Environment and Climate Regional Accession Network ECRAN

Environment and Climate Regional Accession Network (ECRAN)

Workshop report Capacity Building on Compliance with Environmental Legislation (Sub-Regional Workshop)

14-16 June 2016, Pristina, Kosovo*

ENVIRONMENT AND CLIMATE REGIONAL NETWORK FOR ACCESSION - ECRAN

WORKSHOP REPORT

Activity 1.2.1

CAPACITY BUILDING ON COMPLIANCE WITH ENVIRONMENTAL LEGISLATION

(8th Workshop)

14 – 16 June 2016, Pristina, Kosovo[1]

[1] This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

Table of Contents

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

LIST OF ABREVIATIONS	
AER	Annual Emission Reports
BAT	Best Available Techniques
BREF	BAT Reference Documents
CA	Competent Authority
CAA	Croatian Accreditation Agency
CLP	Classification, Labelling and Packaging
CLRTAP	Convention on Long-range Transboundary Air Pollution
EC	European Commission
EEA	European Environmental Agency
EEA	European Economic Area
EIA	Environmental Impact Assessment
EMS	Environmental Management System
EPER	European Pollutant Emission Register
EPI	Environmental Protection Inspection
EPRTR	European Pollutant Release and Transfer Register
ETS	Emission Trading System
EU	European Union
GHS	Globally Harmonised System
IC	Impact Criteria
ICPDR	International Commission for the Protection of Danube River
IED	Industrial Emissions Directive
IMPEL	The European Union Network for the Implementation and Enforcement of Environmental Law
IPPC	Integrated Pollution Prevention and Control
IRAM	Integrated Risk Assessment Method
ISO	International Standard Organisation
LCP	Large Combustion Plants
MESP	Ministry of Environment and Spatial Planning
MP	Monitoring Plans
MW	Mega Watts
OPC	Operator Performance Criteria
PFCs	Perfluorocarbons
PRTR	Pollutant Release and Transfer Register
QA	Questions and Answers
REACH	Registration, Evaluation, Authorisation and Restrictions of Chemicals
RMCEI	Recommended Minimum Criteria for Environmental Inspections
TFS	Transfrontier Shipment of Waste
UNECE	United Nation Economic Commission for Europe
UNFCCC	United Nation Framework Convention on Climate Change
VOC	Volatile Organic Compounds
WFD	Waste Framework Directive
WG	Working Group

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

I. Background/Rationale

Under the ECRAN/ECENA-WG work plan, the following specific activities have been decided to be implemented:

1.2.1 Capacity building on compliance with environmental legislation

1.2.2 External country assessments

1.2.3 Methodological development - application of IRAM/easy Tools

1.2.4 Compliance with REACH/CLP Regulations;

1.2.5 Trans frontier Shipment of Waste (TFS);

1.2.6 Inspection and enforcement in other policy areas;

1.2.7 Inspector's participation in networking activities.

The beneficiaries are the Ministries of Environment of the beneficiary countries (Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Kosovo[2]*, Montenegro, Serbia and Turkey). In addition the other ministries and other bodies and institutions will need to be actively engaged in so far as their work is relevant for the scope of ECRAN. As of September 2015, the ECRAN Secretariat has been informed by the EC TAIEX Unit that the fund allocated for financial support to Croatia has been exhausted. Croatia being an EU Member State since 2013 and having access to other financial sources is not eligible to allocation of additional financial support under TAIEX. The country remains to be involved in the capacity building activities through involvement of public administration experts being engaged through TAIEX as lecturers for specific topics for workshops designed under ECRAN Working Groups.

The overall objective of ECRAN is to strengthen regional cooperation between the EU candidate countries and potential candidates in the fields of environment and climate action and to assist them on their way towards the transposition and implementation of the EU environmental and climate policies, political targets and instruments which is a key precondition for EU accession.

Activity1.2.1 Capacity building on compliance with environmental legislation

Beneficiary countries under this project are at different levels of transposition, implementation and enforcement of the environmental acquis. These differences are caused by different initial levels of development, national and international political decisions or complications, budgetary potential, etc.

Progress in all candidate and potential candidate countries is regularly monitored by the European Commission. The Progress monitoring reports provide the following picture.

Currently, Croatia is an EU member since 1 July 2013. Out of five candidate countries from the region (the Former Yugoslav Republic of Macedonia, Montenegro, Serbia, Albania and Turkey) two have already started the accession negotiations: Turkey in 2005 and Montenegro in 2012, while the other

[2] This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

three are speeding up their efforts for opening the accession negotiations. Potential candidates - Bosnia and Herzegovina and Kosovo* are also increasing their efforts in this direction.

In the field of training and exchange and methodological development it has been decided to continue the activity in organizing and implementing training courses with common inspection entitled "Capacity building on compliance with environmental legislation". The training sessions are now to be designed as regional or sub-regional courses with common inspections and site visits, also paying attention to cross- cutting issues.

