Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

Ensure Compliance and Oversight: MRVA and Enforcement

Taller de Capcitación en Mecanismos des Emisión Transables
Machali, 29 August 2018

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Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
Germany

Outline

Introduction to the (EU) ETS Compliance Cycle

- **Monitoring**
- **Reporting**
- **Verification**
- **Assessment of AERs & Enforcement**

Accreditation & Surveillance of Verifiers

Wrap-up & Lessons Learnt

EU ETS Compliance Cycle

EU ETS Compliance Cycle

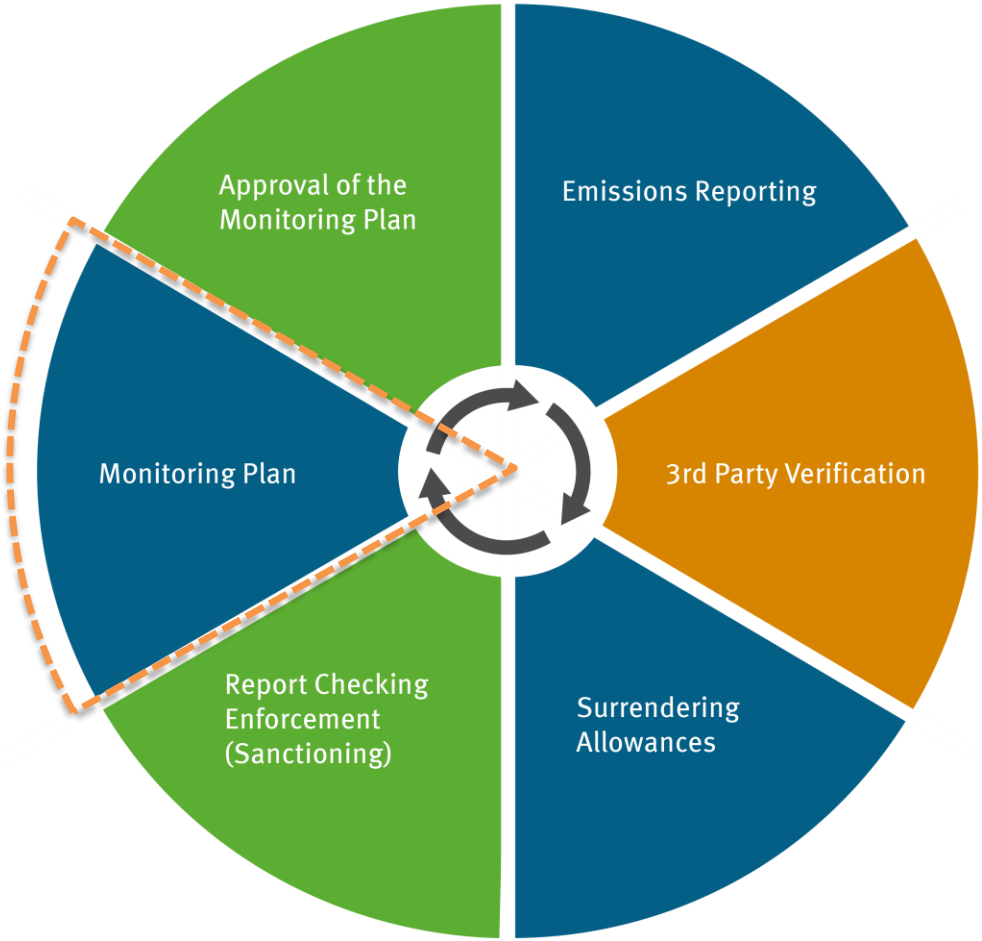
Legal Framework

- Current Framework reflects experiences made with Monitoring, Reporting, Verification & Accreditation during Phase I and Phase II

- 2003: EU Emissions Trading Directive 2003/87/EC; transposed into national law by all Member States

- 2012: European Commission adopted
  - **Monitoring & Reporting Regulation 601/2012 (MRR)**
  - **Accreditation & Verification Regulation 600/2012 (AVR)**
    - Comprehensive, sophisticated and harmonized framework laying down **detailed requirements on all MRVA issues**
    - MRR & AVR: Legally **binding & directly applicable in all MS**

Monitoring Plan



Monitoring Plan

- **Concept, how** the general **monitoring & reporting rules** laid down in the MRR will be applied **in a specific installation**
- **Operators have to draft and to submit** the MP to the CA **for approval**
- **Main advantages for operators**
  - The **MP supports** the operator by
    - **Structuring** the monitoring of emissions/data
    - **Predertimining** the Annual Emissions Report (**AER**)
      - ⇨ **AER = MP + Figures/Data monitored**
  - **Legal Certainty: Conformity** with the approved MP **guarantees compliance**

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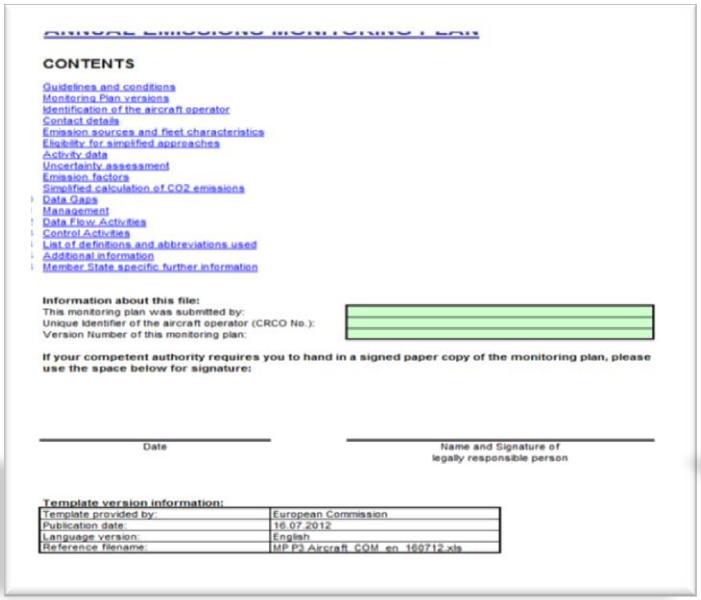
Monitoring Plan

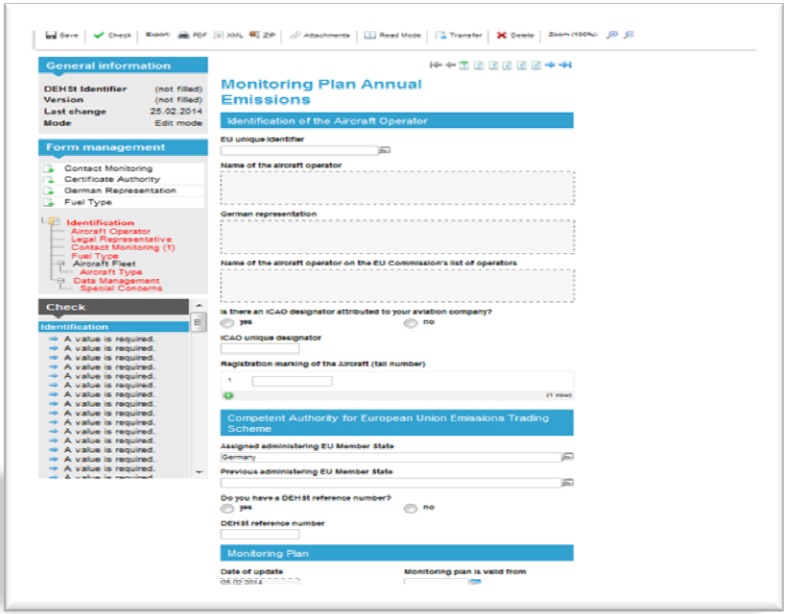
Competent Authorities provide:

- Electronic Templates
- Guidance Documents, FAQs
- User Manual & XML Interface for the Electronic MP



