@effizienzwerk-gmbh.de |
| A1506027 | Albring | Michael | DI | Trengelmann Energie GmbH | 45478 | Mülheim an der Ruhr | DE | malbring@tengelmann-energie.de |
| A1501008 | Allmaier | Christian | | AllTec Christian Allmaier | 9640 | Kötschach-Mauthen | AT | office@alltec-energie.at |

Austria's national registry of qualified auditors (<https://www.monitoringstelle.at/index.php?id=694>)

- Audit reports or final results to be sent to regulator, though some Member States (e.g. Germany, Ireland) do not require any formal submission
- Companies may be subject to random audit
- Evidence pack expected to be held for a number of years
- Obligation to implement energy efficiency measures identified (e.g. Italy)
- Deadlines vary across Member States:
 - In most cases deadline was 5 December 2015
 - Austria: 30 November 2015
 - Spain: 14 November 2016
 - Poland: 1 October 2017



 Environment Agency

Notification for the Energy Savings Opportunity Scheme (ESOS)

NOTE: To navigate through pages you have completed you must use the 'Back' and 'Next' buttons at the bottom of each page. If you use your browser buttons to navigate you will lose the responses you have entered.

Enter your organisation details

Enter details of the UK organisation that is making the notification or is doing so on behalf of a corporate group (if applicable)

Q1 Registered name of the organisation * 

Q2 Trading name or other name by which your UK organisation is commonly known * 

Same as UK organisation name
 Trading name is different

Q3 Is your UK organisation registered at Companies House? *

Yes
 No

Q4 Which of the following statements applies as to why your organisation is submitting this notification? *

Our organisation qualifies for ESOS and is therefore required to comply with the ESOS regulations

And finally.....

- Interaction with other regulations:
 - Some Member States already have similar regulations in place, primarily for industrial energy efficiency
 - Voluntary energy efficiency schemes
 - Inconsistencies in qualification criteria across various schemes

Example of similar regulation: Bulgaria

Individual Energy Efficiency Targets (IEET) have been established for industrial companies in Bulgaria. These set energy reduction targets for 297 industrial systems with an annual consumption of more than 3,000 MWh. As a result of agreeing these targets, participant companies must undertake energy audits and report on energy savings. IEET was active until 2016. Bulgaria's transposition of Article 8 applies to companies covered by the IEET, as well as those that qualify as "non-SMEs".

Example of voluntary scheme: Netherlands

The Netherlands has two voluntary agreement schemes: the LTA3 (Long-Term Agreement) and the Long-Term Agreement for the energy efficiency of ETS enterprises (MEE). Approximately 1,100 companies already use these schemes, and this accounts for up to 80% of the energy used by industry, and about 25% of the energy in the Netherlands. The agreements specify that the participating organisations must draw up energy efficiency plans every four years and implement cost-effective energy reduction measures for the plans. Companies then have to report annually on the measures that have been implemented.

Conclusions

- Companies are generally expected to determine qualification at the group level, but energy management falls under individual countries, legal entities, or facilities
- Challenges often faced by companies that:
 - Have operations across multiple EU Member States
 - Are made up multiple subsidiaries that qualify as SMEs in their own right
 - Have large property portfolios
 - Generally occupy their properties as tenants
 - Don't have data on their building energy consumption and/or company car fleets
- https://ec.europa.eu/energy/sites/ener/files/documents/EED-Art8-Implementation-Study_Task12_Report_FINAL-approved.pdf



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