
Environment and Climate Regional Accession Network (ECRAN)

Report on Advanced Technical Training Programme on Verification in the scope of the EU ETS

03-04 November 2015, Pancevo

ENVIRONMENTAL AND CLIMA REGIONAL NETWORK FOR ACCESSION - ECRAN

WORKSHOP REPORT

Activity 3.3.3 B

ADVANCED TECHNICAL TRAINING PROGRAMME ON VERIFICATION IN THE SCOPE OF THE EU ETS

03-04 November, 2015, Pancevo, Serbia



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LIST OF ABBREVIATIONS	
AER	Annual Emission Report
CCS	Carbon Capture and Storage
CDM	Clean Development Mechanism
DG	Directorate General
EC	European Commission
EEA	European Environment Agency
EEX	European Energy Exchange
EFTA	European Free Trade Association
EMS	Emission Measurement System
ETS	Emission Trading System
EU	European Union
EUTL	European Union Transaction Log
GHG	Greenhouse Gas
HIP	Chemical Industry Pancevo
ICE	International Exchange
IRM	Integrated Resource Management
JI	Joint Implementation
MMR	Monitoring Mechanism Regulation, Regulation (EU) No 525/2013
MP	Monitoring Plan
MRV	Monitoring, Reporting, Verification and Accreditation
MRV	Monitoring, Reporting and Verification
MS	Member State
MSR	Market Stability Reserve
NIS	Serbian Petroleum Company
UNFCCC	United Nations Framework Convention on Climate Change



I. Background/Rationale

The European Commission actively supports climate cooperation in the region of the Western Balkans and Turkey through the Environment and Climate Regional Accession Network (ECRAN). The Emissions Trading Working Group of ECRAN aims to provide the essential regulatory building blocks and to increase the technical capacity for a well-functioning future national or regional ETS system, which could be or is modelled in line with the EU ETS. This would pave the way for further cooperation and linking with the EU ETS.

The following results are expected for this Working Group:

- To improve technical understanding of the EU ETS implementing provisions in relation to monitoring, reporting, verification and accreditation (MRVA) in the beneficiary countries, among the target group of industry and aircraft operators, as well as the Competent Authorities and potential verifiers;
- To identify institutional, legal and procedural arrangements for a future national or regional ETS system, which could be modelled in line with the EU ETS.

Background to the Monitoring and Reporting Regulation

Successful implementation of an emissions trading system among others involves the implementation of a system for the monitoring and reporting of greenhouse gas emissions, and for the verification of annual emission reports. Such Monitoring, Reporting and Verification (MRV) systems form the backbone of any ETS system.

The Monitoring and Reporting Regulation (MRR) establishes the requirements for the monitoring and reporting of greenhouse gas emissions by installations in the EU ETS. These requirements are effective as from 1 January 2013, from the start of the third trading period. The MRR requirements are designed to ensure regular and precise monitoring and reporting of greenhouse gas emissions in the participating countries (i.e. the EU Member States and countries in the EEA). The annual procedure of ensuring the proper monitoring, reporting and verification (MRV) of the emissions, as well as all processes connected to these activities, are known as the “compliance cycle” of the EU ETS.

The ECRAN Emissions Trading Working Group 3 aims to support the EU candidate countries and potential candidates in the implementation of the EU ETS. One of its key activities is a regional training programme on the EU Monitoring and Reporting, and Accreditation and Verification Regulations (MRR and AVR). This regional training programme will support operators of industrial installations, aircraft operators, authorities and verifiers on the basis of guidance and templates that have been developed by the European Commission.



II. Objectives of the training

Objectives of the Workshop

The advanced training programme aims to provide the government authorities in Serbia with an improved technical understanding of the EU requirements on monitoring, reporting and verification. Specifically to obtain hands-on understanding of reporting and verification in a refinery and in the petrochemical industry.

Results/outputs

The training will provide in-depth insights in the Monitoring and Reporting regulation and in verification, specifically in understanding the road from Monitoring Plan to a validated annual emission report. The training will zoom in on key challenges experienced during the formulation of Monitoring Plans and will provide in-depth insights in the verification of an emission report based on the Monitoring Plan. All practical training should optimally prepare the staff of the Ministry for their task of validating the Monitoring Plan and approving the annual emission reports.

In order to work with real-life examples larger parts of the training will be held at the sites of two future Serbian ETS operators: the NIS refinery and HIP-Petrohemija. These companies were selected since they represent the more complicated activities in terms of Greenhouse gas monitoring and reporting and consequently validation of their Monitoring Plan and verification of their annual emissions report are regarded as some of the more complex tasks for the Ministry staff.

Participants

This technical training is mainly directed towards the staff of the Ministry of Environment and Agricultural Protection in Serbia. Staff from the NIS refinery and HIP-Petrohemija will participate by hosting parts of the training and sharing their insights on monitoring, reporting and verification from an operator perspective



III. EU policy and legislation covered by the training

Background and overview of the EU ETS

The European Union greenhouse gas emissions trading scheme (EU ETS) was established under Directive 2003/87/EC and became operable as of 1 January 2005. Its aim is to achieve the cost-effective reduction of greenhouse gas emissions from industrial installations in the EU using an economic instrument that ensures that environmental objectives are reached in an economically efficient manner while providing for a flexible approach in reaching such objectives.

The EU emissions trading system (EU ETS) is a cornerstone of the European Union's policy to combat climate change and a key tool for reducing the industrial greenhouse gas emissions. The EU ETS was established under Directive 2003/87/EC and became operable as of 1 January 2005.

The EU ETS covers more than 11,000 power stations and industrial plants in all 27 EU Member States plus Croatia, Iceland, Norway and Liechtenstein, as well as all flights from airlines operating in the EU or flying into and/or out of the EU.

The EU ETS works on the "cap and trade" principle, meaning that there is a "cap", or limit, on the total amount of certain greenhouse gases that can be emitted by the factories, power plants and other installations in the system, as well as originating from flights and aircraft within, entering or flying outbound from the EU. Within this cap, companies receive emission allowances which they can trade as needed. The cap/limit on the total number of allowances available ensures that they have a value. The cap for the year 2013 has been determined at 2,039,152,882 allowances, i.e. just under 2.04 billion allowances.

The cap will decrease each year by 1.74% of the average annual total quantity of allowances issued by the Member States in 2008-2012. In absolute terms this means that the number of allowances will be reduced annually by 37,435,387. In 2020, emissions from sectors covered by the EU ETS will be 21% lower than in 2005. The annual reduction in the cap will continue beyond 2020. To achieve the target of a 40% reduction in EU greenhouse gas emissions below 1990 levels by 2030, set out in the 2030 framework for climate and energy policy, the cap will need to be lowered by 2.2% per year from 2021, compared with 1.74% currently. This would reduce emissions from fixed installations to around 43% below 2005 levels by 2030 (See later under Structural Reform of the European Carbon Market).

Within the cap, companies receive or buy emission allowances which they can trade with one another as needed. If the emission exceeds the number of allowances received, the installation must purchase allowances from others. Conversely, if an installation has performed well at reducing its emissions, it can sell its leftover allowances. The installations can also buy allowances that are regularly auctioned from 1 January 2013 onwards. They can also buy limited amounts of international credits from emission-saving projects around the world. However, as from 2013 only emission saving projects from the so-called "Least Developed Countries" are eligible for use. The limit on the total number of allowances available ensures that they have a value.