Template of the European Commission

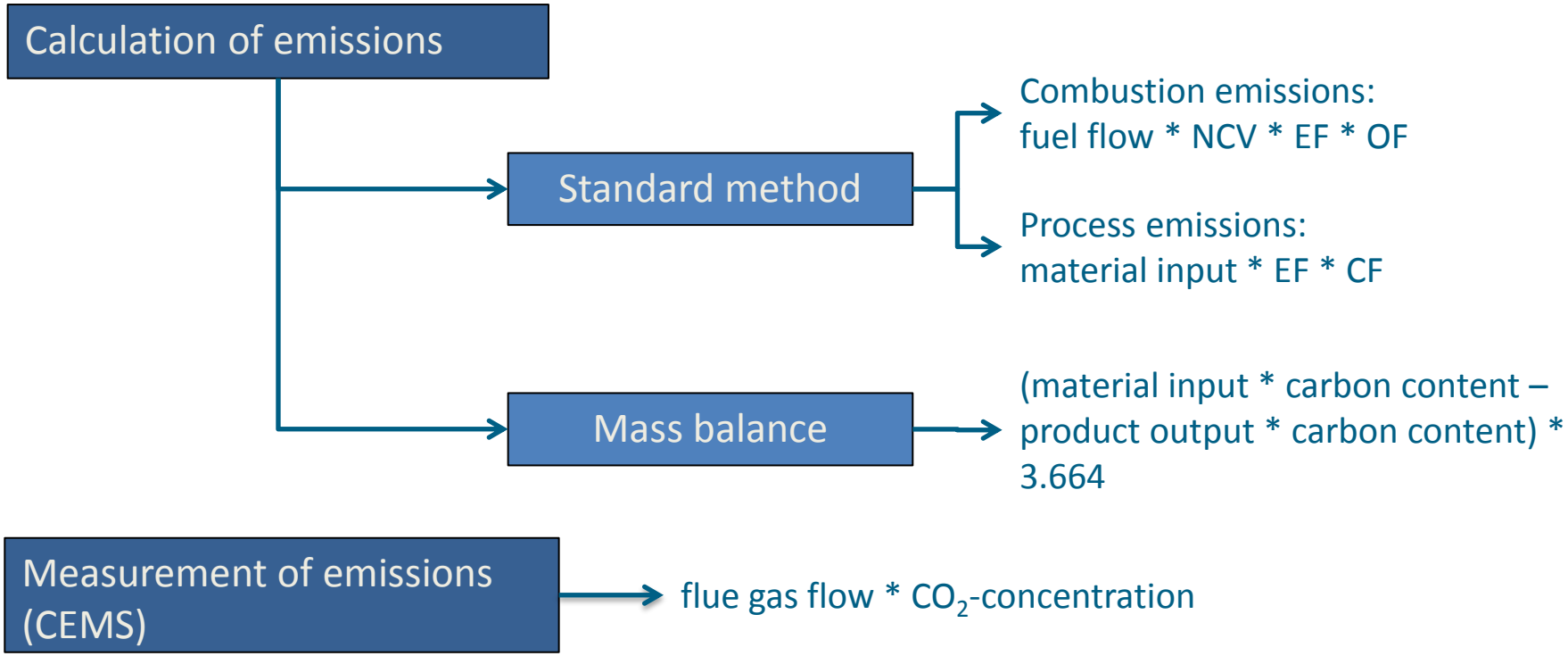
or



Electronic Form if required by Member State

Monitoring Plan
Main Requirements

Methods for determination of emissions



➔ **Operator may also combine methods**

Monitoring Plan
Main Requirements

Categorization of Installations (A/B/C) and Source Streams

- **C installations** (> 500,000 t CO_2/a) and **B installations** (> 50,000 t CO_2/a): **highest tiers** have to be applied
- **A installations** (≤ 50,000 t CO_2/a): **minimum tier** requirements
- Installations with low emissions (< 25,000 t CO_2/a): additional monitoring simplifications
- **Lower tiers** are allowed for
  - "minor source streams" and "de-minimis-source-streams"
  - source streams with biomass fraction ≥ 97%
  - commercial standard fuels
- **Temporary or individual deviations** are allowed for technical or economic reasons (**"unreasonable costs"**) upon approval by CA

Monitoring Plan
Main Requirements

Tier Definitions for the Calculation Based Approach

- **Activity data (Source stream amount):**
  - Tier 1: Uncertainty ± 7.5% up to
  - Tier 4: Uncertainty ± 1.5%

- **Calculation Factors -** Emission Factor, Net Calorific Value, Carbon Content, Conversion Factor:
  - Tier 1: IPCC standard factors
  - Tier 2: Standard factors from national inventories, nationally agreed factors for fuel streams
  - Tier 3: Based on chemical analysis

- **Sector specific deviations** possible

Approval of the Monitoring Plan

Approval of the Monitoring Plan

Importance of the approval for CAs

- **Approved MP** is the **starting point for all verification activities** carried out by 3rd party verifiers

  ⇨ **MP should be as clear as possible** to support verification
- **Conformity** with approved plan **guarantees compliance**
  - **Mistakes are not borne by operators** until withdrawal of the approval
- **Incorrect monitoring can lead to**
  - Distortion of competition
  - Violation of the “polluter-pays-principle”
  - Threats regarding the integrity of the ETS

Surrender of allowances
=
Backbone of any ETS

⇨ **Hence, approval by CAs should be done carefully (!)**

Approval of the Monitoring Plan

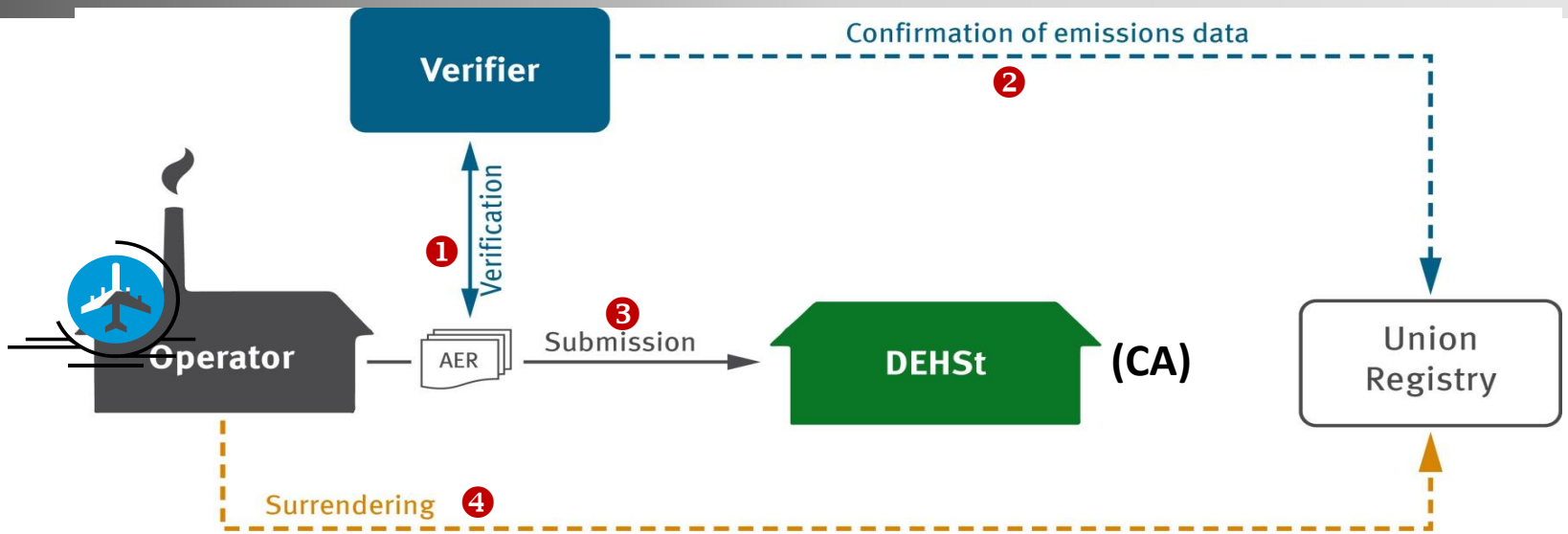
Which assessments are required by the Competent Authority?