The need for information and further training have been indicated by the various countries by selecting special subjects which received some additional attention during these series of courses.

Some special subjects needed only additional presentations and explanations (for example revision RMCEI, end of waste criteria). Other subjects could only be handled in a limited way and require further elaboration in future courses (REACH, SEVESO, VOCs under IED).

Considering some of the cross cutting subjects (for example IED linkages with water, air, nature legislation and those with chemicals and hazardous waste issues), most of the inspectors lack knowledge, as traditionally such subjects are in most cases handled in other ministries than the Environment Ministry.

Specifically for ECRAN/ECENA activity 1.2.1 a Training Needs Assessment has been performed and training topics have been selected (ref. TNA report, www.ecranetwork .org). Based on the selected training topics with selected industrial sites, six regional training programmes and two sub-regional training programmes have been developed and subsequently delivered.

The training programme in the activity within ECENA has to be closely coordinated with the other ones designed for ECENA and ECRAN in general in order to avoid duplication and overlaps.

Planned trainings are delivered in close coordination with TAIEX Unit that is responsible for provision of non-key experts and organisation of logistics (training venue, accommodation and transport of registered participants, etc.). Delivered trainings are evaluated in order to monitor the level of reaching the training objectives

Chapter 2 describes the background and objectives of activity 1.2.1 with the 8th Multi-country Workshop Capacity Building on Compliance with Environmental Legislation and the topics that have been addressed.

Chapter 3 describes the EU policy and legislation covered by the training, Chapter 4 presents the workshop proceedings and Chapter 5 presents the evaluation and impact achieved. Furthermore the following Annexes are attached:

_ Annex I: the agenda;

_ Annex II: List of participants;

_ Annex III: Power point presentations (downloadable under separate cover):

http://www.ecranetwork.org/

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

II. Objectives of the training

General Objective

Increasing the effectiveness of inspection bodies and promoting compliance with environmental requirements

Specific Objective

Capacity building regarding compliance with environmental legislation through better understanding of implementation issues and identification of targeted solutions (training of inspectors and permit writers in cooperation with law drafters and policy makers).

Training delivery

Based on earlier experience, described approach and the outcomes of the TNA, the general training set-up and topics are:

- **Day 1**; Mainly related to Inspection Management including general subjects with the regulatory cycle and inspection cycle, IPPC/IED implementation with inspection and permitting functions with requirements, Cross cutting issues: IED interaction with other environmental legislation also in relation to ambient environmental quality. Special subjects and specific directives have to be selected for specific attention including IED/IPPC interaction with EIA, ambient water quality, air quality and, nature legislation, LCP, PRTR, SEVESO II/III, VOCs, waste and chemical management
- **Day 2**; Continuation day 1 programme and Preparation for the (industrial) site visit with BAT and BREF evaluation of the selected industrial site to be visited; exchange of experience from the various countries in the region considering the selected type of industry. Presentation on the selected factory site backgrounds. Preparation of checklists for the site visit.
- **Day 3**; on site visit/common inspection of a specific industry and reporting.

The trainings are designed as a series of eight follow-up modules each to be held in one of the beneficiary countries. The trainings cover cross cutting issues and are also designed in such a manner that the training programme will also allow participation of policy makers and legal drafters from other relevant WGs such as Waste, Air, Water, etc.

The agenda of the 8th training is included in ANNEX 1

Results/outputs

The expected results are:

- improved functioning of the environmental authorities and related authorities envisaged to be responsible for implementation of the RMCEI, IED, SEVESO and Waste Framework Directive;

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

- streamlined working methods and implementation of best practice in the region moving towards EU standards.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

III. EU policy and legislation covered by the training

The training covered mainly the RMCEI, IED Directive, PRTR, SEVESO and Waste Framework Directive (Cross cutting issues IED/WFD).

RMCEI (http://ec.europa.eu/environment/legal/law/inspections.htm)

In 2001, recognising that there was a wide disparity between inspection systems in the Member States, the European Parliament and the Council adopted Recommendation 2001/331/EC providing for minimum criteria for environmental inspections in the Member States (RMCEI).

The RMCEI contains non-binding criteria for the planning, carrying out, following up and reporting on environmental inspections. Its objective is to strengthen compliance with EU environment law and to contribute to its more consistent implementation and enforcement in all Member States.

The content of the RMCEI has strongly influenced provisions on environmental inspections in sectoral pieces of environment and climate change legislation. The European Union Network for the Implementation and Enforcement of Environment Law (IMPEL) played an important role in the preparation of the RMCEI and through its activities has also played an important role in its implementation.

IED (summary) Ref 1.[3]

Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control. This Directive brings together Directive 2008/1/EC (the 'IPPC Directive') and six other directives in a single directive on industrial emissions.

