

MRV in EU ETS

Options for China

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A tonne must be a tonne!

- Monitoring, reporting and verification (MRV) of emissions play a key role in the credibility of any emission trading system.
- It is the complete, consistent, accurate and transparent monitoring, reporting and verification system that creates trust in emissions trading.
- Carbon market participants and competent authorities want to have assurance that one tonne CO₂ equivalent emitted finds its equivalent of one tonne reported (for the purpose of one allowance to be surrendered).
- This principle has become known already from the early days of the EU ETS as the proverbial postulation: **“A tonne must be a tonne!”**

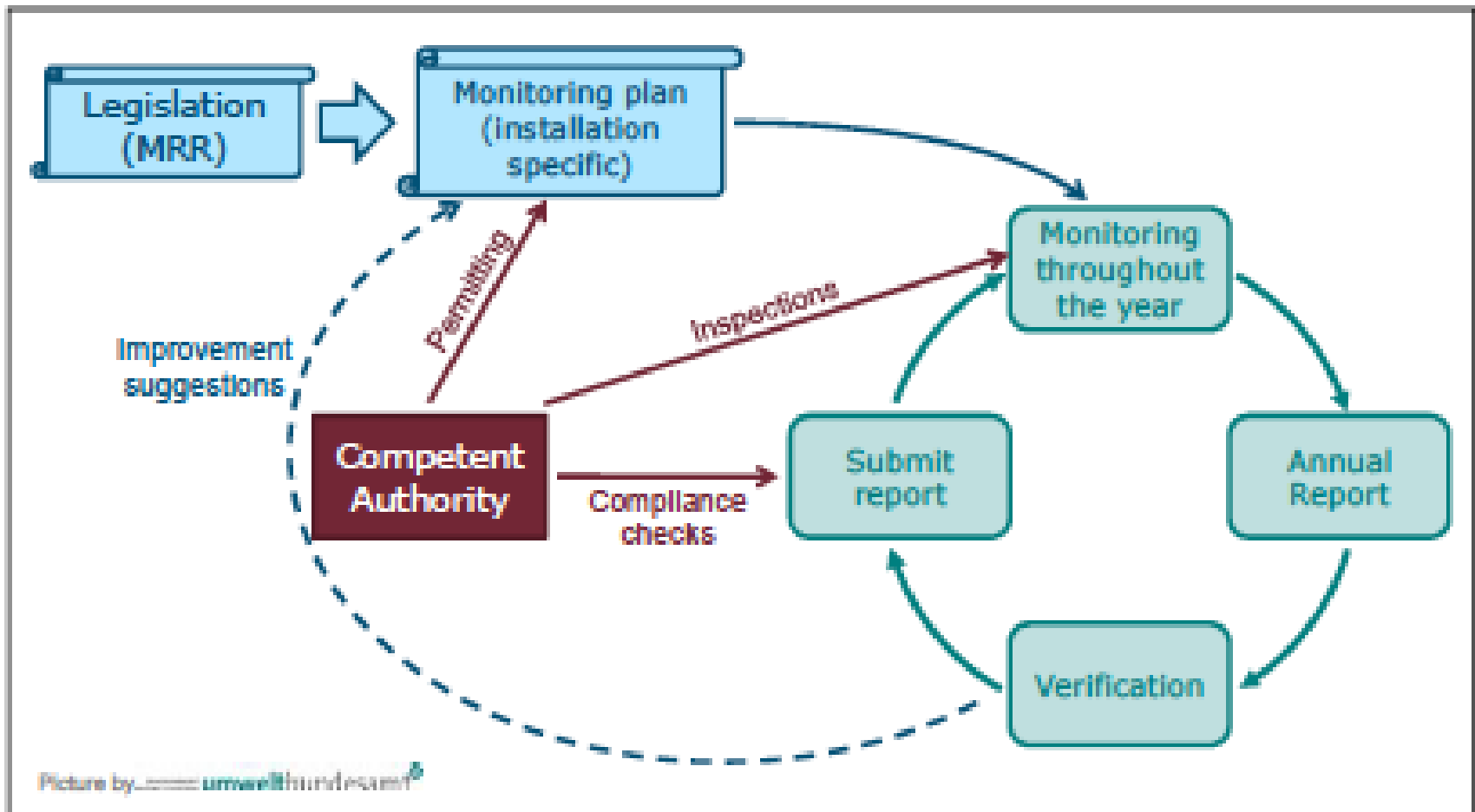
EU ETS MRV Principles

- **Completeness.** Monitoring and reporting for an installation shall cover all process (of required) and combustion emissions from all emission sources and source streams.
- **Consistency.** Monitored and reported emissions should be comparable over time, using the same monitoring methodologies and data sets.
- **Transparency.** Monitoring data, including assumptions, references, activity data, emission factors, oxidation factors and conversion factors should be obtained, recorded, compiled, analysed and documented in a manner that enables the reproduction of the determination of emissions by the verifier and the competent authority.