After each year a company must first submit an emission report summarising the GHG emissions emitted during the year. This report should be based on the emission monitoring practice and procedures laid down in the approved Monitoring Plan, and the total emissions verified by an



accredited verifier. The next step is that the installation must surrender enough allowances to cover all its emissions in accordance with the verified emissions, otherwise penalties are imposed. If a company reduces its emissions to a level below the allowances received, it can keep the spare allowances to cover its future needs or sell the surplus to another company that is short of allowances. The flexibility that trading brings ensures that the emissions are cut where it costs least to do so. Emissions can also be offset directly by buying and cancelling/deleting allowances.

The Directive currently applies to the following greenhouse gases and categories of activities, as listed in Annex I to the Directive:

- 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;
 - commercial aviation.
- Nitrous oxide (N₂O) from production of nitric, adipic, glyoxal and glyoxalic acids;
- Perfluorocarbons (PFCs) from aluminium production.

Phase 1 of the EU ETS 2005 – 2007

Phase one was a three-year pilot period of ‘learning by doing’ to prepare for the phase two, when the EU ETS would need to function effectively to help ensure that the EU and Member States would meet their Kyoto Protocol emission targets.

In phase one the EU ETS covered only CO₂ emissions from power generators and energy-intensive industrial sectors. Almost all allowances were given to businesses free of charge. The penalty for non-compliance was €40 per tonne.

The Phase one succeeded in establishing a price for carbon, in free trade of emission allowances across the EU and in creating the necessary infrastructure for monitoring, reporting and verifying actual emissions from the businesses covered. From the launch of the EU ETS in January 2005, national registries ensured the accurate accounting of all allowances issued.

In the absence of reliable emissions data, phase one caps were set on the basis of best guesses. In practice, the total allocation of EU ETS allowances exceeded demand by a sizeable margin and in 2007 the price of phase one allowances fell to nearly zero (phase one allowances could not be banked for use in phase two).

The generation of verified annual emissions data from the installations participating in the pilot phase filled this important information gap and created a solid basis for setting national caps for phase two.

Phase 2 of the EU ETS 2008 – 2012



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The three EEA-EFTA states – Iceland, Liechtenstein and Norway – joined the EU ETS at the start of phase two. At the same time, the scope of the system was marginally widened through the inclusion of nitrous oxide emissions from the production of nitric acid by a number of Member States.

The proportion of general allowances given away for free was lower than in the first trading period, i.e. set at 90%. The penalty for non-compliance was increased to €100 per tonne. Several Member States held auctions during phase two.

Businesses were allowed to buy CDM and JI credits (except for those from nuclear facilities and agricultural and forestry activities) totalling around 1.4 billion tonnes of CO₂-equivalent. This possibility enlarged the range of cost-effective emission mitigation options available to businesses. The EU ETS became the biggest source of demand for such credits, making it the main driver of the international carbon market and the main provider of clean energy investment in developing countries and economies in transition.

Phase two coincided with the first commitment period of the Kyoto Protocol, which required the EU and Member States to meet their emission reduction target of 8%.

On the basis of the verified emissions reported during phase one, the European Commission tightened the cap by cutting the total volume of emission allowances by some 6.5% compared with the 2005 level. However, the economic crisis that began in late 2008 depressed the industrial production and its emissions, and the demand for allowances, by an even greater margin. This led to a large and growing surplus of unused allowances and credits which weighed heavily on the carbon price throughout the second trading period.

The aviation sector was brought into the EU ETS on 1 January 2012 through a revision of the EU ETS Directive adopted in 2008. For 2012 the cap on aviation allowances was set at a level 3% lower than the aviation emissions in the 2004-2006 reference period. In order to strengthen momentum towards reaching agreement on a global market-based measure to address aviation emissions, however, the Commission in November 2012 made a proposal to defer the application of the EU ETS to flights into and out of Europe during 2012.

As from 2012 the accurate accounting of all allowances was transferred from the national registries to a single Union Registry¹ operated by the Commission, which also covers the three EEA-EFTA states. From 2012 the Union Registry also includes accounts for aircraft operators.

During phase two the national and Union registries recorded:

- National allocation plans;
- Accounts of companies or physical persons holding those allowances;
- Transfers of allowances ("transactions") performed by account holders;
- Annual verified CO₂ emissions from installations;
- Annual reconciliation of allowances and verified emissions, whereby each company had to surrender enough allowances to cover all its verified emissions.

¹ The provision and requirements of the EU Registry are laid down in the Commission Regulation (EU) No 1193/2011 of 18 November 2011 establishing a Union Registry for the trading period commencing on 1 January 2013.



Phase 3 of the EU ETS 2013 - 2020

Croatia joined the EU-ETS at the start of Phase Three taking the number of countries in the EU ETS to 31. The third phase is significantly different from phases one and two and is based on rules that are far more harmonised between the Member States than before was practicable or possible. The main changes are:

- A single EU-wide cap on emissions applies, compared to 27 national caps in the 1st and 2nd trading period;
- Auctioning, and not free allocation, is now the default method for allocating allowances. In 2013 more than 40% of allowances will be auctioned, and this share will rise progressively each year;
- For those allowances still given away for free, harmonised allocation rules apply which are based on ambitious EU-wide benchmarks of emissions performance;
- Some more sectors and gases are included.

Structural reform of the European Carbon market

At the start of the Third Phase, the EU ETS faced the challenge of a growing surplus of allowances, largely because of the economic crisis which has depressed emissions far more than anticipated. In the short term this surplus risks undermining the orderly functioning of the carbon market; in the longer term it could affect the ability of the EU ETS to meet its objective of meeting the high and demanding emission reduction targets cost-effectively. The surplus of emission allowances built up in the ETS since 2009 reached a total of around 2 billion allowances.

To address this surplus the Commission has initiated a structural reform of the EU ETS. After debate and public consultations it decided to take two measures: to postpone (or 'back-load') the auctioning of some allowances and the establishment of the market stability reserve ("MSR") that aims to improve the system's resilience to major shocks in demand and supply of allowances. The MSR is planned to start in 2019 and would operate entirely according to pre-defined rules, which would leave no discretion to the Commission or Member States in its implementation.

The 'back-loading' of auctions is being implemented through an amendment to the EU ETS Auctioning Regulation. The MSR is being implemented through a legislative proposal, which was put forward in January 2014. The proposal was approved by the European Parliament on 7 July 2015 and still requires approval by the Council to become law.

Revision of the EU ETS for phase 4 (2021-2030)

The European Commission presented in July 2015 a legislative proposal to revise the EU emissions trading system for the period after 2020. This is the first step in delivering on the EU's target to reduce greenhouse gas emissions by at least 40% domestically by 2030 in line with the 2030 climate and energy policy framework and as part of its contribution to the new global climate deal. The main elements to this proposal are:

1. Increasing the pace of emissions cuts
2. Better targeted carbon leakage rules
3. Funding low-carbon innovation and energy sector modernisation



Ad 1. Increasing the pace of emission cuts

To achieve the at least 40% EU target, the sectors covered by the ETS have to reduce their emissions by 43% compared to 2005. To this end, the overall number of emission allowances will decline at an annual rate of 2.2% from 2021 onwards, compared to 1.74% currently. This amounts to an additional emissions reduction in the sectors covered by the ETS of some 556 million tonnes over the decade – equivalent to the annual emissions of the UK.

Ad 2. Better targeted carbon leakage rules

The proposal develops predictable, robust and fair rules to address the risk of carbon leakage which may occur if production is transferred to countries with less ambitious climate policies. This includes:

- Revising the system of free allocation to focus on sectors at highest risk of relocating their production outside the EU – around 50 sectors in total
- A considerable number of free allowances set aside for new and growing installations
- More flexible rules to better align the amount of free allowances with production figures
- Update of benchmarks to reflect technological advances since 2008

It is expected that around 6.3 billion allowances will be allocated for free to companies over the period 2021-2030 – worth as much as EUR 160 billion.