- **Compliance of the MP with legal requirements** (**MRR**)
- **Main focus** on **monitoring methods** (measuring, sampling, analyzing)
- A **rough check** of the **internal procedures of the operator** to support his monitoring and reporting obligations
- **Completeness** of emission sources
- **If necessary: Approval** is granted **under conditions**

Reporting

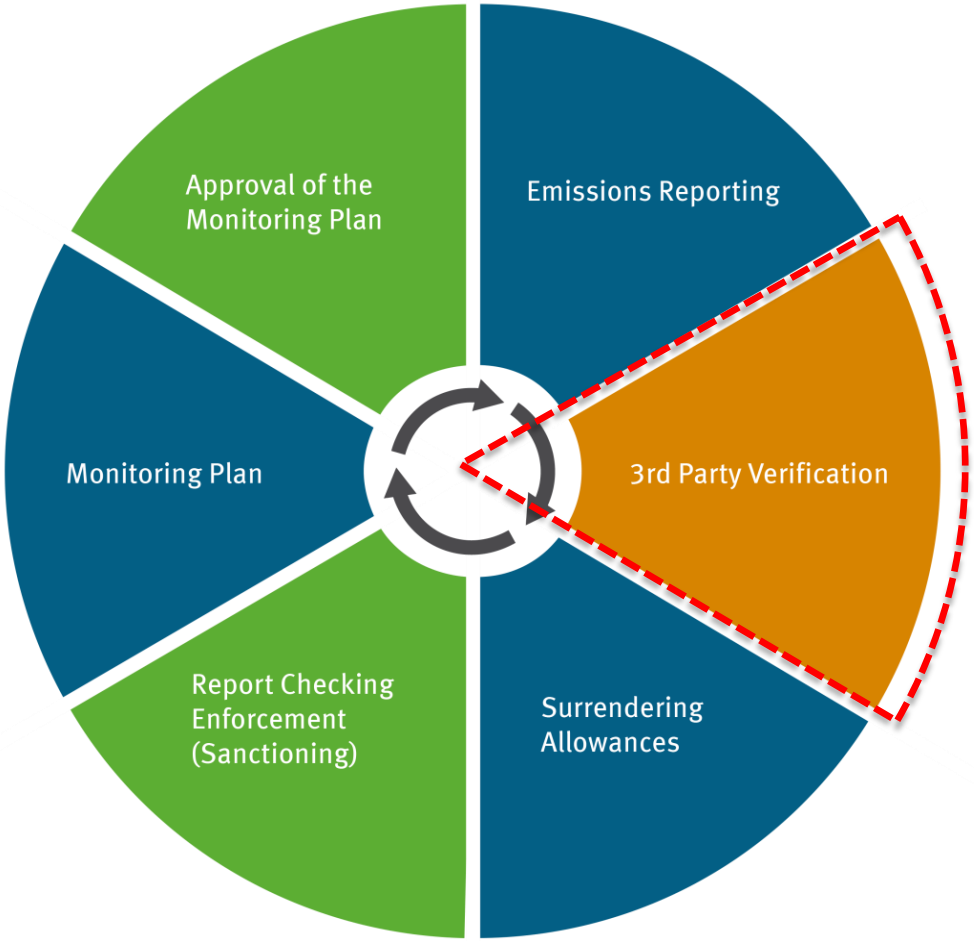

Approval of the Monitoring Plan
Emissions Reporting
Monitoring Plan
3rd Party Verification
Report Checking Enforcement (Sanctioning)
Surrendering Allowances
DEHSt‘s tasks
Operator‘s tasks
Verifier‘s tasks

Reporting



- **Operator** drafts the **Annual Emissions Report (AER); verifier** ❶ verifies the AER and issues a Verification Report (VR)
- **Verifier** ❷ **confirms** the total amount of CO_2e emissions in the Union Registry (VET – Verified Emissions Table),
- **Operator** ❸ **submits** verified **AER to** the **CA** by 31st March
- **Operator** ❹ **surrenders** the verified amount of **allowances** by 30th April

Verification



Verification

Which data / documents have to be verified?

Stationary Installations

- Annual Emissions Reports (AER)
- *Applications for free allocation of allowances*

Aviation

- Annual Emissions Reports
- Tonne-Kilometre Reports / Applications for free allocation of allowances

Validation (Verification) of Monitoring Plans?

- Not applied in EU ETS
- Approval by CA required

Verification

The **scope/objective** of verification is **to ensure** that

- **emissions** have been **monitored in accordance with**
  - **approved MP**
  - **legal requirements** (esp. MRR)
- **reliable** and **correct emissions data** are reported **("a ton must be a ton")**

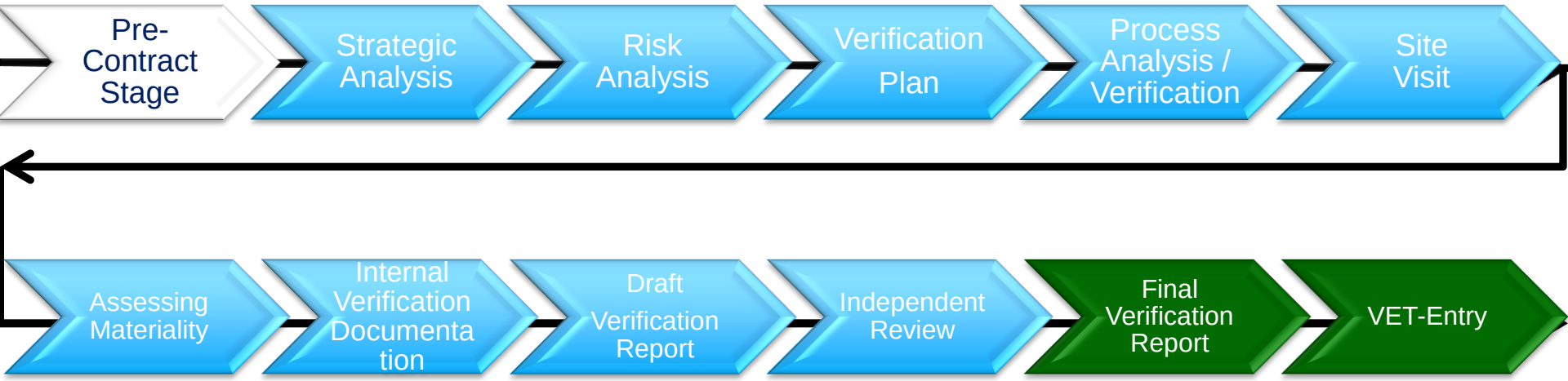
Satisfactory verification
=
Verification opinion states
- with **reasonable assurance** that the report
- is free **from material misstatements**

Materiality Levels to be applied in EU ETS:

- ≤ 500.000 t CO_{2e} p.a.: 5 %
- > 500.000 t CO_{2e} p.a.: 2 %

Verification

Verification as a risk-based and iterative procedure



Verification

- About **1900 stationary** installations have to **submit verified AERs** to the CA **in Germany**

- **Verification** of the AERs **is carried out by**
  - **17 verification bodies accredited** by the National Accreditation Body **(NAB)** of Germany (DAkkS - Deutsche Akkreditierungsstelle GmbH)
  - **3 verification bodies accredited** by **NABs** of other EU **Member States** (2 UKAS; 1 Cofrac - France)

About **120 to 130 persons** are acting as Lead Auditors / Auditors / Technical Experts and Independent Reviewer