Sectors of activity .This Directive shall cover industrial activities with a major pollution potential, defined in Annex I to the Directive (energy industries, production and processing of metals, mineral industry, chemical industry, waste management, rearing of animals, etc.).The Directive shall contain special provisions for the following installations:

- combustion plants (≥ 50 MW);
- waste incineration or co-incineration plants;
- certain installations and activities using organic solvents;
- installations producing titanium dioxide.

Environmental requirements

Any industrial installation which carries out the activities listed in Annex I to the Directive must meet certain basic obligations:

- preventive measures are taken against pollution;

[3] REF 1) IED: http://europa.eu/legislation_summaries/environment/soil_protection/ev0027_en.htm

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

- the best available techniques (BAT) are applied;
- no significant pollution is caused;
- waste is reduced, recycled or disposed of in the manner which creates least pollution;
- energy efficiency is maximised;
- accidents are prevented and their impact limited;
- sites are remediated when the activities come to an end.

Application of best available techniques

Industrial installations must use the best available techniques to achieve a high general level of protection of the environment as a whole, which are developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions. The European Commission must adopt BAT conclusions containing the emission levels associated with the BAT. These conclusions shall serve as a reference for the drawing up of permit conditions.

Permit conditions

The permit must provide for the necessary measures to ensure compliance with the operator's basic obligations and environmental quality standards. These measures shall comprise at least:

- emission limit values for polluting substances;
- rules guaranteeing protection of soil, water and air;
- waste monitoring and management measures;
- requirements concerning emission measurement methodology, frequency and evaluation procedure;
- an obligation to inform the competent authority of the results of monitoring, at least annually;
- requirements concerning the maintenance and surveillance of soil and groundwater;
- measures relating to exceptional circumstances (leaks, malfunctions, momentary or definitive stoppages, etc.);
- provisions on the minimisation of long-distance or transboundary pollution;
- conditions for assessing compliance with the emission limit values.

Special provisions

Special provisions shall apply to combustion plants, waste incineration and co-incineration plants, installations using organic solvents and installations producing titanium dioxide. The emission limit values for large combustion plants laid down in Annex V to the Directive are generally more stringent than those in Directive 2001/80/EC. A degree of flexibility (Transitional National Plan, limited life time derogation) shall be introduced for existing installations. For other activities subject to special provisions, the provisions of the current directives have been largely maintained.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

Environmental inspections

Member States shall set up a system of environmental inspections of the installations concerned. All installations shall be covered by an environmental inspection plan. The plan shall be regularly reviewed and updated.

Based on the inspection plans, the competent authority shall regularly draw up programmes for routine environmental inspections, including the frequency of site visits for different types of installations. The period between two site visits shall be based on a systematic appraisal of the environmental risks of the installations concerned. It shall not exceed one year for installations posing the highest risks and three years for installations posing the lowest risks.

SEVESO (ref 2)[4]

Major accidents in chemical industry have occurred world-wide. In Europe, the Seveso accident in 1976 prompted the adoption of legislation aimed at the prevention and control of such accidents. The resulting 'Seveso' directive now applies to around 10,000 industrial establishments where dangerous substances are used or stored in large quantities, mainly in the chemicals, petrochemicals, storage, and metal refining sectors.

The Seveso Directive obliges Member States to ensure that operators have a policy in place to prevent major accidents. Operators handling dangerous substances above certain thresholds must regularly inform the public likely to be affected by an accident, providing safety reports, a safety management system and an internal emergency plan. Member States must ensure that emergency plans are in place for the surrounding areas and that mitigation actions are planned. Account must also be taken of these objectives in land-use planning.

There is a tiered approach to the level of controls: the larger the quantities of dangerous substances present within an establishment, the stricter the rules ('upper-tier' establishments have bigger quantities than 'lower-tier' establishments and are therefore subject to tighter control).

Seveso Directives I, II and III

Seveso I: Council Directive 82/501/EEC on the major-accident hazards of certain industrial activities (OJ No L 230 of 5 August 1982) – the so-called Seveso directive – was adopted in 1982. The Directive was amended twice, in 1987 by Directive 87/216/EEC of 19 March 1987 (OJ No L 85 of 28 March 1987) and in 1988 by Directive 88/610/EEC of 24 November 1988 (OJ No L 336 of 7 December 1988). Both amendments aimed at broadening the scope of the Directive, in particular to include the storage of dangerous substances. This was in response to severe accidents at the Union Carbide factory at Bhopal, India in 1984, where a leak of methyl isocyanate caused more than 2500 deaths, and at the Sandoz warehouse in Basel, Switzerland in 1986, where fire-fighting water contaminated with mercury, organophosphate pesticides and other chemicals caused massive pollution of the Rhine and the death of half a million fish.

Seveso II: On 9 December 1996, Council Directive 96/82/EC on the control of major-accident hazards – the so-called Seveso II Directive - was adopted and replaced the original Seveso Directive. Seveso II

[4] REF 2): SEVESO http://ec.europa.eu/environment/seveso/

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

included a revision and extension of the scope; the introduction of new requirements relating to safety management systems; emergency planning and land-use planning; and a reinforcement of the provisions on inspections to be carried out by Member States.