Ad 3. Funding low-carbon innovation and energy sector modernisation

The proposal includes several support mechanisms that will be established to help the industry and the power sectors meet the innovation and investment challenges of the transition to a low-carbon economy. These include two new funds:

- Innovation Fund – extending existing support for the demonstration of innovative technologies to breakthrough innovation in industry
- Modernisation Fund – facilitating investments in modernising the power sector and wider energy systems and boosting energy efficiency in 10 lower-income Member States

Free allowances will also continue to be available to modernise the power sector in these lower-income Member States.

Implementing provisions

A number of implementing Regulations and Decisions have been adopted to make up a concise operational framework for the EU emission trading scheme which also foresees provision in case of an international post-Kyoto agreement. A short summary of each of these measures are provided below:

Commission Decision 2010/634/EU: of 22 October 2010 adjusting the Union-wide quantity of allowances to be issued under the Union Scheme for 2013 and repealing Decision 2010/384/EU

This Decision determines the cap for the year 2013 at 2,039,152,882 allowances, i.e. just below 2.04 billion allowances. On the basis of Article 9 and Article 9a, the total quantity of allowances to be issued from 2013 onwards is to annually decrease by a linear factor of 1,74 %, i.e. a total reduction of 37 435



387 allowances, Thus, in 2020, emissions from sectors covered by the EU ETS will be 21% lower than in 2005.

In practice this cap is considered final, although some marginal fine-tuning is likely needed over time for instance in case of:

- New entrants entering the market;
- Member States may want to opt-in installations and activities not covered by the current scope of the Directive.

Commission Regulation (EU) No 1031/2010 of 12 November 2010 on the timing, administration and other aspects of auctioning of greenhouse gas emission allowances pursuant to Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowances trading within the EU (“Auctioning Regulation”) as amended by Commission Regulation (EU) No 1210/2011 of 23 November 2011 and by Commission Regulation No 176/2014 of 25 February 2014 in particular to determine the volumes of greenhouse gas emission allowances to be auctioned in 2013 – 2020 (back-loading)

The so-called “Auctioning Regulation” covers the timing, administration and other aspects of auctioning to ensure the auctioning process is conducted in an open, transparent, harmonised and non-discriminatory manner. The Auctioning Regulation seeks to put into practice a number of criteria which the revised EU ETS Directive states auctions must meet, such as predictability, cost-efficiency, fair access to the auctions and simultaneous access to relevant information for all operators.

The Regulation aims at ensuring a smooth transition from the second trading period, into the third trading period (as from 2013). The Auctioning Regulation provided for the auctioning of 120 million general emission allowances in 2012 and to some 30 million aviation allowances.²

Two auction platforms are already in place. The European Energy Exchange (EEX) in Leipzig is the common platform for the large majority of countries participating in the EU ETS. Germany, UK, Poland and Spain have taken the decision to organise the auctions themselves. For instance, Germany has contracted EEX to act as Germany's auction platform. The second auction platform is ICE Futures Europe (ICE) in London, which acts as the United Kingdom's platform.

In line with the requirements of the Auctioning Regulation the allowances will be offered for sale on an auction platform by means of standardised electronic contracts traded on that auction platform, “the auctioned product”. In this sense, one of the improvements determined in the revision of the 2003 Directive was that auctioning should be the basic principle for allocation, as it is the simplest and generally considered to be the most economically efficient allocation of allowances, as it relies on a clear carbon price signal to achieve abatement of greenhouse gas emissions at least cost.

The Auctioning Regulation establishes also the action formats, as well as modalities for submission and withdrawal of bids. It also lays down that the auction clearing price will be determined upon

² As a short-term measure, the Commission has taken the initiative to postpone the auctioning of 900 million allowances from the years 2013-2015 until 2019-2020, when it is expected that demand will have picked up. This ‘back-loading’ of auctions was done by amending the EU ETS Auctioning Regulation



closure of the bidding window and that the auction platform will sort bids submitted to it in the order of the price bid. Where the price of several bids is the same, these bids shall be sorted through a random selection according to an algorithm determined by the auction platform before the auction.

Regarding the auction calendar, timing and frequency, the Regulation establishes that an auction platform will conduct auctions separately through its own regularly recurring bidding window. The bidding window will be opened and closed on the same trading day, and kept open for no less than two hours. It also details the economic operators and persons entitled to submit bids directly in an auction. The Regulation entered into force on 19 November 2010.

The Regulation calls for procurement agreements to be concluded between the Commission and the participating Member States, one for the common auction platform that will be used by 24 Member States and another for the auction monitor that will survey the auctions conducted by all auction platforms, i.e. including the platforms acting for other Member States. These agreements also lay down the rules under which the Commission and the Member States will conduct the joint procurement procedures. These procedures will need to be conducted in line with the rules in the Financial Regulation, which is the usual legal framework for procurement procedures carried out by the Commission.

The Auctioning Regulation allows for Member States to opt out of the common platform for auctioning emissions allowances and instead appoint their own auction platform. However, these platforms have to be notified to the Commission to allow the Commission to verify that that the platforms satisfy the provisions of the Auctioning Regulation and meet the objectives of the ETS Directive.

As a short-term measure, the Commission is postponing the auctioning of 900 million allowances until 2019-2020 to allow demand to pick up. This ‘back-loading’ of auctions is being implemented through an amendment by Commission Regulation (EU) No. 176/2014 of 25 February 2014 in particular to determine the volumes of greenhouse gas emission allowances to be auctioned in 2013 – 2020 (back-loading).

Commission Decision 2011/278/EU of 27 April 2011 determining transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council (“Benchmarking Decision”)

Member States were required to prepare National Implementing Measures that respected Art. 11 of the ETS Directive and the so-called Benchmarking Decision (Commission Decision 2011/278/EU) and the carbon leakage list (see hereafter under 4).

It should be noted that most National Implementation Measures (Art 11) were submitted beyond the deadline of September 2011 and a number of them even during the course of 2012. Only after all National Implementation Measures (Article 11) had been submitted and assessed, final annual amounts of allowances to be allocated free of charge over the years 2013 to 2020 could be calculated for all incumbent installations. Once all the planned allocations for installations in all Member States had been checked and no objections had been raised, the legislation allowed the Commission to calculate if and as of which year the so called cross-sectoral correction factor had to be applied. On this basis Member States would be in the position to take final allocation decisions and issue the allowances for 2013. The allowances allocated for free in 2013 can only be used for compliance for



the 2013 emissions, reported in March 2014, but cannot be used for compliance concerning the 2012 emissions.

The "Benchmarking Decision" determines the transitional Union-wide rules for the harmonised free allocation of emission allowances for the third trading period starting in 2013. Installations that do not meet the benchmark will have a shortage of allowances. They then have the option to either lower their emissions (e.g. through engaging in abatement) or to purchase additional allowances to cover their excess emissions. A benchmark does not represent an emission limit or even an emission reduction target but merely a threshold for the level of free allocation of an individual installation. The benchmarks are "product-defined". The benchmarks were established on the basis of the principle 'one product = one benchmark', which means that the benchmark methodology does not differentiate by technology or fuel used, nor the size of an installation or its geographical location. This product benchmark is defined as an emission-value per tonne of product reflecting the average greenhouse gas performance of the 10 % best performing installations in the EU producing that product. To respond to market forces and avoid the risk of unfair competition, especially vis-a-vis non-EU countries, the benchmarking and free allocation system allows industrial sectors that face international competition from industries outside the EU which are not subject to comparable climate legislation to receive a higher share of free allowances than those which are not subjected to the risk of such so-called carbon leakage.