Surrendering Allowances

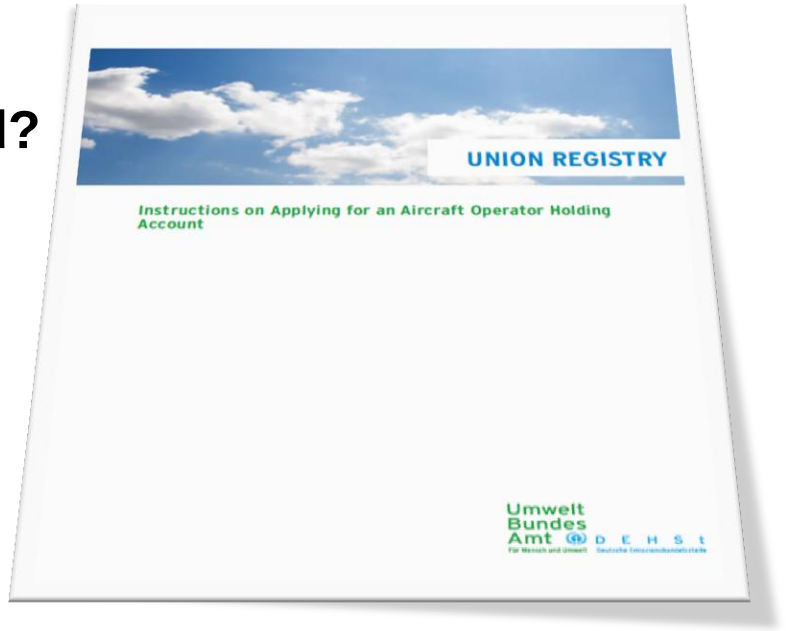
Surrendering Allowances

- **Operators have to surrender allowances** equivalent to their verified emissions in the reporting period
- Operators in the EU ETS need an **operator holding account (OHA)** in the **European Union Registry**
- **European Union Registry is divided into national parts**

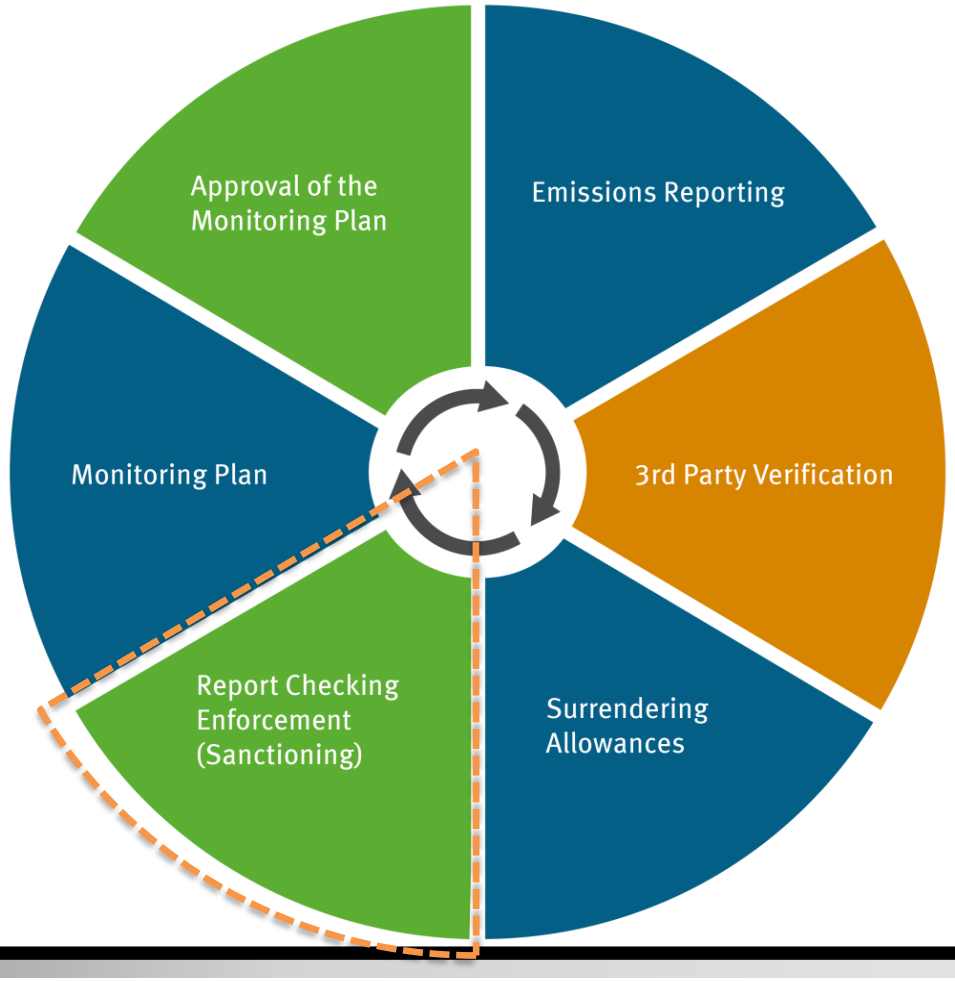
Surrendering Allowances

CAs provide useful information on:

- **How to open an account?**
- **What type of account is needed?**
- **What kind of certificates can be used?**



Assessment of AER & Enforcement



Assessment of AER & Enforcement

Different approaches possible

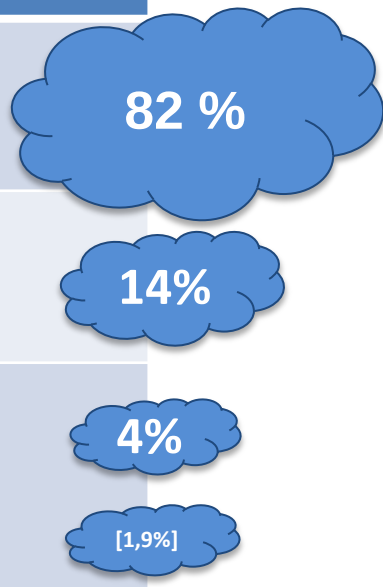
- Some CAs just perform **follow-up checks** on (non-material) misstatements or non-conformities **found/reported by verifiers** or some **random checks**

- Other CAs perform **comprehensive in-depth assessments** of AERs, incl.
  - **Automated checks of all AERs** in a database
  - In-depth checks of primary data by **requests of information on relevant sources** or randomly
  - **On-site inspections** in installations

Assessment of AER & Enforcement

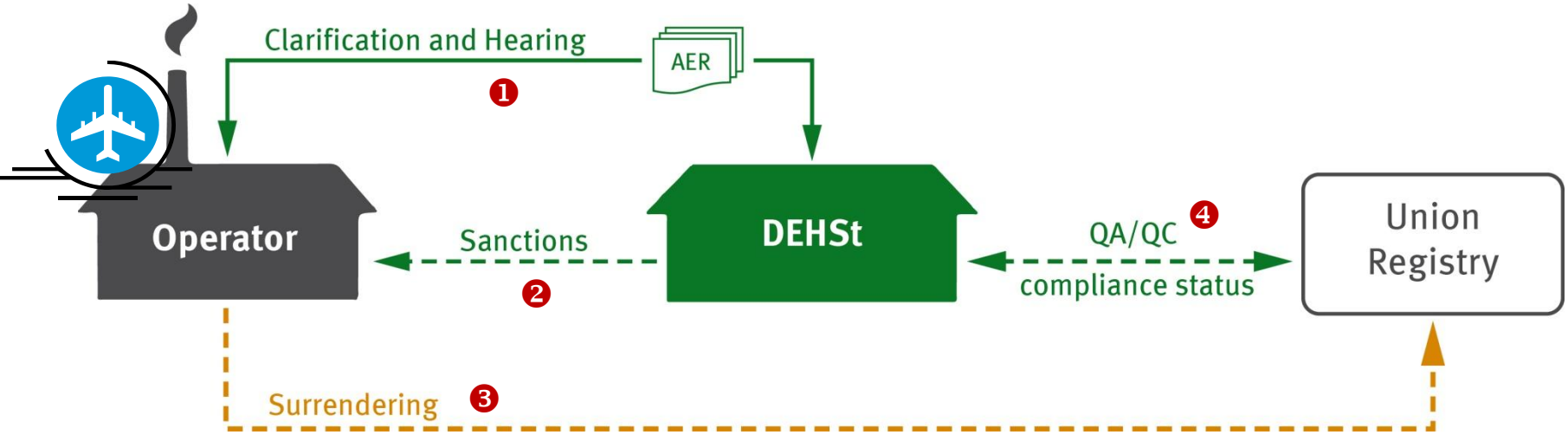
Distribution of the Emissions covered in Germany

Installation category	Installations in Germany*	Total annual emissions*
Category C (>500 kt CO_2-eq/a)	142	375.5 Mio. t CO_2-eq
Category B (>50 kt CO_2-eq/a)	412	61.8 Mio. t CO_2-eq
Category A (<= 50 kt CO_2-eq/a) [installation with low emissions, < 25 kt]	1,326 [1,064]	18.1 Mio. t CO_2-eq [8.8 Mio. t CO_2-eq]