In the light of industrial accidents (Toulouse, Baia Mare and Enschede) and studies on carcinogens and substances dangerous for the environment, the Seveso II Directive was extended by Directive 2003/105/EC of the European Parliament and of the Council of 16 December 2003 amending Council Directive 96/82/EC. The most important extensions were to cover risks arising from storage and processing activities in mining; from pyrotechnic and explosive substances; and from the storage of ammonium nitrate and ammonium nitrate based fertilizers.

Seveso III: Further adaptation of the provisions on major accidents occurred on 4 July 2012 with publication of a replacement directive - 2012/18/EU. The main changes in this, so-called, Seveso III Directive were:

Technical updates to take account of changes in EU chemicals classification. In 2008, the Council and the European Parliament adopted a Regulation on the Classification, Labelling and Packaging (CLP) of substances and mixtures, adapting the EU system to the new UN international chemicals classification (Globally Harmonized System - GHS). In turn, this triggered the need to adapt the Seveso Directive, since its scope is based on the former chemicals classification which will be repealed by the CLP Regulation by June 2015.

Better access for citizens to information about risks resulting from activities of nearby companies, and about how to behave in the event of an accident.

More effective rules on participation, by the public concerned, in land-use planning projects related to Seveso plants.

Access to justice for citizens who have not been granted appropriate access to information or participation.

Stricter standards for inspections of establishments to ensure more effective enforcement of safety rules.

The Seveso III Directive 2012/18/EU was adopted on 4th July 2012 and entered into force on 13th August 2012. Member States have to transpose and implement the Directive by 1st June 2015, which is also the date when the new chemicals classification legislation becomes fully applicable in Europe.

WFD – Waste Framework Directive (ref 3)[5]

With a view to breaking the link between growth and waste generation, the European Union (EU) has provided itself with a legal framework aimed at the whole waste cycle from generation to disposal, placing the emphasis on recovery and recycling: Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, repealing certain Directives.

[5] http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=URISERV:ev0010&qid=1430217684302&from=EN

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

This Directive establishes a legal framework for the treatment of waste within the EU. It aims at protecting the environment and human health through the prevention of the harmful effects of waste generation and waste management.

It applies to waste other than:

- gaseous effluents;
- radioactive elements;
- decommissioned explosives;
- faecal matter;
- waste waters;
- animal by-products;
- carcasses of animals that have died other than by being slaughtered;
- elements resulting from mineral resources.

Waste hierarchy

In order to better protect the environment, the Member States should take measures for the treatment of their waste in line with the following hierarchy which is listed in order of priority:

- prevention ;
- preparing for reuse;
- recycling ;
- other recovery , notably energy recovery;
- disposal.

Member States can implement legislative measures with a view to reinforcing this waste treatment hierarchy. However, they should ensure that waste management does not endanger human health and is not harmful to the environment.

Waste management

Any producer or holder of waste must carry out their treatment themselves or else have treatment carried out by a broker, establishment or undertaking. Member States may cooperate, if necessary, to establish a network of waste disposal facilities. This network must allow for the independence of the European Union with regard to the treatment of waste.

Dangerous waste must be stored and treated in conditions that ensure the protection of health and the environment. They must not, in any case be mixed with other dangerous waste and must be packaged or labelled in line with international or Community regulations.

Permits and registrations

Any establishment or undertaking intending to carry out waste treatment must obtain a permit from the competent authorities who determine notably the quantity and type of treated waste, the method used as well as monitoring and control operations.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

Any incineration or co-incineration method aimed at energy recovery must only be carried out if this recovery takes place with a high level of energy efficiency.

Plans and programmes

The competent authorities must establish one or more management plans to cover the whole territory of the Member State concerned. These plans contain, notably, the type, quantity and source of waste, existing collection systems and location criteria.

Prevention programmes must also be drawn up, with a view to breaking the link between economic growth and the environmental impacts associated with the generation of waste.

These programmes are to be communicated by Member States to the European Commission.

Context

The generation of waste is increasing within the European Union. It has therefore become of prime importance to specify basic notions such as recovery and disposal, so as to better organise waste management activities.

It is also essential to reinforce measures to be taken with regard to prevention as well as the reduction of the impacts of waste generation and waste management on the environment. Finally, the recovery of waste should be encouraged so as to preserve natural resources. This Directive repeals directives 75/439/EEC, 91/689/EEC and 2006/12/EC.

The European Pollutant Release and Transfer Register (E-PRTR)

The European Pollutant Release and Transfer Register (E-PRTR) is the Europe-wide register that provides easily accessible key environmental data from industrial facilities in European Union Member States and in Iceland, Liechtenstein and Norway (http://ec.europa.eu/environment/industry/stationary/eper/legislation.htm).