This decision is supplemented by a number of guidance documents and templates to facilitate the application of the harmonised allocation rules. In 2011 the Commission further organised a number of workshops for competent authorities in EU-27 (in 2011) to enhance a harmonious application of the Benchmarking Decision rules. These guidelines and workshop PowerPoint presentations can be downloaded from the following location on DG CLIMA's website:

http://ec.europa.eu/clima/policies/ets/cap/allocation/documentation_en.htm

The Benchmarking Decision was further amended in 2011 and 2012, i.e.:

- "Commission Decision 2011/745/EU of 11 November 2011 amending Decisions 2010/2/EU and 2011/278/EU as regards the sectors and subsectors which are deemed to be exposed to a significant risk of carbon leakage": In Annex I to Decision 2011/278/EU, the entries corresponding to product benchmarks 'Facing bricks', 'Pavers' and 'Roof tiles' are replaced by Annex 2 of Decision 2011/745/EU.
- "Commission Decision C (2012) 5715 of 17 August 2012 amending Decisions 2010/2/EU and 2011/278/EU as regards the sectors and subsectors which are deemed to be exposed to a significant risk of carbon leakage": In Annex I to Decision 2011/278/EU, the entry corresponding to product benchmark 'Mineral wool' is replaced.

Commission Decision 2010/2/EU of 24 December 2009 determining, pursuant to Directive 2003/87/EC of the European Parliament and of the Council, a list of sectors and subsectors which are deemed to be exposed to a significant risk of carbon leakage

The Decision is also referred to as the "carbon leakage list".

"Carbon leakage" occurs when there is an increase of CO₂ emissions in a third country as a result of an emissions reduction in the EU as a consequence of a more pro-active climate policy in the EU compared to the policies in a third country.



To address the competitiveness of industries affected by the EU ETS, sectors and sub-sectors deemed to be exposed to a significant risk of “carbon leakage” will receive a higher share of free allowances in the third trading period between 2013 and 2020. This is because they face competition from industries in third countries which are not subject to comparable greenhouse gas emissions restrictions.

The Commission Decision on Carbon Leakage was adopted by the Commission at the end of 2009 and is applicable for the free allocation of allowances in 2013 and 2014. The Commission is required to draw up a new list every five years. It will determine the next list by the end of 2014, which will apply for the years 2015-2019. The criteria to be used to determine the new list are the same as those used to determine the current list. According to the ETS Directive (Article 10a), a sector or sub-sector is deemed to be exposed to a significant risk of carbon leakage if:

- The extent to which the sum of direct and indirect additional costs induced by the implementation of the Directive would lead to an increase of production cost, calculated as a proportion of the Gross Value Added, of at least 5%; and
- The trade intensity (imports and exports) of the sector with countries outside the EU is above 10%.

A sector or sub-sector is also deemed to be exposed to a significant risk of carbon leakage if:

- The sum of direct and indirect additional costs is at least 30%; or
- The non-EU trade intensity is above 30%.

The Decision was amended in 2011 and 2012 by:

- “Commission Decision 2011/745/EU of 11 November 2011 amending Decisions 2010/2/EU and 2011/278/EU as regards the sectors and subsectors which are deemed to be exposed to a significant risk of carbon leakage”: New entries are inserted in Annex I to Decision 2011/278/EU (i.e. “salt, cocoa and brick, tiles and construction productions in baked clay”);
- “Commission Decision EC (2012) 5715 of 17 August 2012 amending Decisions 2010/2/EU and 2011/278/EU as regards the sectors and subsectors which are deemed to be exposed to a significant risk of carbon leakage”: New entries are inserted in Annex I to Decision 2011/278/EU (i.e. insertion of “glass fibres, and slag wool and rock wool”, while “slivers, rovings, yarn and chopped strands of glass fibre” are deleted).

Commission Regulation (EU) No 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council

The so called Monitoring and Reporting Regulation (**MRR**) establishes the requirements for the monitoring and reporting of greenhouse gas emissions by installations in the scheme pursuant to Directive 2003/87/EC. These requirements are effective as from 1 January 2013, from the start of the third trading period. This Regulation builds on the previous Commission Decision establishing monitoring and reporting guidelines (MRG 2004) that were revised in 2006 and implemented through



Decision 2007/589/EC³. These guidelines were applicable during the second period of the scheme (2008 to 2012). The new Monitoring and Reporting Regulation No 601/2012 provides detailed technical interpretation of the requirements set out in Article 14 and in Annex IV to the Directive. It aims at establishing basic monitoring methodologies to minimise the burden on operators and aircraft operators and facilitate the effective monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC.

The Regulation sets out the following 10 Annexes:

- Annex I sets out the minimum content of the Monitoring Plan for installations and for aviation emissions, (Art 12(1));
- Annex II sets the tier thresholds for calculation-based methodologies related to installations (Art 12(1));
- Annex III sets out the methodologies for aviation (Article 52 and Article 56);
- Annex IV sets out activity-specific monitoring methodologies related to installations listed in Annex I of the ETS Directive (Article 20(2));
- Annex V established the minimum tier requirements for calculation-based methodologies involving category A installations and calculation factors for commercial standard fuels used by Category B and C installations (Article 26(1));
- Annex VI presents the reference values for calculation factors (Article 13(1)(a));
- Annex VII specifies the minimum frequency of analyses (Article 35);
- Annex VIII specifies the measurement-based methodologies (Article 41);
- Annex IX indicates the minimum data and information which need to be retained by installations and aircraft operators (Article 66(1));
- Annex X specifies the minimum content of the Annual Reports (Article 67(3)).

The MRR requirements are designed to ensure regular and precise monitoring and reporting of greenhouse gas emissions in the participating countries (i.e. the EU Member States and countries in the EEA plus Croatia).

The annual procedure of ensuring the proper monitoring, reporting and verification (MRV) of the emissions, as well as all processes connected to these activities, are known as the “compliance cycle” of the EU ETS.

- Industrial installations and aircraft operators covered by the EU ETS are required to have an approved monitoring plan, according to which they monitor and report their emissions during the year. In the case of industrial installations, the monitoring plan forms part of the approved permit that is also required.
- Once the year has ended, the installations and the aircraft operators have to draft an emission report in which they report their emissions that have been monitored and recorded according to the requirements and procedures specified in the approved monitoring plan.
- A crucial next step in the emissions trading compliance cycle is the verification of emission reports prepared by the operators. The objective of verification is to ensure that emissions have been accurately monitored and reported in full accordance with the requirements of the

³ Decision 2007/589/EC is repealed as from 1 January 2013. However, the provisions of the Decision will continue to apply to the monitoring and reporting and verification of emissions and, where applicable, activity data occurring prior to 1 January 2013



MRR and that reliable and correct emissions data are reported according to Article 14(3) and Annex IV of Directive 2003/87/EC. The data in the annual emissions report must be verified before 31 March each year by an accredited verifier (for the requirements on the verification, see next section).

- Once verified, operators must surrender the equivalent number of allowances by 30 April of the same year. Common rules for the monitoring and reporting of emissions, as well as for the accreditation of verifiers and the verification of annual emissions reports are important for ensuring the quality of the annually reported emissions and the credibility of the data.

The table below summarises the common timeline of the annual ETS Compliance cycle for emissions in year N as specified in the MRR.