*VET 2015; 1,880 installations, 455,4 Mio t

Assessment of AER & Enforcement



- **CA checks AERs** and ❶ **asks for clarification**, if required
- If emissions were underestimated the **CA** ❷ **may estimate the additional amount of emissions** for the reporting year; **operator may be fined**
- **Operators** ❸ have to **surrender additional allowances**; **CA** ❹ checks the **compliance status**

Assessment of AER & Enforcement

Penalties – if a company doesn‘t „play by the rules“

- Remember: Obligation to **surrender allowances** is the **„backbone“** of any ETS

- EU ETS: **Operators not surrendering allowances to cover the verified emissions** of the reporting year have to
  - pay an „**Excess Emissions Penalty**“ per outstanding allowance
  - **surrender** the **outstanding amount** of allowances in the subsequent year

- „**Excess Emissions Penalty**“: **100 € per t CO_{2e}** (Phase I: 40 €)

Outline

Introduction to the EU ETS Compliance Cycle

- Monitoring
- Reporting
- Verification
- Assessment of AERs & Enforcement

Accreditation & Surveillance of Verifiers

Wrap-up & Lessons Learnt

Accreditation & Surveillance of Verifiers

EU Accreditation & Verification Regulation 600/2012 (AVR)

- **Based upon international standards**
  - **EN ISO 17011:** General requirements for accreditation bodies accrediting conformity assessment bodies
  - **EN ISO 14065:** Requirements for greenhouse gas validation and verification bodies
- **Detailed provisions on**
  - Scope, objective & procedures concerning **verification**
  - **Requirements for verifiers** applying for Accreditation
  - Requirements for **National Accreditation Bodies (NABs)**
  - **Accreditation** Procedure, Surveillance, Administrative Measures
  - **Information exchange** between **NABs** and **CAs**

Accreditation & Surveillance of Verifiers

Requirements on Verifiers

- **Accreditation is (required and) granted scope specific**
  - **29 different** (industrial) **activities are covered by the EU-ETS**
  - **Annex I AVR: For accreditation purposes activities** are categorised into **13 groups of activities based on similarities** in the complexity, industry type, processes and technical characteristics
  - **Each group forms a specific scope, e.g. *„mineral processing industries“***

- **Applicant verifiers have to be legal entities (verification bodies)**

Accreditation & Surveillance of Verifiers

Requirements on Verifiers

- Appropriate **Quality Management System**
- **Procedures** to carry out verification activities in line with AVR, including an independent review of all verification reports
- **Mechanism** (e.g. committee) to ensure independence and impartiality
- **Competence process**, including
  - General and specific **competence criteria** for its staff (Lead Auditors, Auditors, Technical Experts, Independent Reviewer)
  - A process to **maintain, develop and monitor/evaluate the competence** of its staff and performance
- **Internal verification documentation**

Accreditation & Surveillance of Verifiers

Requirements on National Accreditation Bodies (NAB)

- Each **Member State** has to appoint a NAB
- Accreditation has to be carried out as a **public authority activity**
- **Impartial/Independent**
- Principle of **non-competition** between NABs in Europe
- Publication of a **register** of accredited verifiers
- Verifiers have to be assessed during **document reviews, office audits, witness audits**
- **Annual surveillance** audits on all accredited verifiers
- NABs have to be members of the **"European Co-operation for Accreditation"** and are subject to **"peer reviews"**

Accreditation & Surveillance of Verifiers

Accreditation Procedure

- NAB appoints an **Assessment Team**, which
  - Conducts a Document Review
  - Visits the premises of the applicant verifier (**office audit**)
  - Assesses competence and performance of a representative part of the staff of an applicant verifier during verification procedures (**witness audits**)
- **Non-conformities/deviations** found during the assessments have **to be rectified** within a certain timeframe
- Assessment team submits a **detailed report to the NAB** containing a recommendation whether to grant Accreditation or not
- NABs "**Accreditation Committee**" checks the assessment reports and takes the final decision
- **Accreditation Certificates** are valid up to **5 years in all**

Accreditation & Surveillance of Verifiers

Surveillance

- **Responsibility for a functioning Emissions Trading System (ETS) lies with the CAs**
- **But: NABs are responsible for surveillance of verifiers**
- **NABs**
  - **have to carry out annual "office visits" and "witness audits" to** safeguard the ongoing compliance of Verification Bodies
  - **may conduct extraordinary assessments at any time**
- **CAs**
  - **get information on verifier's performance by checking verified Annual Emissions Reports**
  - **may carry out further investigations (e.g. check the verifier's internal documentations)**
- **CAs may file complaints with regard to specific verifiers**

Accreditation & Surveillance of Verifiers

Surveillance & Administrative Measures

- **NABs *may* suspend, reduce or withdraw** the accreditation in cases of **non-compliance**

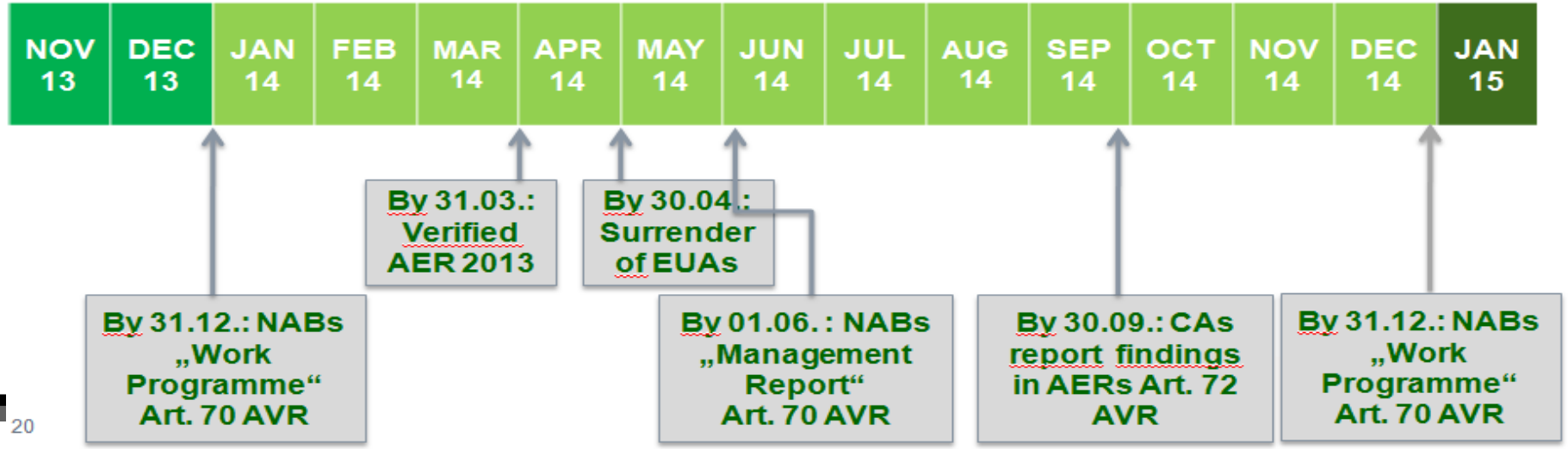
- **NABs *shall* suspend or restrict** the accreditation in cases of **serious or persistent /repeated breaches** of the AVR

- **NABs *shall* withdraw** the accreditation,
  - if the Verification Body has failed to remedy the grounds for a decision to suspend the accreditation
  - in cases of fraud

Accreditation & Surveillance of Verifiers

Surveillance & Information Exchange

- NABs and CAs have to establish an **effective information exchange**
- **NABs** have to submit **to CAs**:
  - Accreditation Work Programme (by end of December)
  - Management Report (by June of every year)
- **CAs** have to report to **NABs** on relevant results from AER assessment



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Wrap-up: Accreditation & Surveillance of Verifiers

