



Greenhouse Gas Verification - European/UK Perspective

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Overview of Presentation

- What UKAS currently does: mostly Verification and a small amount of validation
- The European System
- How it works
- Hierarchy of documentation
- Future trends

Glossary of Terms

- EU – European Union
- AB – Accreditation Body
- VB – Verification Body
- ETS – Emission Trading Scheme
- AVR – The Accreditation and Verification Regulations
- MRR – Monitoring and Reporting Requirements
- EA – European Cooperation for Accreditation
- MLA – Multi Lateral Agreement



Verification not Validation

- UKAS works and accredits the VERIFICATION of Greenhouse Gases (“GHG”) in various emissions for the European Union (EU) Emissions Trading Scheme (“ETS”).
- UKAS also accredits the VALIDATION of GHG to the “Woodland Carbon Code”, a UK only scheme.
- The accurate and reliable verification of GHG, underpinned by accreditation permits the trading of carbon credits.
- This has helped significantly reduce GHG emission in Europe by using a “CAP and Trade System”.

Validation

- This applies to projects – “future actions”.
- For example: will a planned design modification for a factory process reduce the emissions by 20%.
- Validation checks that a planned project is capable of delivering its objectives.
- In the UK, UKAS validates a forestry (tree planting) scheme.

Background to the European System: 1

- Following the Kyoto agreement EU members agreed to reduce GHG emission to 8% below 1990 levels by the years 2008-2012.
- The latest data shows that the EU has **over-achieved** on this target:- between 1990 and 2012 EU GDP grew by 45%,total GHG emissions from today's 28 EU member states in 2012 are now **19.2% below** the 1990 level
- The EU E.T.S has become the EU's key tool for reducing GHG emissions from industry.
- Aviation targets included from 2011.



Background to the European System: 2

- The EU ETS is the cornerstone of the European Union's drive to reduce its emissions of man-made greenhouse gases
- The system works by putting a limit on overall emissions from high-emitting industry sectors which is reduced each year. Within this limit, companies can buy and sell emission allowances as needed.
- This 'cap-and-trade' approach gives companies the flexibility they need to cut their emissions in the most cost-effective way.
- The EU ETS covers more than 11,000 power stations and manufacturing plants in the 28 EU member states as well as Iceland, Liechtenstein and Norway.
- Aviation operators flying within and between most of these countries are also covered. In total, around 45% of total EU emissions are limited by the EU ETS.

Background to the European System: 3

- As the main market for credits generated by emission-saving projects around the world, the EU ETS is a major source of investment in environmentally sustainable development in developing countries.
- The system is the world's biggest emissions trading market, accounting for over three-quarters of international carbon trading and uses 'the market' to control emissions
- Emissions trading systems are among the most cost-effective tools for cutting greenhouse gas emissions. The European Union launched the EU Emissions Trading System (EU ETS) in 2005 as the cornerstone of its strategy for cutting emissions of carbon dioxide (CO₂) and other greenhouse gases at least cost.
- In contrast to traditional 'command and control' regulation, emissions trading harnesses market forces to find the cheapest ways of reducing emissions.



Background to the European System: 4

- The EU ETS is the world's first major carbon market and remains by far the biggest today.
- As the first international emissions trading system to address greenhouse gas emissions from companies, the European system accounts for over three-quarters of the trading volume of the international carbon market and functions as its engine.
- By putting a price on carbon and thereby giving a financial value to each tonne of emissions saved, the EU ETS has placed climate change on the agenda of company boards across Europe. A sufficiently high carbon price also promotes investment in clean, low-carbon technologies.
- By allowing companies to buy credits from emission-saving projects around the world, the EU ETS also acts as a major driver of investment in clean technologies and low-carbon solutions, particularly in developing countries.

Background to the European System: 5

Greenhouse gases and sectors covered:-

Carbon dioxide (CO₂) from:-

- - Power and heat generation
- - Energy-intensive industry sectors including oil refineries, steel works and production of iron, aluminium, metals, cement, lime, glass, ceramics, pulp, paper, cardboard, acids and bulk organic chemicals
- Civil aviation
- **Nitrous oxide (N₂O)** from production of nitric, adipic, glyoxal and glyoxalic acids
- **Perfluorocarbons (PFCs)** from aluminium production

The EU ETS – Development In Stages

2005-2007 1st trading period was used for ‘learning by doing’ and ETS was successfully established. However the number of allowances issued were excessive and the cost of carbon did not rise in price

2008-2013 2nd Trading Period: More countries join in. The number of allowances is reduced by 65%, but the economic downturn also cuts emissions. Aviation is included in the system.