Table - Common timeline of the Annual ETS Compliance cycle for emissions in year N as specified in the MRR

When?	Who?	What?
Not specified by MRR but common sense suggests before 31 December N-1	Competent Authority	Approve Monitoring Plan (aviation and installations) and issue permit (in case of installations)
1 January N		Start of the Monitoring period
By 28 February N	Competent Authority	Allocation of allowances for free (if applicable) into the Operator's account in the Registry
31 December N		End of the monitoring period ⁴
31 March N+1 ⁵	Verifier	Finalise the verification of the emission report and issue verification report to the operator
31 March N+1 ⁵	Operators	Submit the verified annual emissions report
31 March N+1	Operators/Verifier	Enter the verified emissions figure in the verified emissions table of the Union Registry

⁴ Although usually not considered part of the compliance cycle, it may be useful to note that by 31 December the operator has to submit information about changes to the installation's capacity, activity level and operation, if applicable. This is a new element based on Article 24(1) of the CIMs. This notification is applicable for the first time in December 2012.

⁵ According to Article 67(1) of the MRR, competent authorities may require operators or aircraft operators to submit the verified annual emission report earlier than by 31 March, but by 28 February at the earliest.



When?	Who?	What?
March – April N+1	Competent Authority	Subject to national legislation, possible spot checks of submitted annual reports. Require corrections by the operator if applicable.
30 April N+1	Operator	Surrender allowances (amount corresponding to verified annual emissions) in Registry system
30 June N+1	Operator	Submit report on possible improvements of the Monitoring Plan, if applicable ⁶
(No specified deadline)	Competent Authority	Carry out further checks on submitted annual emissions reports, where considered necessary or as may be required by national legislation; require changes of the emissions data and surrender of additional allowances, if applicable (in accordance with Member State legislation).

Commission Regulation (EU) No 600/2012 of 21 June 2012 on the verification of greenhouse gas emission reports and tonne-kilometre reports and the accreditation of verifiers pursuant to Directive 2003/87/EC of the European Parliament and of the Council.

This Regulation applies to the verification of greenhouse gas emissions and tonne-kilometre data occurring from 1 January 2013 and reported pursuant to Article 14 of Directive 2003/87/EC.

Verification provisions are legally provided for by Article 15, while the criteria for the verification are defined in Annex V to Directive 2003/87/EC.

In accordance with the principles of Annex V of Directive 2003/87/EC, the verifier should apply a risk-based approach with the aim of reaching a verification opinion providing reasonable assurance that the total emissions or tonne-kilometres are not materially misstated and the report can be verified as satisfactory. The level of assurance should relate to the depth and detail of verification activities carried out during the verification and the wording of the verification opinion statement.

The Regulation sets an overall framework of rules for the accreditation of verifiers to ensure that the verification of operator's or aircraft operator's reports in the framework of the EU ETS, to be submitted in accordance with the MRR (Commission Regulation (EU) No 601/2012) is carried out by verifiers that possess the technical competence to perform the entrusted task in an independent and impartial manner and in conformity with the requirements and principles set out in this Regulation.

⁶ There are two different types of improvement reports pursuant to Article 69 of the MRR. One is to be submitted in the year where a verifier reports improvement recommendations, and the other (which may be combined with the first, if applicable) every year for category C installations, every two years for category B, and every four years for category A installations. For categorisation, see Article 19 of the MRR. The CA may set a different deadline, but no later than 30 September of that year.



All verification activities in the verification process are interconnected and should be concluded with the issuance of a verification report by the verifier containing a verification statement that is commensurate with the outcome of the verification assessment. Harmonised requirements for the verification reports and the performance of the verification activities are established to ensure that verification reports and verification activities in the Member States meet the same standards.

Commission Regulation (EU) No 389/2013 establishing a Union Registry pursuant to Directive 2003/87/EC of the European Parliament and of the Council, Decisions No 280/2004/EC and No 406/2009 of the European Parliament and repealing Commission Regulations (EU) No 920/2010 and NO 1193/2011

The EU ETS Directive (Article 19(1)) and Commission Regulation (EU) 1193/2011 provide for the centralisation of the EU ETS operations into a single European Union registry, operated by the Commission. The European Union Transaction Log (EUTL) is the successor of the Community Independent Transaction Log (CITL) which had a similar role before the full activation of the Union registry. The Union registry includes accounts for aircraft operators, which have been included in the EU ETS since January 2012, as well as accounts for stationary installations, which have been transferred from the Member States' national registries. The Union registry covers all EU Member States as well as Croatia, Norway, Iceland and Liechtenstein. It is an online database that records:

- National Implementation Measures in phase 3 (2013-2020);
- Accounts of companies or physical persons holding those allowances;
- Transfers of allowances ("transactions") performed by the account holders;
- Annual verified CO₂ emissions from installations;
- Annual reconciliation of allowances and verified emissions, whereby each company must have surrendered enough allowances to cover all its verified emissions.

EUTL automatically checks, records, and authorises all transactions that take place between accounts in the Union registry. This verification will ensure that any transfer of allowances from one account to another is consistent with the EU ETS rules. Processes that fail these checks should be terminated in order to ensure that transactions in the Union registry system comply with the requirements of Directive 2003/87/EC and the requirements elaborated pursuant to the UNFCCC and the Kyoto Protocol.

A company or physical person wishing to participate in the EU Emissions Trading System has to open an account in the Union registry. A request for the opening of accounts in the Union registry must be sent to the relevant national administrator, who is in charge of collecting and verifying all supporting documentation.

Procedural and technical requirements for the functioning and operation of registries are provided for under this Regulation for the trading period commencing on 1 January 2013.

Summary of the main points of the EU ETS Directive

A centralised EU-wide cap on emissions will reduce annually by 1.74% of the average annual emission level of the Phase II cap. The cap will deliver an overall reduction of 21 % below the 2005 verified emissions by 2020. To achieve the target of a 40% reduction in EU greenhouse gas emissions below



1990 levels by 2030, set out in its 2030 framework for climate and energy policy, the Commission proposes an increase in the linear reduction factor to 2.2% per year from 2021, from 1.74% currently.

Taking into account their ability to pass on the increased cost of emission allowances, full auctioning is the rule from 2013 onwards for electricity generators. However, Member States who fulfil certain conditions relating to their interconnectivity or their share of fossil fuels in electricity production and GDP per capita in relation to the EU-27 average, have the option to temporarily deviate from this rule with respect to existing power plants.⁷

In other sectors, allocations for free will be phased out progressively from 2013, with Member States agreeing to start at 20% auctioning in 2013, increasing to 70% auctioning in 2020 with a view to reaching 100% in 2027.

However, an exception will be made for installations in sectors that are found to be exposed to a significant risk of 'carbon leakage'. Sectors deemed at significant risk of relocating production outside of the EU due to the carbon price (i.e. carbon leakage) will receive 100% of the benchmarked allocation for free.

As a result of a rapid build-up of surplus of allowances and international credits in 2012 (amongst others as a result of the economic crisis) the Commission has taken the initiative to propose the postponement of the auctioning of 900 million allowances from the years 2013-2015 until 2019-2020, when it is expected that demand will have picked up. This 'back-loading' of auctions has been done by amending the EU ETS Auctioning Regulation.

Access to project credits under the Kyoto Protocol from outside the EU will be limited to no more than 50% of the reductions required in the EU ETS. This is a reduction from 226% in Phase II, and means many more emissions reductions will happen in the EU.

A total of 88% of the allowances to be auctioned by each Member State is distributed between the Member States on the basis of a Member State's share of historic emissions under the EU ETS. However, in the interest of solidarity 12% of the total allowances auctioned will be re-distributed to Member States with lower GDP. These are mostly the newer eastern Member States. There is a non-

⁷ Eight of the Member States which have joined the EU since 2004 - Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Poland and Romania - have made use of a derogation (under Article 10c of the revised EU ETS Directive) which allows them to give a decreasing number of free allowances to existing power plants for a transitional period until 2019.