- **Trueness.** It should be ensured that the emission determination is systematically neither over nor under true emissions. Sources of uncertainties should be identified and reduced as far as practicable. Due diligence should be exercised to ensure that the calculation and measurement of emissions exhibit highest achievable accuracy.
- **Cost effectiveness.** In selecting a monitoring methodology, the improvements from greater accuracy should be balanced against the additional costs. Hence, monitoring and reporting of emissions should aim for the highest achievable accuracy, unless this is technically not feasible or will lead to unreasonably high costs.
- **Faithfulness.** A verified emissions report should be capable of being depended upon by users to represent faithfully that which it either purports to represent or could reasonably be expected to represent.

2013: MRV to MRR + AVR

- From January 2013 the former MRV guidelines of 2007 have been replaced by the MRR, the Monitoring & Reporting Regulation, and the AVR, Accreditation and Verification Regulation
- Further emphasises the role of monitoring plans.
- Regulations, not guidelines
- Brings harmonisation across the EU
- Brings about a number of changes to the monitoring and reporting requirements, and develops new templates and guidance

The EU ETS Compliance Cycle



5 things operators must do—MRV in practice

- ① Write and submit Monitoring Plan



If ok, plan will be ...



- ② Monitor emissions during the year according to the plan

- ③ Write annual Emissions Report



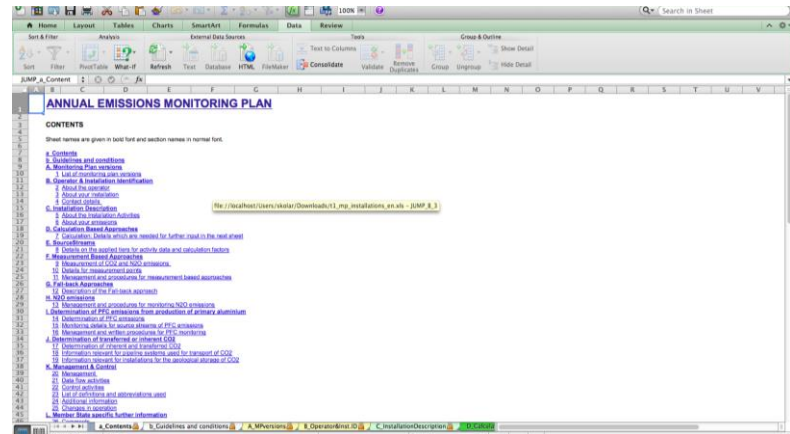
- ④ Have ER verified by authorized verifier