The register contains data reported annually by some 30,000 industrial facilities covering 65 economic activities across Europe.

For each facility, information is provided concerning the amounts of pollutant releases to air, water and land as well as off-site transfers of waste and of pollutants in waste water from a list of 91 key pollutants including heavy metals, pesticides, greenhouse gases and dioxins for the year 2007 onwards. Some information on releases from diffuse sources is also available.

The register contributes to transparency and public participation in environmental decision-making. It implements for the European Union the UNECE (United Nations Economic Commission for Europe) PRTR Protocol to the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters.

The legal basis of the E-PRTR is Regulation (EC) No 166/2006.

The first reporting year under the E-PRTR was 2007, for which the data were reported in June 2009. From 2010, Member States report data to the E-PRTR by the end of March and, subsequent to this, the Register website is updated every year.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

The EU emissions trading system (EU – ETS)

The EU emissions trading system (EU ETS) is a cornerstone of the EU's policy to combat climate change and its key tool for reducing industrial greenhouse gas emissions cost-effectively. It is the world's first major carbon market and remains the biggest one.

(1.http://ec.europa.eu/clima/policies/ets/index_en.htm and 2. http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02003L0087-20140430. 30/04/2014 - Consolidated version of Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC)

The EU ETS works on the 'cap and trade' principle.

A cap is set on the total amount of certain greenhouse gases that can be emitted by installations covered by the system. The cap is reduced over time so that total emissions fall.

Within the cap, companies receive or buy emission allowances which they can trade with one another as needed. They can also buy limited amounts of international credits from emission-saving projects around the world. The limit on the total number of allowances available ensures that they have a value.

After each year a company must surrender enough allowances to cover all its emissions, otherwise heavy fines are imposed. If a company reduces its emissions, it can keep the spare allowances to cover its future needs or else sell them to another company that is short of allowances.

Trading brings flexibility that ensures emissions are cut where it costs least to do so. A robust carbon price also promotes investment in clean, low-carbon technologies.

Key features of phase 3 (2013-2020)

The EU ETS is now in its third phase – significantly different from phases 1 and 2.

The main changes are:

- A single, EU-wide cap on emissions applies in place of the previous system of national caps;
- Auctioning is the default method for allocating allowances (instead of free allocation), and harmonised allocation rules apply to the allowances still given away for free;
- More sectors and gases included;
- 300 million allowances set aside in the New Entrants Reserve to fund the deployment of innovative renewable energy technologies and carbon capture and storage through the NER 300 programme .

Sectors and gases covered

The system covers the following sectors and gases with the focus on emissions that can be measured, reported and verified with a high level of accuracy:

- carbon dioxide (CO2) from:
    - power and heat generation;

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

  - 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 glyoxlic acids;
- perfluorocarbons (PFCs) from aluminium production;
- Participation in the EU ETS is mandatory for companies in these sectors, but in some sectors only plants above a certain size are included;
- certain small installations can be excluded if governments put in place fiscal or other measures that will cut their emissions by an equivalent amount;
- in the aviation sector, until 2016 the EU ETS applies only to flights between airports located in the European Economic Area (EEA).

Delivering emissions reductions

The EU ETS has proved that putting a price on carbon and trading in it can work. Emissions from installations in the scheme are falling as intended – by around 5% compared to the beginning of phase 3 (2013).

In 2020, emissions from sectors covered by the system will be 21% lower than in 2005.

In 2030, under the Commission's proposal, they would be 43% lower.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

IV. Highlights from the training workshop

Reference is made to Annex I for the agenda and Annex III for the presentations.

Day 1 – AFA Hotel, Pristina, 14 June

1. The workshop was opened by Mr. Bedri Halimi (Chief Inspector, Kosovo*), Ms. Florije Kqiku (ECRAN ECENA National Coordinator) and Ike van der Putte (ECRAN ECENA coordinator) starting with a short welcoming and introduction by Mr. Halimi on the work of the inspectorate and the benefits of the course in providing know-how and exchanging experience. Information on ECRAN and ECENA has subsequently been given by Mr. van der Putte including a project summary, results to be achieved, structures and planned activities. The trainers , Ms. Dubravka Pajkin Tučkar Ms. Jelena Manenica and Ms. Brigitte Mrvelj Čečatka., Ms. Sandra Pezelj Meštrić , Ms. Miljenka Klicek, Mr. Costa Stanisav, Mr. Huib van Westen and Mr. Jens Christensen were introduced. The workshop paid special attention to the application of the IRAM tool for inspection management, reporting under IED (EPER/PRTR) and the developments in inspection management in Kosovo*, and cross-cutting issues of IED and Waste, and IED and ETS. In addition the developments in implementation of SEVESO received special attention.
2. An introductory round was held among the participants with the question on the years of experience as inspectors, permit writers and policymakers/other fields. The results showed that most of participants have extensive knowledge and experience in inspection and one in permit writing. One participant was designated as a Policy maker.