DAkkS Deutsche Akkreditierungsstelle *

- Accreditation work program
- Accreditation management report

Umwelt Bundesamt | DEHSt Deutsche Emissionshandelsstelle

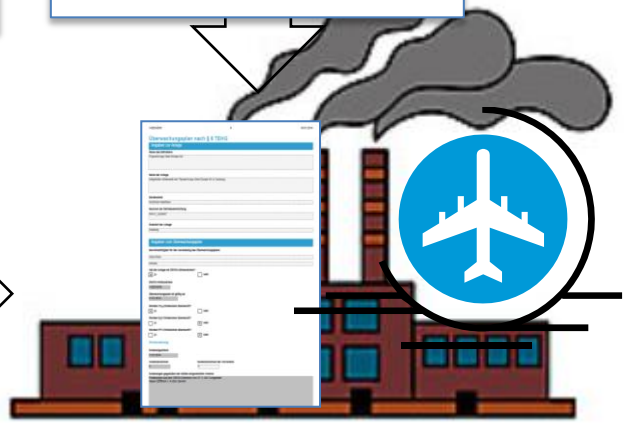
- Accreditation of
- Surveillance of
- Sanctioning of

- Report on the quality of verifications
- Right of complaint

vAER assessment

Verifiers/Entities

AER verification



Outline

Introduction to the EU ETS Compliance Cycle

- Monitoring
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- Assessment of AERs & Enforcement

Accreditation & Surveillance of Verifiers

Wrap-up & Lessons Learnt

Lessons Learnt – MR (I)

Establishing a MRVA-scheme takes some time

- **Drafting of sound legal texts**
- **Preparation of (electronic) templates**
- **Setting up procedural instructions and priorities**
- **Training of CA inspectors** (procedural instructions, workshops)
- **Training of operators** (and verifiers)
  - How? By guidance, workshops and permanent help desk
  - What? Practical implementation, regular communication with CA (FMS + additional information)

Scope: Cost. vs. benefit

- **Efforts for small emitters are disproportional higher**

Lessons Learnt – MR (II)

Challenges for Competent Authorities/Inspectors

- **Technical understanding** of production processes, measuring, sampling and analysis etc.
- **Juridical knowledge** (principles of administrative law, principles of interpretation of monitoring rules)
- **Exercising discretion** (‘principle of proportionality’)
- **Harmonized enforcement**

Lessons Learnt – VA

Verification & Accreditation play a key: Rules need to be set up as sound and clear as for Monitoring & Reporting

- **Detailed provisions** for the **verification process**
- **Mandatory (internal) independent review** of each verification procedure
- **Detailed competence requirements** and **competence process** for all verifiers
- **Strengthening** of **independence/impartiality**
- **Assessment of practical competence** „on the job“ (witness audits)
- **Detailed requirements** for the **internal verification documentation**
- **Annual surveillance** activities (office audits & witness audits)
- **Information exchange** between NABs and CAs

Thank you!

Thank you for your attention

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Backup

Federal Ministry
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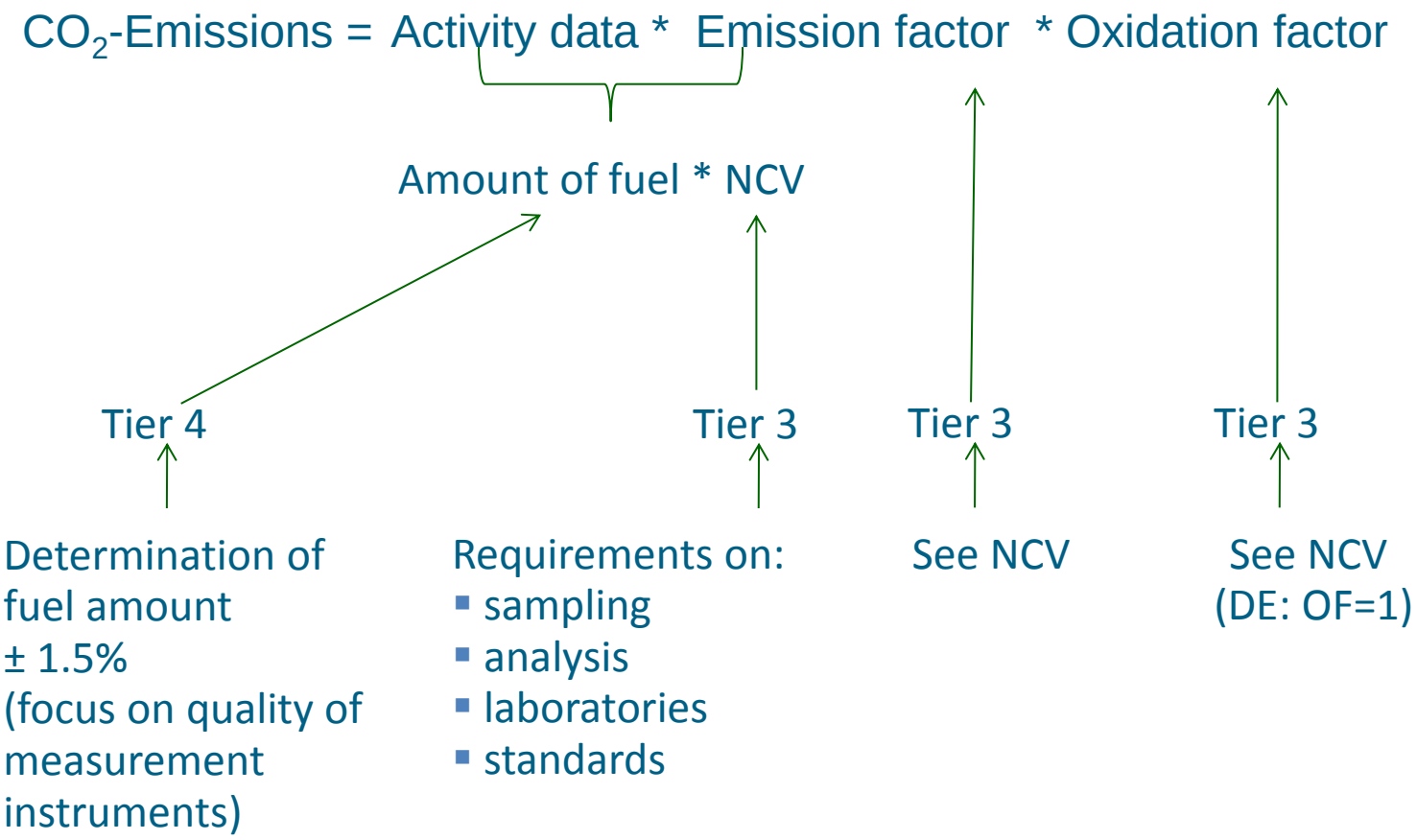
EXAMPLE: Gas-fired power plant; highest tiers applied