- ⑤ Submit verified Emissions Report to competent authority



① Write Monitoring Plan

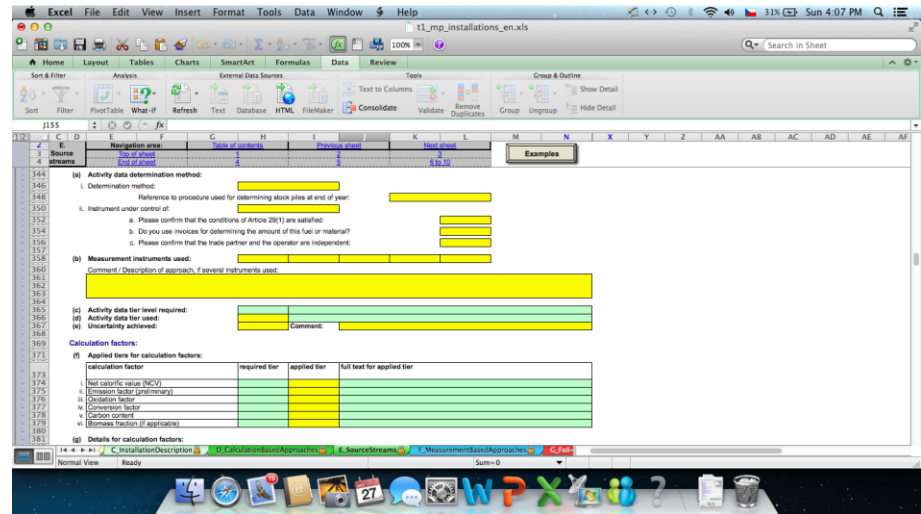
- Competent authority provides templates, which includes detailed
 - Guidelines and conditions
 - Calculation Based Approaches
 - Source Streams
 - Measurement Based Approaches
 - Fall-back Approaches
 - Management & control for data flow activities
 - etc



② Monitor Emissions

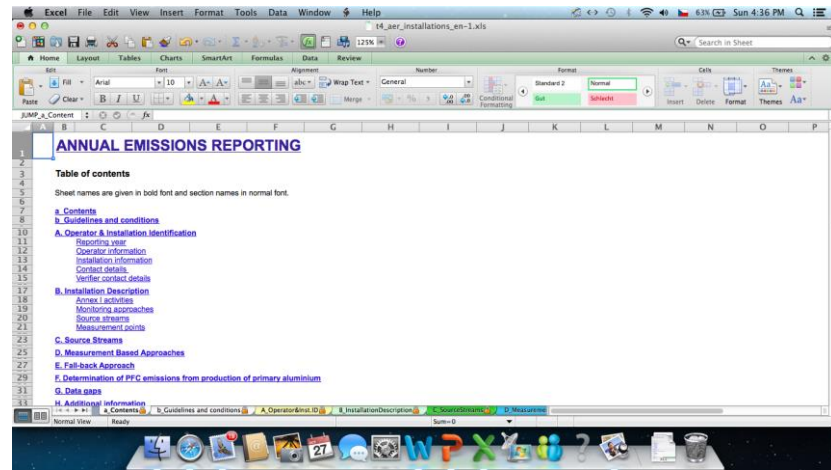
Use monitoring plan (xls spreadsheet) to monitor activities

- Calculation based on: CO2 emissions = activity data * emission factor * oxidation/conversion factor
- Tier-based approach
- Highest tier default (for larger emitters), minimum set by Annex I, Table 1 of the MRG
- Activity data tiers set according to uncertainty thresholds
- Other inputs based on IPCC factors, country-specific factors, and installation-specific determinations



③ Write Emissions Report

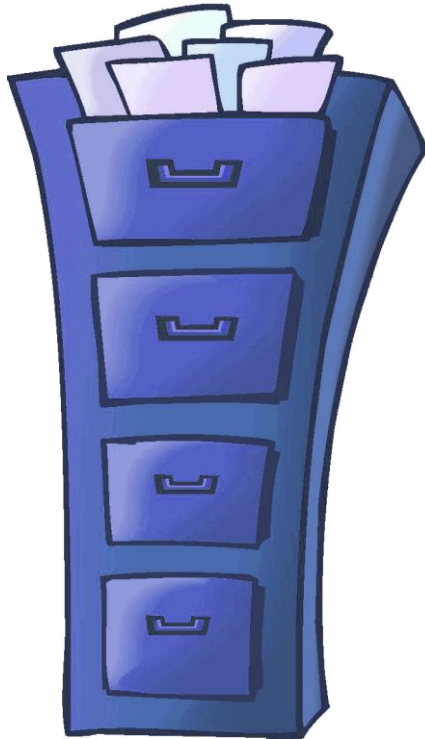
- Competent authority provides templates, which again includes detailed guidelines for writing ER
- Most of the key ER components will be an automatic output of up-to-date Monitoring Plan
 - Actual emissions
 - Methodology



④ Verify

- Confirms reliability, credibility and accuracy of monitoring systems and reported data
- Involves a strategic analysis, risk assessment, verification, internal and external verification reports
- Satisfactory if the reported emissions are not materially misstated and, in the opinion of the verifier, there are no material non-conformities
- Verifier has access to all required information