2013-2020 3rd Trading Period: Major reform introduced. EU cap on emissions launched, reducing by 1.74% each year and a progressive shift towards auctioning allowances.

Principles of the System

- Following the Kyoto agreement all EU countries had to submit a national allocation plan based on 1990 levels of GHG.
- Fines by the EU imposed as those who fail to meet their targets.
- Fine is currently €100 per tonne of CO₂ (or equivalent amount of N₂O or PFCs) on the factory operators.
- Fines of up to €500,000 have been imposed for operators who do not comply with scheme

Hierarchy of Documentation

- Directive 2003/87 “Establishing a scheme for Greenhouse Gas Emissions trading with the (European) community.(much amended but still is the base legislation adopted in National Law.)
- This Directive is European law and effectively sets up and defines the scheme.



EU – ETS The Regulations Guidance Document

- EU 600/2012 : The Accreditation and Verification Regulation “AVR”. This sits below the EU Directive and is European law
- The driver behind this legislation is that the EU wants 1 tonne of CO₂ to be consistent, across the EU: for example 1 tonne CO₂ in Spain = 1 tonne CO₂ in France = 1 Tonne CO₂ Germany. This is because the CO₂ can be traded like a currency.
- The AVR requires Accreditation Bodies (AB’s) to accredit an organisation as meeting the requirement of European Law, (“AVR”) ISO 14065 and “EA6/03”.



EU ETS Accreditation guidance

“EA 6/03”

- The AB assesses the Verification body, (VB) to ISO14065, but as this is non scheme specific, the AB also assesses the VB to AVR 600/2012.
- EA 6/03 supports the EU Directive and the AVR providing accreditation guidance. This was produced by the European Cooperation for Accreditation (“EA”) with much UKAS input.

EU ETS - The Regulations Guidance Documents

Covers areas such as:

- Risk analysis
- Strategic analysis
- Data sampling
- Sampling plans
- Limited Assurance
- Reasonable assurance

all of these measures
are derived from
financial auditing and
accountancy practices

How does the ETS work for industry?

- **Step 1:** Refer to the monitoring and reporting regulations MRR601/2012 and EU Commission guidance.
- **Step 2:** The factory must then get a “permit to operate” from the Government “Competent Authority”, which shows how measurement and testing is carried out.
- **Step 3:** The Verifying Body (“VB”) then carries out a compliance audit on the factory for example:- accurate measurements of CO₂; checking that all CO₂ sources have been identified. Checks on procedures for recording data and control of computing data systems.
→ This is all required to check on the “currency” for the trade.
- **Step 4:** After the compliance audit the VB can then confirm the data for CO₂ verification.