These derogations are limited in terms of: time (free allocation must stop by 2020 at the latest); Scope (only installations that started to generate electricity before 31 December 2008, or for which the investment process was "physically initiated" by that date, are eligible to receive free allowances); Quantity (the Directive determines a maximum quantity of free allowances that can be granted in 2013, and this has to decrease progressively in the following years to reach zero in 2020).

In return for transitional free allocation, the eight Member States will undertake national plans to modernise their electricity sectors and diversify their energy mix through investments worth at least as much as the value of the free allowances.



legally binding commitment from EU member states to spend at least half of the revenues from auctioning to tackle climate change both in the EU and in developing countries.

Industrial sectors will be allocated allowances for free on the basis of product benchmarks. The benchmarks will be set on the basis of the average of the top 10% most greenhouse gas efficient installations in the EU (see Benchmarking Decision).

Up to 300 million allowances from the new entrant's reserve of the EU ETS will be used to support the demonstration of carbon capture and storage (CCS) and innovative renewable technologies.

The possibility to opt-out small combustion installations provided they are subject to equivalent measures has been extended to cover all small installations irrespective of activity. The emission threshold has been raised from 10,000 to 25,000 tonnes of CO₂ per year, and the capacity threshold that combustion installations have to fulfil in addition has been raised from 25MW to 35MW. With these increased thresholds, the share of covered emissions that would potentially be excluded from the emissions trading system becomes significant, and consequently a provision has been added to allow for a corresponding reduction of the EU-wide cap on allowances.



IV. Highlights from the training workshop

Day 1 – Petrohemija Pancevo

- Opening word of Petrohemija Director:
 - Petrohemija has been the only producer of base and the polymeric products in Serbia for more than 30 years. Target market is Serbia, region as well as EU;
 - The company is currently in the process of privatisation that should be completed by June 2016;
 - Petrohemija is dedicated to sustainable development and energy efficiency. Only in 2014/2015 around 11 million EUR was invested in projects regarding EE and environment;
 - The company has established an Integrated Management System, 3 ISO standards and in the process of implementation of ISO 50001;
- Monique Voogt: introduction to ECRAN and the training
 - Monique Voogt provides a short introduction on the ETS and on the ECRAN programme. The ETS is a complicated system, which requires an in-depth knowledge on the ‘rules of the game’ and a sound emissions monitoring system. The EC finds it important to help countries to understand the system, especially candidate and potential candidate countries since they will eventually be part of EU. Therefore the ECRAN programme provides various trainings for different stakeholders, including helping the future CA (MAEP, SEPA< etc.) to set-up the system and support operators in implementing ETS in their organisation. In addition to general trainings ECRAN organises very specific technical missions on a request by a specific beneficiary country. This training is one of those technical missions;
 - In ETS, in a nutshell, requires that the annual amount of emissions from an operator is met by a similar amount of emission allowances that are surrendered at the end of the reporting period. The amount of emissions is reported in the annual emissions report (AER). The emissions reported in the AER need to be measured or calculated according to the methodologies that are included in the Monitoring Plan (MP);
 - Today we are looking at the MP of this plant, as was submitted to the Ministry on a voluntary basis. We will show you how a verifier evaluates the MP and what questions will be asked during verification. This is important not only for the operator itself, but also for MAEP to further understand the reporting requirements as well as the qualifications that verifiers need to have;
 - Especially for larger plants good quality MPs are important, as large mistakes can not only risk penalties, but also could mean that large sums of money could be lost in the ETS.
- 3 A representative of Petrohemija:
 - HIP Petrohemija currently has 3 plants in Pancevo and 1 plant in Zrenjanin. Raw materials are predominantly domestic oil, and imported oil;
 - A short discussion arises on which part of the activities is included in the ETS. The trainers explain that when a plant that has an installation that is included in the ETS then all of its GHG emitting units with emissions from energy combustion or process emissions are included. So this includes the smaller facilities on site, the facility that is not in operation but still technically connected as well as all flares. Mobile emission sources meant for transport activities – such as trucks and lorries – are excluded from



- ETS, but mobile emission sources for other activities are included – for example mobile generators;
- The speaker presents the main plant activities, with special focus on the GHG emitting facilities and the source streams of emissions;
 - Lucy Candlin: role and responsibilities of a verifier
 - The trainer’s presentations start with an overview on the role and responsibilities of a verifier. Lucy emphasises that the main task of a verifier is to protect the market: to ensure that a tonne of emissions emitted equals a tonne of emissions reported. Many professionals trade on this market, they need to be able to rely on this.
 - A verifier basically acts like an auditor, checking 3 things:
 - that MP is compliant with the regulation;
 - That the data reported are confirmed, by accurate calculations and emission measurements;
 - To support good practice in monitoring and reporting, and robustness of internal methods.
 - Materiality is an important term in verification. The verifier will take account of the relative size and impact of a misstatement (quantitative materiality). Tiers are defined on the accuracy of data. If data errors are beyond the tolerance threshold, or if there is a data mismatch, then verification cannot be passed. Qualitative materiality is also important: the quality of the data management system and the process control system. The first-time verification will always need to be looking in detail at all auditing aspects. But when a solid data management system and process control system is in place, than further verifications can focus on the main changes and process actions.
 - Not all data errors are disastrous, but misstatements should be reported in order to improve quality of future reporting.
 - Q&A
 - A short discussion arises on how much time is needed for a good verification. Lucy explains that it is important that a verifier has sufficient time to state that the reported emissions are correct. It is not sufficient to provide limited assurance by stating that based on the information available it seems correct. Reference estimation to the amount of time needed for a plant such as HIP Petrohemija is around 8 days of verification work, of which 2-3 days are on-site. The total duration of the verification would be around 8 weeks, from the first contract review to the verification report. Plants should consequently start as much of the activities at an early stage, including is necessary for verification, usually done at the end of the year, at least the contract review, document review and strategic analysis and pre verification;
 - The trainer emphasises the need for independent verification and avoiding complacency. Important elements in this are:
 - The guidance for Accreditation and Verification – this can help to go through the complex issues and get clarity on what is actually meant in a certain reporting element;
 - The number of days of the verifier cannot be fixed, as up-front it is unknown which aspects need to be further reviewed. A verification contract should always include a clause to allow for covering more days, if needed;
 - A mandatory rotation of verifiers could support independency and avoid complacency. In California such a mandatory rotation is required. The EU ETS



does not require this, but does require use of the four-eye principle (every report needs to be seen by two verifiers).

- Lucy Candlin: main challenges in verification
 - The trainer explains that a solid data management and process system is crucial for compliance. ETS plants will always have existing data management systems such as QMS, EMS, IRM and EMAS as well as a lab for testing, quality control measures for instruments, etc. Optimal is when ETS/GHG reporting as well as governance and internal control are organised within the overall business management process, and not treated as a separate bubble outside the existing system.
 - Three key words within ETS are important to understand:
 - Uncertainty: the range within which the real data value is expected to lie with a certain level of confidence.
 - Error: when the data reported is outside of the uncertainty range
 - Materiality: when the difference between the reported value and the value established by the verifier is higher than the defined threshold than the error is material.
- Working session: completion of Monitoring Plan
 - The entire afternoon is spent on discussing the draft MP submitted by Petrohemija. Based on a detailed flow and process chart of the plant, the team from Petrohemija and the trainer “walk through” all activities and emission sources and the trainer points out where the MP could be improved. Petrohemija has taken notes on its draft MP so that after the training the MP can be updated to ensure full compliance with the legal requirements.
 - The Ministry staff is observant to the process and the trainers provide them with a step-wise explanation why certain aspects of the MP are looked at in more detail, what common mistakes are made in completing MPs and what typical aspects to look for when reviewing the MP.
 - In joint discussions between the staff from the plant, the Ministry staff and the trainers some items are identified that would require further understanding and/or decision making in the Serbian implementation of the ETS. For example, in order to determine unreasonable costs the Ministry will need to define a reference value for the CO2 price to be taken into account.