⑤ Submit Emissions Report



- Relevant data and records must be kept for at least 10 years

Typical Errors in EU ETS MRV

- Missing sources (e.g. back-up power generation, back-up fuels)
- Inconsistent/incorrect calculation methods
- Greater uncertainty than required
- Calculation mistakes (e.g. conversion errors, incorrect factors used)
- Typing errors (e.g. during manual transposition)

Detailed Guidance is Critical

- The EU provides detailed guidance and report templates for all parties involved in the “MRV” compliance cycle
 - Competent authorities
 - Operators
 - Verifiers
- Guidance consists of:
 - 19 guidance documents
 - 11 reporting templates
- Consistent MRV framework is absolutely necessary to arrive at credible emissions market

EU ETS MRR Guidance

Guidance Doc. No.	Document Title
1	The Monitoring and Reporting Regulation - General guidance for installations
2	The Monitoring and Reporting Regulation - General guidance for aircraft operators
3	Biomass Issues
4	Uncertainty Assessment
5	Sampling and Analysis
6	Data Flow Activities and Assessment

Available at:http://ec.europa.eu/clima/policies/ets/monitoring/documentation_en.htm

EU ETS MRR Templates

Template No.	Template Title
Template 1	Monitoring plan for stationary installations
Template 2	Monitoring plan for aircraft operators
Template 3	Monitoring plan for tonne-kilometre data of aircraft operators
Template 4	Annual emissions report of stationary installations
Template 5	Annual emissions report of aircraft operators
Template 6	Tonne-kilometre data report of aircraft operators
Template 7	Improvement report for stationary installations

Available at:http://ec.europa.eu/clima/policies/ets/monitoring/documentation_en.htm

EU ETS AVR Guidance

Guidance Doc. No.	Document Title
1	The Accreditation and Verification Regulation - Explanatory Guidance Document
2	Key guidance note II.1 on the scope of verification
3	Key guidance note II.2 on risk analysis
4	Key guidance note II.3 on process analysis
5	Key guidance note II.4 on sampling
6	Key guidance note II.5 on site visits concerning installations
7	Key guidance note II.6 on the verification report
8	Key guidance note II.7 on competence of verifiers
9	Key guidance note II.8 on the relation between EN ISO 14065 and AVR
10	Key guidance note II.9 on the relation between EN ISO/IEC 17011 and AVR
11	Key guidance note II.10 on information exchange
12	Key Key guidance note II.11 on certification
13	Verification Guidance for EU ETS Aviation

EU ETS AVR Templates

Template No.	Document Title
	Verification Report Template
1	Information exchange template No. 1 - Notification template (Article 76 AVR) from the verifier to the National Accreditation Body/National Certification Authority
2	Information exchange template No. 2 - Work programme (Article 70(1) AVR) from the National Accreditation Body/National Certification Authority to the Competent Authority
3	Information exchange template No. 3 - Management report (Article 70(3) AVR) from the National Accreditation Body/National Certification Authority to the Competent Authority
4	Information exchange template No. 4 - Information exchange (Article 72 AVR) from the Competent Authority to the National Accreditation Body/National Certification Authority

How to make successful MRV?

- Identify responsible MRV people and team
- Attendance at training events, workshops, road shows
- Liaise with others in your industry, share experiences and knowledge
- Establish MRV as part of your business management systems documentation and QA/QC
- Engage a verifier early – in order to identify and remedy any gaps/issues prior to deadline period
- Split the verification over the year (some prefer quarterly or 6 months verified at a time)

Conclusion

- ETS is different from other environmental regulations, and it is different from other markets
 - It is a system that creates a financial & compliance market for tradable commodity, and at the same time a system that achieves environmental goals
 - The environmental goal is not to be achieved separately by any one installation; instead, all installation **together** meet the environmental goal
 - This requires high level of fairness for all participants, ensured by solid MRV infrastructure
 - The financial nature of the system implies the involvement of financial institutions and speculators, who add value to the system by making sure that one tonne of CO₂ will always be worth the market price. The speculators and investors, as opposed to compliance operators, will provide fast feedback in case they believe that one tonne is not one tonne.
 - This is ultimately good for the government because it is an early warning that the desired environmental goal is not on track to being achieved.