	Years of experience		
	1 – 5 years	***5 – 10 years***	***More than 10 years***
Inspectors	4	3	5
Permit writers			1
Policy makers/others			1

3. Ms. Dubravka Pajkin Tučkar, Directorate for Inspection, Ministry of Environmental and Nature protection, Croatia gave a presentation on management and planning of risk based environmental inspections linked to European environmental legislation (IED and SEVESO) and the RMCEI. Specific reference is made to the application of the IRAM tool in Croatia.

   In setting up the IRAM tool in Croatia reference was made to the Industrial Emission Directive, Article 23 (2) IED 2010/75/EC: Member States shall ensure that all installations are covered by an environmental inspection plan at national, regional or local level and shall ensure that this plan is regularly reviewed and, where appropriate, updated. With Article 23 (3) stating that each environmental inspection plan shall include the following:

   a) a general assessment of relevant significant environmental issues;

   b) the geographical area covered by the inspection plan;

   c) a register of the installations covered by the plan;

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

d) procedures for drawing up programmes for routine environmental inspections pursuant to paragraph 4;

e) procedures for non-routine environmental inspections pursuant to paragraph 5;

f) where necessary, provisions on the cooperation between different inspection authorities.

Article 23 (4) states subsequently that based on the inspection plans, the competent authority shall regularly draw up programmes for routine environmental inspections, including the frequency of site visits for different types of installations.

The period between two site visits shall be based on a systematic appraisal of the environmental risks of the installations concerned and shall not exceed 1 year for installations posing the highest risks and 3 years for installations posing the lowest risks.

Within IMPEL, the IRAM tool has been developed to meet abovementioned requirements, with Croatia being active in its development by participating in the IMPEL initiative. The specific experience of Slovenia was used in setting up the IRAM system in Croatia.

Input: As input for the IRAM system the data were retrieved from the database of IED installations at the Croatian Environment Agency and the database on issued IED permits at the Croatian Ministry of Environmental and Nature Protection. In Croatia there are 178 IED Installations, 24 (upper tier) and 30 (lower tier) SEVESO installations and 267 waste management operators. SEVESO inspections are carried out without risk assessment and frequencies are applied as every year for upper tier installations and every 3 years for lower tier installations.

Impact criteria (IC) in Risk Assessment Forms in the IRAM method included:

- Emissions into the air
- Amount of hazardous and non-hazardous waste
- Risk of accidents due to hazardous substances
- Compliance with Permit conditions
- Emissions to the water
- Noise emissions
- Impact on human health and environment
- Distance to sensitive areas or objects

Operator performance criteria included:

- Compliance with permit conditions
- Attitude of the operator
- Environmental management system, ISO 14001, EMAS

Based on the input, impact criteria (IC) and operator performance criteria (OPC) applied in IRAM, the resulting inspection programme with frequencies of inspections and planned actions were described.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

This also included the resulting organizational and reporting issues for the inspectors. The presentation was finalised with an evaluation of the inspections carried out so far, including the coordinated inspections, and the future planned actions.

4. A description of the inspection system and inspection management in Kosovo* was given by Ms. Florije Kqiku (Head of Division, Inspectorate of MESP, Ministry of Environment and Spatial Planning, Kosovo*). The legal basis for the inspectorate is the Law on Inspectorate of Environment, Water , Nature, Spatial Planning and Construction - Law No. 04/L-175, 03 October 2013 and include

   - Central level inspectors - Inspectors of Inspectorate of MESP

   - Local Level Inspectors – 37 municipalities

   The division of the inspectorate of Environment, Water and Nature at the central level consist of 6 environmental inspectors, 3 water inspectors and 1 nature protection inspector. In the inspection system 1500 installations have to be controlled including 32 IPPC installations and 22 SEVESO installations. A number of 2 installations received an IPPC permit (Cement industry and Ferro nickel industry). For the inspection priorities are set, making use of

   - Registry of operators;

   - Reports of inspections performed previous year;

   - Priorities set up by the Ministry;

   - Impact and risks caused by the operators;

   An inspection plan (a framework plan based on the environmental significance of facilities) is developed for a one year period, whereas the inspection programme is developed every three months. The inspection plans and programmes are risk based with impact criteria and operator performance criteria. A first IRAM training has been received (via ECRAN and TAIEX), but further training was considered to be needed. A number of challenges were discussed considering capacity development and participation in networks. It was noted that no information has been provided by the Commission on the follow-up of the present ECRAN programme.