Accuracy of date: Reasonable Assurance & Limited Assurance

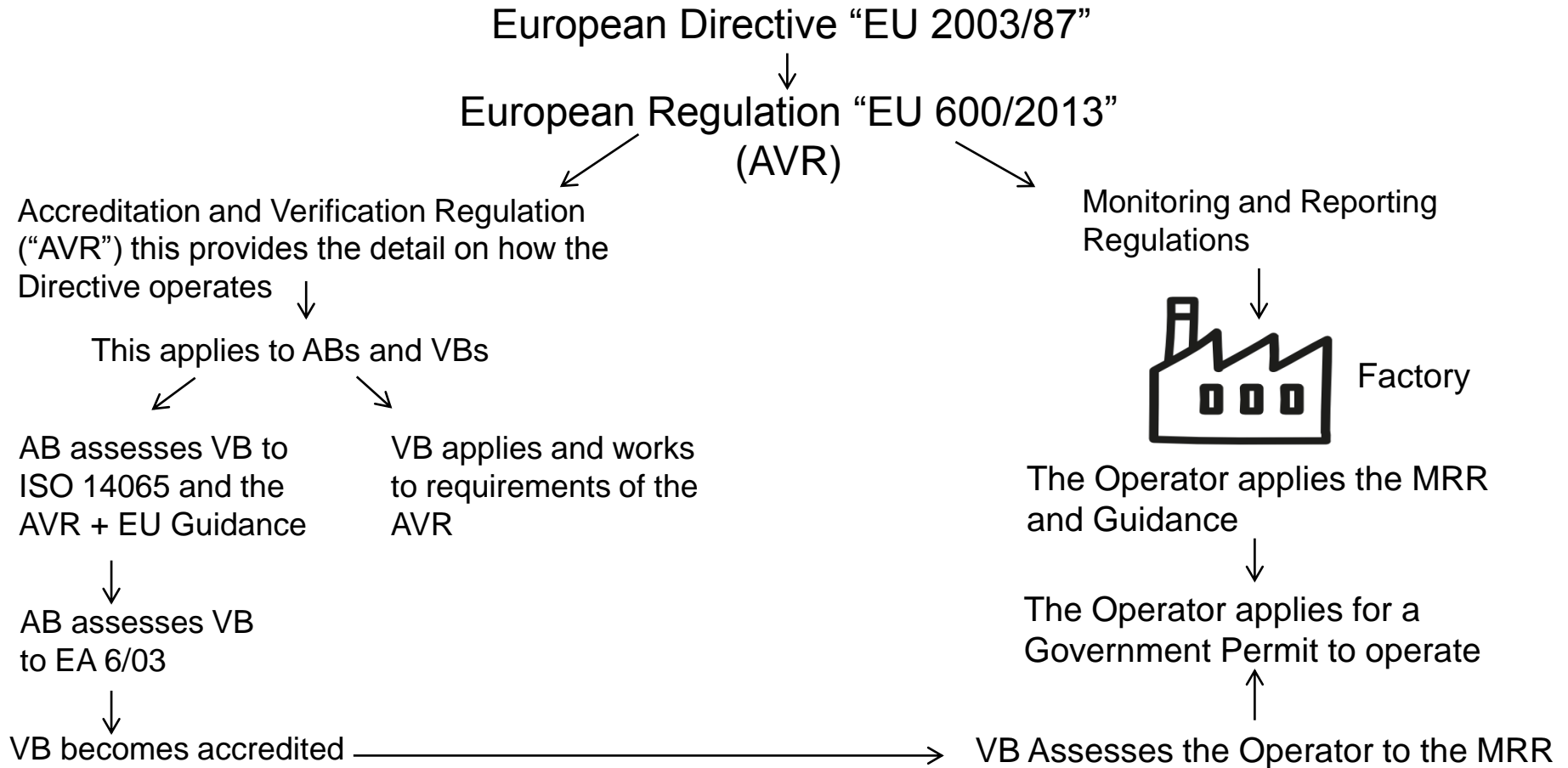
- There are two types of assurance defined in the regulations. The EU requires “reasonable assurance”
- Limited Assurance: No mistake in the data which was inspected.
- Reasonable Assurance: No mistake in the data anywhere:- “I have sampled enough to be satisfied that there are no material non conformities, mis-statements or errors in the data whatsoever (e.g. includes data I have not seen”). This is required by the EU ETS.
- Materiality = 2% on bigger emitters.
5% on aviation and all others



UKAS Activities

- The UK has been a pioneer in the EU ETS as a UK only ETS was in existence before the EU ETS.
- UKAS representatives were involved in the development of the guidance to the legislation and EA 6/03
- UKAS has also developed training for other European AB's and helped train the EA Peer Assessor teams.
- UKAS was peer reviewed itself in December 2013 and become a full MLA Signatory in May 2014.
- The first of six European AB's now in the MLA.

Overview of The Scheme



Trends

Cap and trade idea

- Tried to use a market mechanism to reduce emissions
- Working and popular with industry = effective
- Also now looking at nitrous oxides (NOX) e.g. NL has a NOX scheme
- The aim is to apply this to maritime shipping but will be difficult to enact. This is similar to the problems experienced with aviation where many operators are not of EU origin.
- Increase to the price of carbon . The current excess price to buy “credits” is £6/tonne.
- There are fines on industry if it fails to comply of up to €500,000
- Other countries are now considering the introduction of similar schemes (China)

References

- For EU details of all documents, Directives, Regulations the official source is at:
http://ec.europa.eu/clima/policies/ets/monitoring/documentation_en.htm
- For the official UK Government details of how the scheme is applied in the UK the link is:-
<https://www.gov.uk/government/policies/reducing-the-uk-s-greenhouse-gas-emissions-by-80-by-2050/supporting-pages/eu-emissions-trading-system-eu-ets>
- For the Forestry Commission Woodland Carbon Code (Validation) the link is:
www.forestry.gov.uk/carboncode
- For the list of EUETS- accredited bodies, accredited by UKAS the link is:
<http://www.ukas.com/library/About-Accreditation/Accredited-Bodies/EU%20ETS%20Phase%20III%20verifiers%20and%20their%20scope%20of%20accreditation%202014%2004%2015.pdf>



Thank you - Muchas Gracias

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