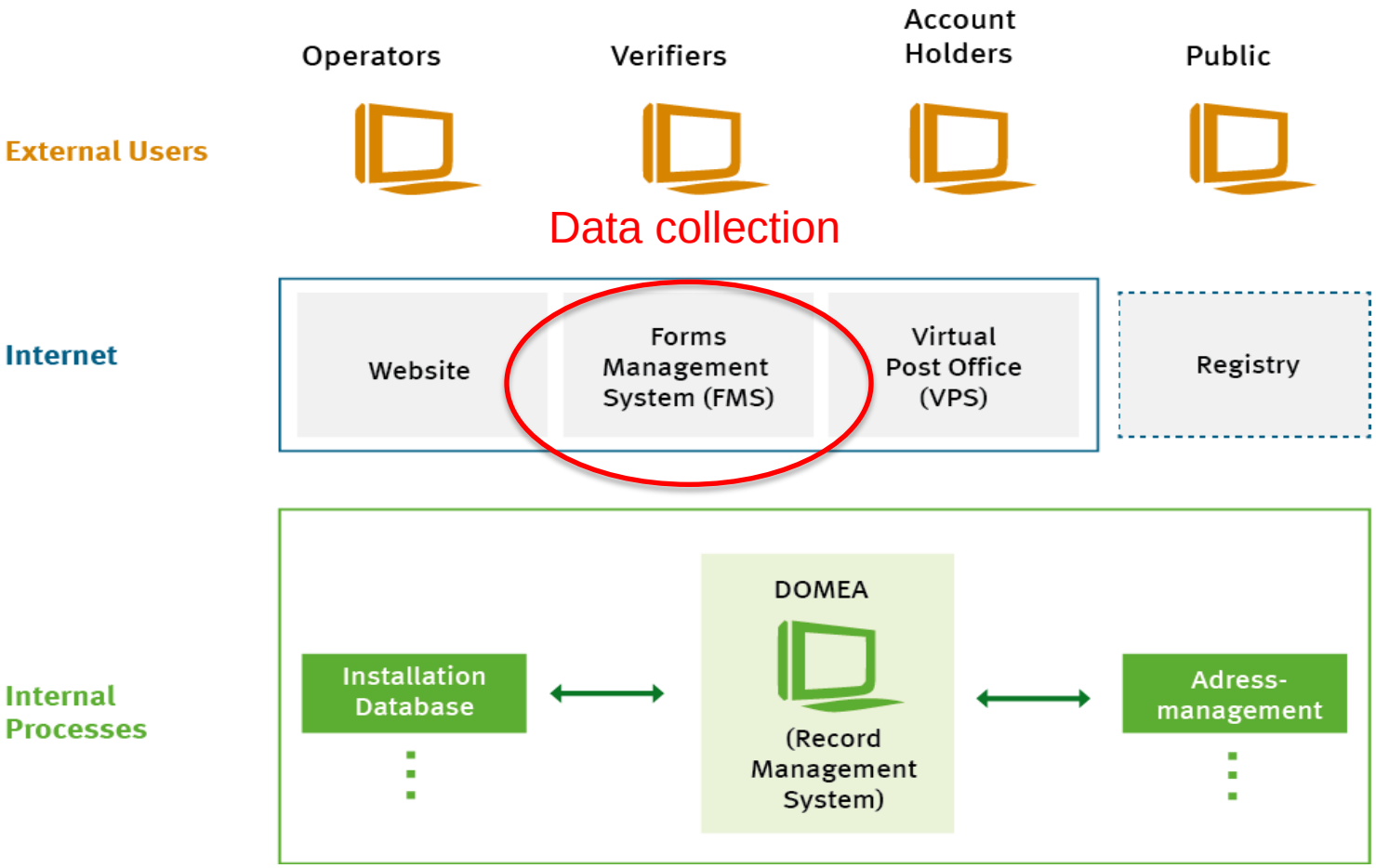


EU ETS
Achievements

- **ETS infrastructure in place** and works well, robust database available
- **EU-wide harmonization** from 1st to 3rd trading period (e.g. EU-wide cap, standards for emissions monitoring and accreditation of verifiers, Union registry,…)
- **Learned from mistakes** (overallocation, windfall profits, criminal actions,…)
- **Emissions reductions have been reached**
  - EU: – 24 % in 2014 compared to 2005 in ETS sector*
- **Behavioral changes** within companies – higher awareness of carbon costs and inclusion in investment decisions
- **Market** of emission allowances **has matured** and performs comparably to other markets of related commodities

*EEA 2015, scope corrected

IT Infrastructure



IT Infrastructure

Data Collection: Forms Management System (FMS)

Why?

FMS provides for an user-friendly data collection

Other approaches possible (Excel-templates)

What?

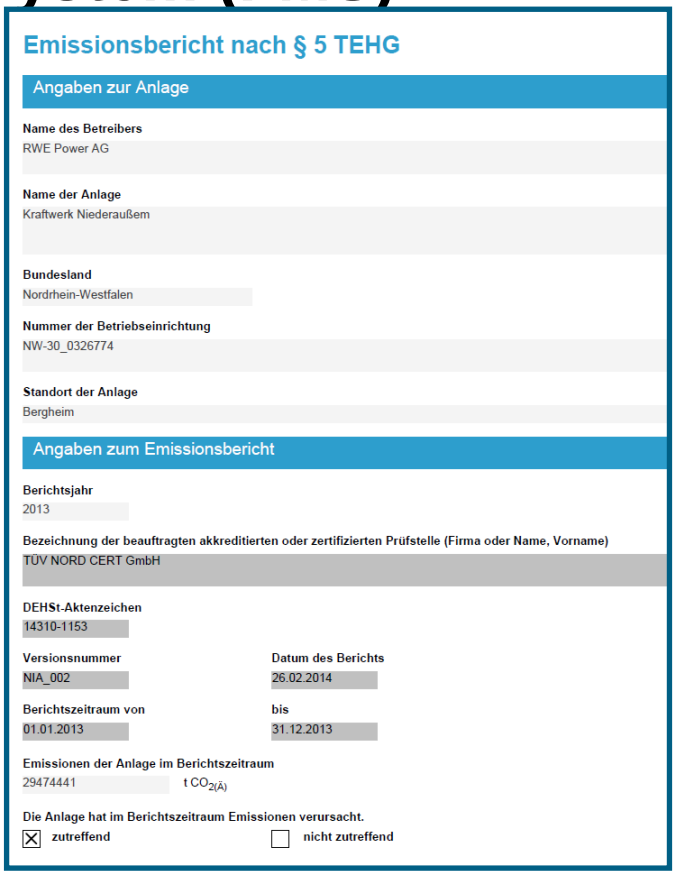
Different roles (operator/verifier)

Tooltips/texts to explain required entries

Provides for first completeness and plausibility checks

Provides different export possibilities

- Backup
- Emissions Reporting (xml, pdf)



Emissionsbericht nach § 5 TEHG

Angaben zur Anlage

Name des Betreibers
RWE Power AG

Name der Anlage
Kraftwerk Niederaußem

Bundesland
Nordrhein-Westfalen

Nummer der Betriebseinrichtung
NW-30_0326774

Standort der Anlage
Bergheim

Angaben zum Emissionsbericht

Berichtsjahr
2013

Bezeichnung der beauftragten akkreditierten oder zertifizierten Prüfstelle (Firma oder Name, Vorname)
TÜV NORD CERT GmbH