NIS Refinery

- Introduction and Health and Safety instruction
 - NIS opens the session by welcoming the visitors.
 - Before starting ETS discussions a video is shown with the health and safety regulations that should be obeyed on the site.
 - When doing the plant visit later in the day all participants should wear protection equipment
- Plant introduction - NIS representatives
 - NIS is one of the largest vertically-integrated energy companies in South East Europe. The company has 2 main energy blocks, in Pancevo and Novi Sad. The company engages in research, production and refining of crude oil and natural gas, transport of various petroleum and gas products, and energy project implementation.



- The NIS team presents the basic elements of its MP, identifying the main activities, main source streams and the methodological choices made for inclusion in the MP. A key element is the use of standard values for calculation of emissions.
- Lucy Candlin: the role of a verifier
 - Lucy explains on the role of the verifier in the ETS and points out how a detailed verification can help the company not only to comply with the regulations, but also identify opportunities how to meet the requirements in the most cost-effective manner as well as further optimise internal data management and process control procedures.
 - On questions of the operator she explains that for a site such as NIS a verifier would need approximately 10 days to complete the entire verification process.
 - A detailed discussion arises on the use of tiers and the costs to buy specific measurement equipment. When unreasonable costs can be claimed than one tier lower could be used. Further lowering of tiers is not allowed, but could also cost the operator quite some money, since the standard values are more conservative than site-specific values and thus lead to an overestimation of emissions.
 - The trainer strongly recommends to also include alternative measurement instruments in the monitoring plan. Should the primary measurement instrument fail, then the alternative measurements will be used. When this was already identified in the MP this avoids having to do a resubmission and re-approval of the MP.
- Working session: completion of Monitoring Plan
 - The larger part of the day is spent on discussing the draft MP submitted by NIS. Based on a detailed flow and process chart of the plant, the team from NIS and the trainer “walk through” all activities and emission sources and the trainer points out where the MP could be improved. Lively discussions arise on various plant activities and the corresponding requirements for the MP. A key lesson learned is that many aspects are already in place within NIS, that ‘just’ need some additional steps to ensure they comply with ETS requirements. This for example includes the procedures for to ensure quality assurance of measuring equipment, laboratory procedures, risk procedures and data validation procedures. NIS has taken notes on its draft MP so that after the training the MP can be updated to ensure full compliance with the legal requirements.
 - The Ministry staff is observant to the process and the trainers provide them with a step-wise explanation why certain aspects of the MP are looked at in more detail, what common mistakes are made in completing MPs and what typical aspects to look for when reviewing the MP.
- Site visit
 - A short tour on the site is done to point out the main production activities and emission sources, as well as to give the staff from the Ministry a practical feel of activities on site.



V. Evaluation

Reference is made to Annex IV for the detailed evaluation results. Out of the 18 participants from the beneficiary, 16 participants filled in the evaluation form which is a response of 90%.

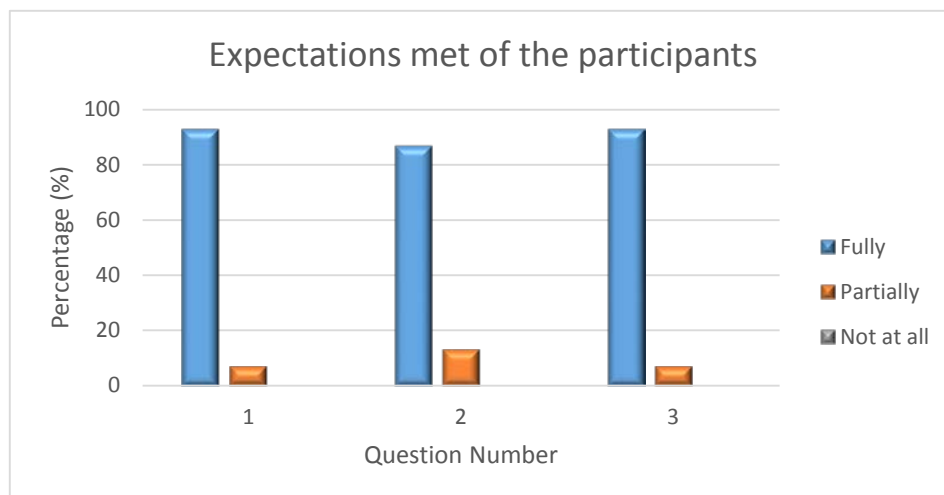
The results of the evaluation shows that the workshop was very well received, where all participants indicated that attending the workshop was time well spent for them. Also, all participants rated the workshop as high level (rated as excellent) and all participants rated the facilitators as excellent.

Furthermore over 90% of the participants claimed to have received an improved understanding of the details of the Monitoring and Reporting (MR) regulation as well as of the Accreditation and Verification (A&V) regulation of the European Commission.

Your Expectations

My Expectations

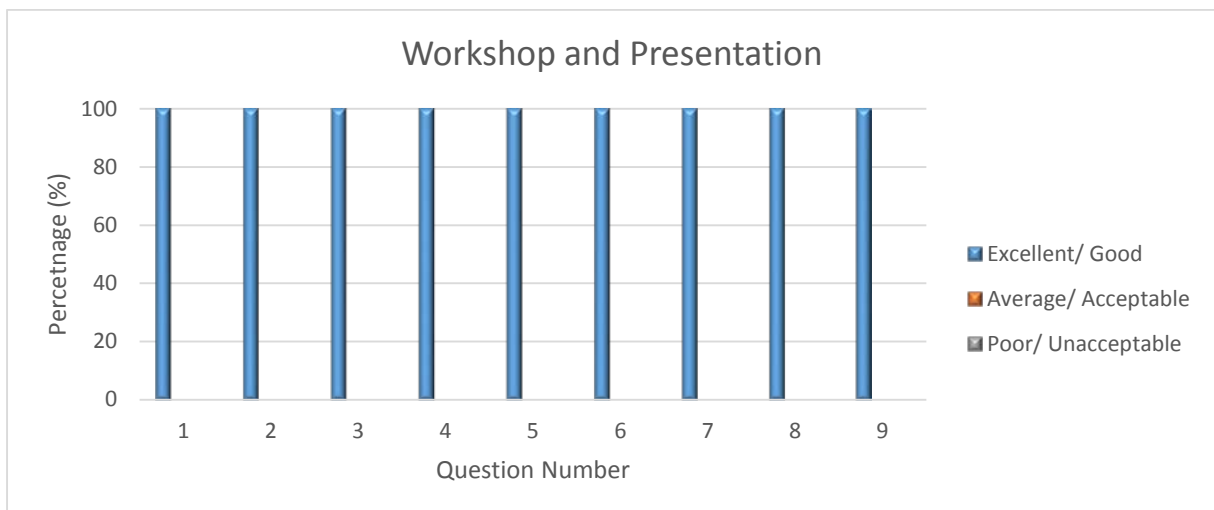
1. Received an insights in the Monitoring and Reporting regulation and in verification, specifically in understanding the road from Monitoring Plan to a validated annual emission report.
2. Understood key challenges experienced during the formulation of Monitoring Plans and will provide in-depth insights in the verification of an emission report based on the Monitoring Plan.
3. Obtained hands-on understanding of reporting and verification in the refinery and/or in the petrochemical industry.