DEHSt-Aktenzeichen
14310-1153

Versionsnummer
NIA_002

Datum des Berichts
26.02.2014

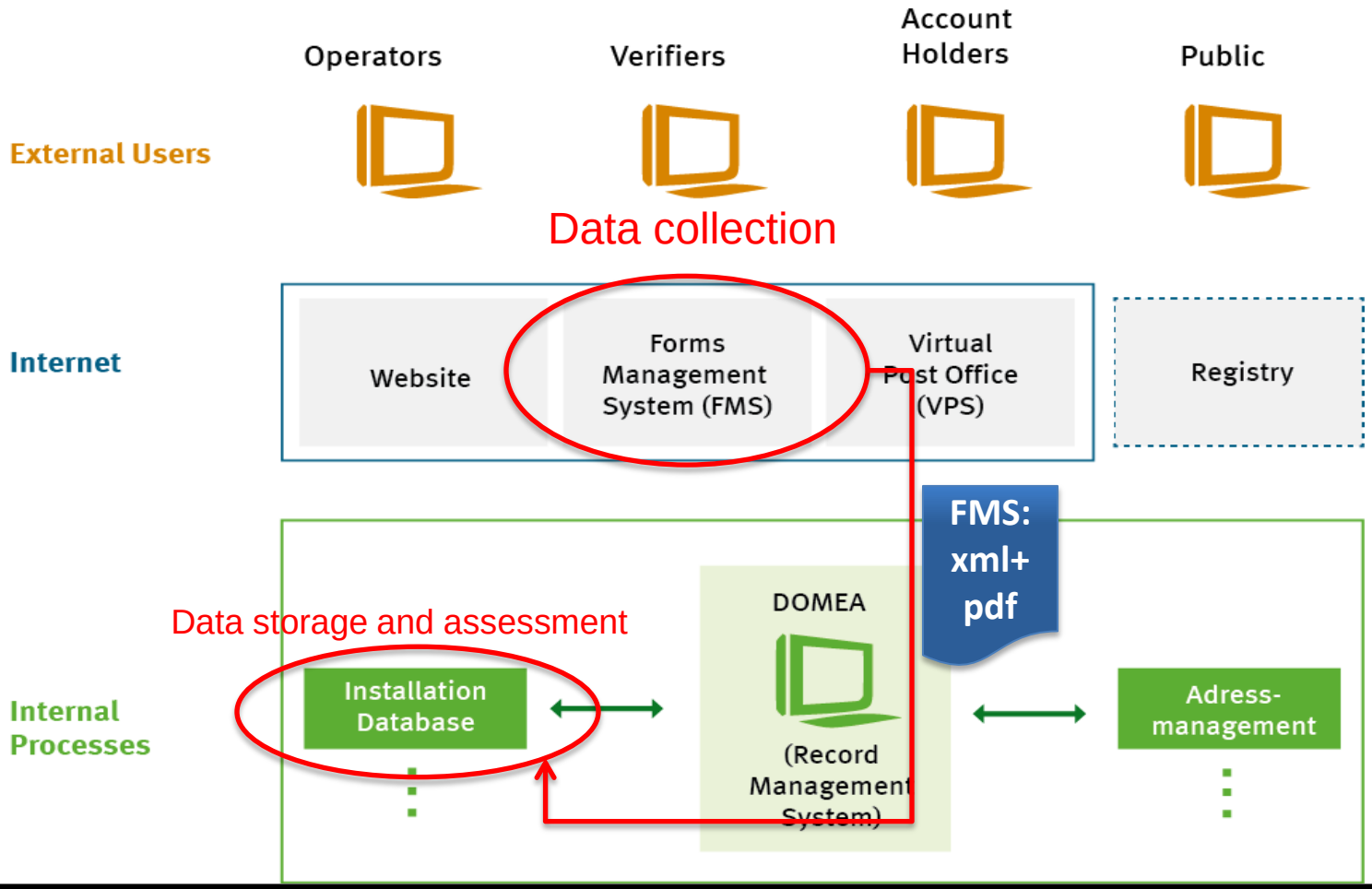
Berichtszeitraum von
01.01.2013

bis
31.12.2013

Emissionen der Anlage im Berichtszeitraum
29474441 t $CO_{2(Ä)}$

Die Anlage hat im Berichtszeitraum Emissionen verursacht.
☒ zutreffend ☐ nicht zutreffend

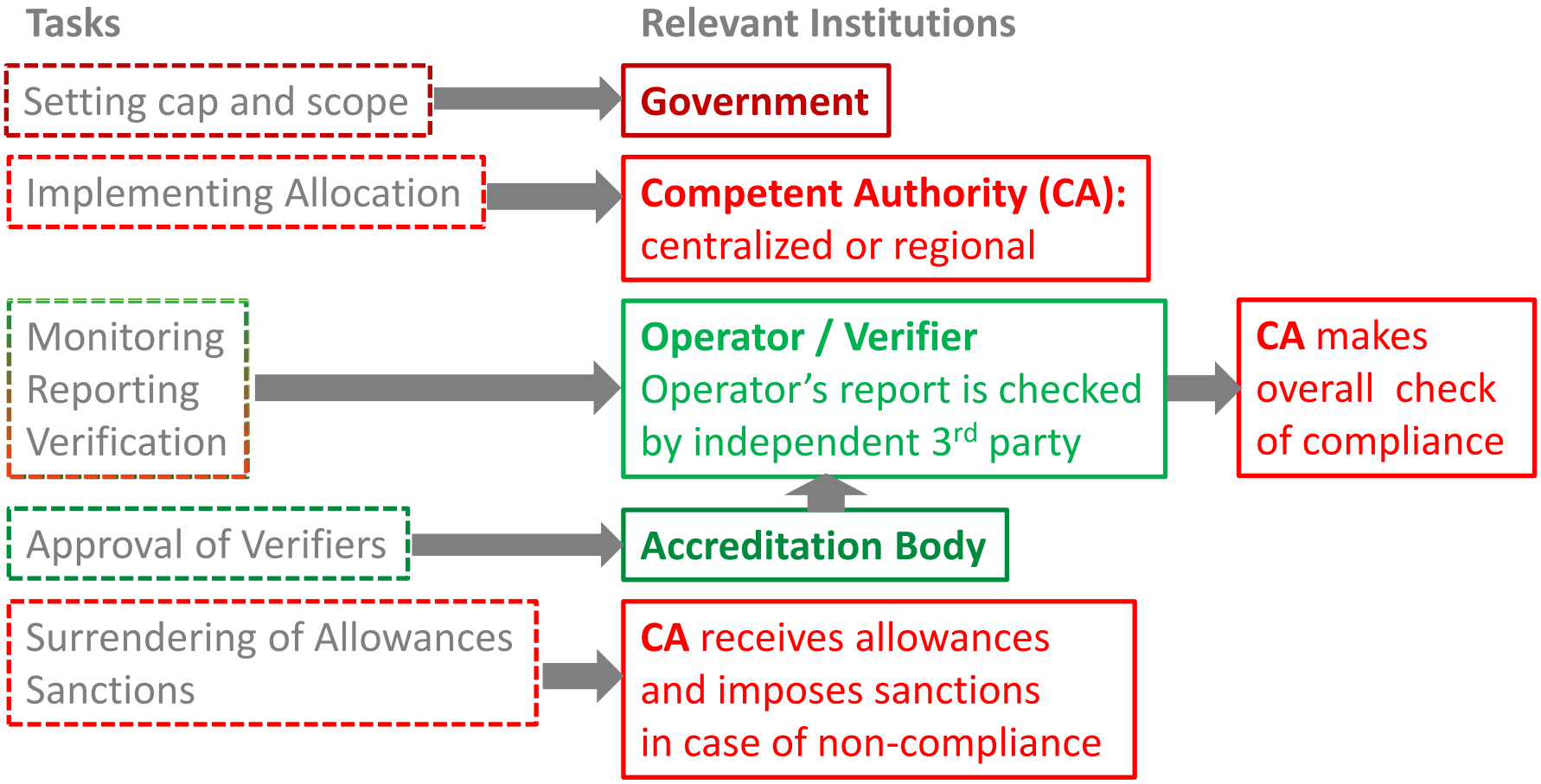
IT Infrastructure



EU ETS
Basic Features of Instrument

- **Cap**: The overall amount of emissions for all participants is fixed
- **Allocation: emissions allowances** corresponding to this amount are issued (1 allowance = 1 t CO2) cost free or by auctioning
- **Monitoring, Reporting and Verification (MRV)**:
  - Participants have to monitor their emissions and submit reports to the national Competent Authority each year
  - The reports also have to be verified by independent and accredited third parties (verifiers)
- **Compliance:**
  Participants have to **submit allowances** corresponding to the amount of their reported emissions each year (sanction: 100 €/t)
- **Trading of allowances between companies:**
  enables flexibility for companies how to mitigate their emissions
  ► for the whole economy the **target is reached in the most cost efficient way**

Emissions Trading
Institutional Capacity Needs



Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

Division of work
Federal Ministry vs. Competent Authority

Federal Ministry of Environment
Political oversight

- Drafting of laws and regulations
- Coordination with other Ministries
- Cooperation with interest groups and stakeholders
- Communication with the EU COM and participation in EU Working Groups and Climate Change Committee
- Supervising the Competent Authority
- International cooperation to build up national and regional ETS

German Emissions Trading Authority
Technical ETS implementation in Germany (Competent Authority)

- Allocation and issuance of emission allowances
- Assessment of emission reports, imposing of sanctions where applicable
- Management of national installations and trading accounts
- Supervision of auctioning
- Approval and review of greenhouse gas mitigation projects, e.g. CDM

Overview on EU ETS from Phase I to Phase III

	No. of installations	Budget Ø* [Mt CO_2-eq/a]	% of total emissions	Scope
1st Trading Period: 2005 -2007				
EU	10.600	2.299	43	energy generation, refineries, iron and steel, mineral-processing industries, pulp and paper
Germany	1.700	499	50	
2nd Trading Period: 2008 - 2012				
EU	11.600	2.083	41	+ steel-processing, mineral-smelting, propylene, ethylene and carbon black; aviation (from 2012 on)
Germany	1.665	452	48	
3rd Trading Period: 2013 - 2020				
EU	12.000	2.000	45	+ processing of non-ferrous metals, production of aluminium (+PFC), adipic and nitric acid (+N_2O), ammonia
Germany	1.900	-	50	

*** Without aviation.**

Source: EEA, Trends and Projections 2008, 2009, 2013; DEHSt