Workshop and Presentation

Aspect of Workshop

1. The workshop achieved the objectives set
2. The quality of the workshop was of a high standard
3. The content of the workshop was well suited to my level of understanding and experience
4. The practical work was relevant and informative
5. The workshop was interactive
6. Facilitators were well prepared and knowledgeable on the subject matter
7. The duration of this workshop was neither too long nor too short
8. The logistical arrangements (venue, refreshments, equipment) were satisfactory
9. Attending this workshop was time well spent



ANNEX I – Agenda

Day 1 : Tuesday 3 November 2015

08:00	Travel from Belgrade, departing point by bus: Ministry of Agriculture and Environment, Omladinskih brigada 1 - 11070 Novi Beograd to HIP-Petrohemija, Pancevo
08:45	Welcome by the operator & introductions (operator)
09:15	ECRAN and the ambitions of this workshop (ECRAN)
09:30	Monitoring and reporting from a verifiers perspective (presentation by the trainer/verifier)
10.00	Coffee Break
10.15	Monitoring and reporting in the installation (presentation by the operator)
10.45	Challenges in preparing/validating HIP-Petrohemija's monitoring plan (summary presentation by Ministry; discussion)
11.15	The main challenges of MRV for petrochemical installations (presentation by the trainer/verifier)
12.00	Lunch break
13.00	'Walkthrough discussion' using an installation layout plan and operational process flow plan to cover: <ul style="list-style-type: none"> • Technical process flow and emissions sources • Data accounting flow (steps in the chain from generation of source data to final reporting)
13.45	Main challenges in monitoring and reporting (Q&A; discussion)
14.15	Coffee break
14.30	Verifiers feedback on the installation and the monitoring plan (presentation by the trainer/verifier); to include: <ul style="list-style-type: none"> • Gaps (or lack of clarity) in information/controls • Quality control/assurance over the data accounting
15.15	Preparing the verification (presentation by the trainer/verifier)
16.00	Closing the visit
16.00	Travel back to Belgrade



Day 2 : Wednesday 4 November 2015

08:00	Travel from Belgrade, departing point by bus: Ministry of Agriculture and Environment, Omladinskih brigada 1 - 11070 Novi Beograd to NIS refinery, Pancevo
08:45	Welcome by the operator & introductions
09:15	ECRAN and the ambitions of this workshop (ECRAN)
09:30	Monitoring and reporting in the installation (presentation by the operator)
10:00	'Walkthrough discussion' using an installation layout plan and operational process flow plan to cover : <ul style="list-style-type: none"> • Technical process flow and emissions sources • Data accounting flow (steps in the chain from generation of source data to final reporting)
10:40	Coffee break
11:00	Verifiers feedback on the installation and the monitoring plan (presentation by the trainer/verifier) to include : <ul style="list-style-type: none"> • Gaps (or lack of clarity) in information/controls • Quality control/assurance over the data accounting
11:30	Main challenges in preparing the monitoring plan (Short recap by the operator and the Ministry)
12:00	Lunch break
12:45	Short tour on the site
13:30	Addressing any key questions remaining (response by the trainer/verifier; Q&A)
13:45	Preparing for a verification
14:15	Practical exercise #1: strategic analysis and risk analysis (led by the trainer/verifier; exercise for participants)
14:45	Coffee break
15:00	Practical exercise #2: uncertainty and materiality (led by the trainer/verifier; exercise for participants)
15:30	Completing the verification (presentation by the trainer/verifier)
16:30	Discussion, closing the visit and travel back to Belgrade
17:15	End of the mission



ANNEX II – Participants

First Name	Family Name	Institution Name	Country	Email
Aleksandar	Subotin	HIP-Petrohemija	Serbia	aleksandar.subotin@hip-petrohemija.rs
Aleksandar	Belić	NIS ad Novi Sad, Blok Prerada, Rafinerija nafte Pančevo	Serbia	aleksandar.belic@nis.eu
Jovan	Jović	NIS ad Novi Sad, Blok Prerada, Rafinerija nafte Pančevo	Serbia	jovan.jovic@nis.eu
Dana	Momcilovic	HIP-Petrohemija	Serbia	dana.momcilovic@hip-petrohemija.rs
Djordje	Komnenov	NIS ad Novi Sad, Funkcija za HSE	Serbia	djordje.komnenov@nis.eu
Iboja	Rasa	HIP-Petrohemija	Serbia	iboja.rasa@hip-petrohemija.rs
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Nebojša	Filipović	NIS ad Novi Sad,	Serbia	Nebojsa.Filipovic@nis.eu
Danijela	Bozanic	Ministry of Agriculture and	Serbia	danijela.bozanic@eko.minpolj.gov.rs



First Name	Family Name	Institution Name	Country	Email
		Environmental Protection		
Ivana	Dukic	Serbian Environmental Protection Agency	Serbia	dragana.radulovic@eko.minpolj.gov.rs
Ivana	Antonovic	Serbian Environmental Protection Agency	Serbia	nebojsa.redzic@sepa.gov.rs
Sandra	Lazic	Ministry of Agriculture and Environmental Protection	Serbia	ivana.antonovic@sepa.gov.rs
Katherine-Lucy	Candlin	Planet & Prosperity Ltd	United Kingdom	lucy@pp-sustainability.eu
Monique	Voogt	ECRAN	Netherlands	m.voogt@sqconsult.com
Milica	Tosic	ECRAN	Serbia	Milica.tosic@humandynamics.org



ANNEX III – Presentations (under separate cover)

Presentations can be downloaded from:

http://www.ecranetwork.org/Files/Training_Presentations_ETS_Serbia_November_2015.zip



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ANNEX IV – Evaluation

Statistical information

1.1 Workshop Session
Advanced Technical Training Programme on Verification in the scope of the EU ETS
03-04 November 2015, Belgrade, Serbia

1.2 Facilitators name
As per agenda

1.3 Name and Surname of Participants (evaluators)
As per participants' list

Your Expectations

Please indicate to what extent specific expectations were met, or not met:

My Expectations	My expectations were met		
	Fully	Partially	Not at all
4. Received an insights in the Monitoring and Reporting regulation and in verification, specifically in understanding the road from Monitoring Plan to a validated annual emission report.	IIIII IIIII IIII (93%)	I (7%)	
5. Understood key challenges experienced during the formulation of Monitoring Plans and will provide in-depth insights in the verification of an emission report based on the Monitoring Plan.	IIIII IIIII III (87%)	II (13%)	
6. Obtained hands-on understanding of reporting and verification in the refinery and/or in the petrochemical industry.	IIIII IIIII IIII (93%)	I (7%)	



Workshop and Presentation

Please rate the following statements in respect of this training module:

Aspect of Workshop	Excellent	Good	Average	Acceptable	Poor	Unacceptable
10. The workshop achieved the objectives set	 (93%)	 (7%)				
11. The quality of the workshop was of a high standard	 (100%)					
12. The content of the workshop was well suited to my level of understanding and experience	 (100%)					
13. The practical work was relevant and informative	 (100%)					
14. The workshop was interactive	 (93%)	 (7%)				
15. Facilitators were well prepared and knowledgeable on the subject matter	 (100%)					
16. The duration of this workshop was neither too long nor too short	 (93%)	 (7%)				
17. The logistical arrangements (venue, refreshments, equipment) were satisfactory	 (100%)					
18. Attending this workshop was time well spent	 (100%)					



Comments and suggestions

I have the following comment and/or suggestions in addition to questions already answered:

Workshop Sessions:

- Very practical!;
 - Lecturer, Mrs. Lucy-Katherine was excellent!
 - Excellent experts!
-

Facilitators:

- Excellent! Ms. Lucy Katherine was perfect!;
 - Excellent expert Lucy!
-

Workshop level and content:

- High!;
-





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