5. Mr. Huib van Westen (Senior- Inspector, Human Environment and Transport Inspectorate in The Netherlands) elaborated on the cross-cutting aspects of IED and Waste. Specific attention was given to:

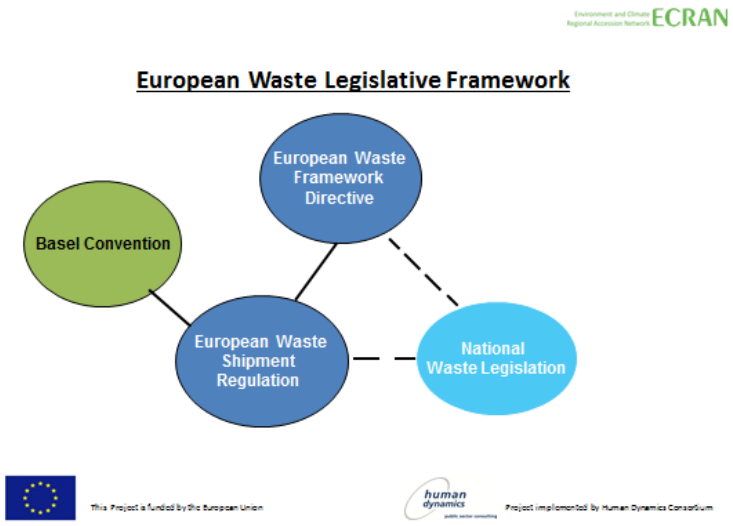
   - Waste in the IED
   - European legislative framework
   - Overview European Waste Directive
   - European Waste List
   - Overview of the Basel Convention
   - Overview of the Waste Shipment Regulation

This Project is funded by the European Union

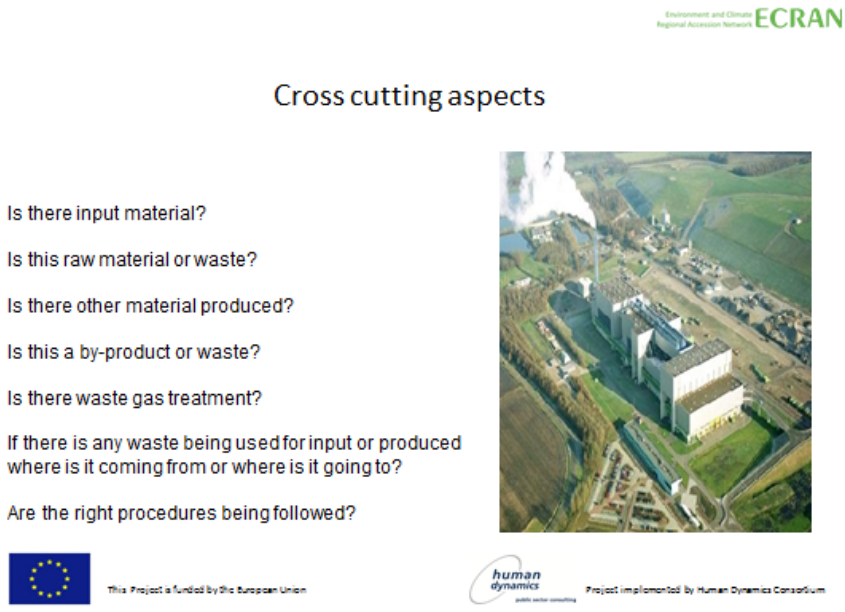
A project implemented by Human Dynamics Consortium

All articles in the IED Directive specifically mentioning waste were explained, starting with article 3 (definitions), specific obligations of the operator (article 11), permit application (article 12), BAT and permits (articles 13 and 14). Specific remarks were made on the waste treatment requirement in refineries.

An overview was given of the European Waste Legislative Framework considering the interlinkage of the national Waste legislation with The European Waste Framework Directive, the Basel Convention and the European Waste Shipment Regulation. A description was given of the European Waste List. In the latter specific attention was paid to the hazardous components with specific reference to wastes from petroleum refining (chapter 5).



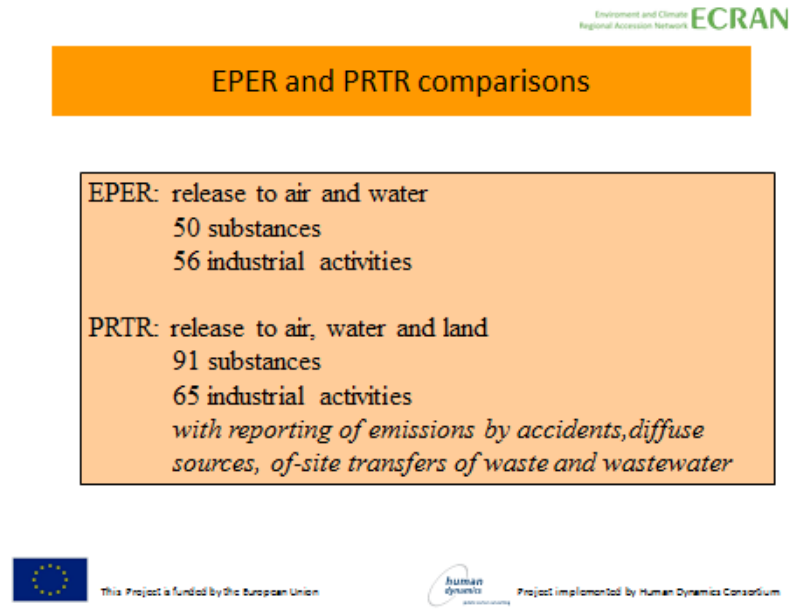
The presentation was finalised with a general checklist on waste which include the following questions considering Cross cutting aspects:



6. Mr. Ike van der Putte (ECRAN/ECENA coordinator) gave a presentation on the developments from EPER to PRTR. The European Pollutant Release and Transfer Register (E- PRTR) has been adopted on 18 January 2006 and laid down in Regulation (EC) No 166/2006. The PRTR's first edition has been published in the autumn of 2009 and includes data for the first reporting year 2007. The European PRTR implements the UNECE PRTR Protocol, which was signed in May 2003 in Kiev; it further replaced the European Pollutant Emission Register (EPER) that was based on Article 15(3) of Council Directive 96/61/EC concerning integrated pollution prevention and control (IPPC Directive). The difference of PRTR and EPER were explained, with the structure of the PRTR guideline.

   The European Pollutant Release and Transfer Register (E-PRTR) is the Europe-wide register that provides easily accessible key environmental data from industrial facilities in European Union Member States and in Iceland, Liechtenstein, Norway, Serbia and Switzerland. Since 2007, the register contains data reported annually by more than 30,000 industrial facilities covering 65 economic activities across Europe.

   For each facility, information is provided concerning the amounts of pollutant releases to air, water and land as well as off-site transfers of waste and of pollutants in waste water. Information is provided on a list of 91 key pollutants including heavy metals, pesticides, greenhouse gases and dioxins for years 2007 onwards. Some information on releases from diffuse sources is also available and will be gradually enhanced. The register contributes to transparency and public participation in environmental decision-making.



An explanation was given on the reporting information flow, on what has to be reported and how reporting is to be done. Quality assurance is essential. Operators are responsible for the quality of data (completeness, consistency and credibility), competent authorities have to assess the quality with the Commission being responsible for coordination of quality assurance and assessment, Meanwhile the Commission has delivered an appropriate validation tool

(http://www.eionet.europa.eu/schemas/eprtr/EPRTRUserManual.pdf).Examples of reporting and reporting information flow has been given.

7. Ms. Brigitte Mrvelj Čečatka and Ms. Jelena Manenica, senior environmental protection inspectors of the Ministry of Environmental and Nature Protection, Croatia, gave a presentation on IED monitoring and reporting in Croatia. The legal obligation of monitoring lies in article 14 of the IED (permit with monitoring requirements) and article 16 of the IED (specifics of monitoring). Monitoring requirements in Croatia is part of the integrated environmental permit.

   Since 2007 the Environmental Pollution Register (EPR) in Croatia contains data reported annually by ca 4800 facilities (industrial and non-industrial activities) covering 410 economic activities (more than E-PRTR) within the following 11 sectors:

   - energy (01,02,03);
   - production and processing of metals (04);
   - mineral industry (05);
   - chemical industry (06);
   - waste and waste water management (07);
   - paper and wood production and processing (08);
   - intensive livestock production and aquaculture (09);
   - animal and vegetable products from the food and beverage sector (10);
   - other activities (11).

For each facility information is provided concerning the amounts of pollutant releases to air, water and land as well as produced, collected and treated waste. Reporting thresholds are however lower than in the E-PRTR Regulation.

The EPR data have various objectives and are used for various purposes including:

- Provide governments, competent authorities, policymakers and scientists with a coherent and wide industrial release and transfers database
- Used by Fund for Environmental Protection and Energy Efficiency to calculate and charge fee for release of CO2 , SO2 and NO2
- Used for preparation of the Annual Report on the monitoring of air pollutants from stationary sources in Croatia (in accordance with the national regulations)
- Used for making a series of other reports under international treaties and EU directives - Annual report on greenhouse gas inventory , United Nations Framework Convention on Climate Change UNFCCC , Convention on Transboundary Air Pollution (CLRTAP) and accompanying protocols , Basel Convention on the control of Transboundary Movements of Hazardous Wastes and Convention on the protection and Sustainable Use of the Danube River (ICPDR)

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

- Used for other reporting obligations to EU e.g. Eionet Reporting obligations WISE - SoE Reporting: Emissions.

Croatia has reported for the first time to EPRTR over the year 2014 (to be submitted before July 2016). Public access to EPR data is available in several ways:

- Direct access via allocated User Account (cca 56770 visits/year) and 2 internet browsers, one of which is linked to E-PRTR.
- Indirect via Annual reports on EPR, form „Request for information" according to the Act on right to access information (OG 25/13), phone or e- mail (info@azo.hr and roo@azo.hr), EPR help desk (http://helpdesk.azo.hr/)

Practical case descriptions of monitoring and reporting were given.

8. Ms. Sandra Pezelj Meštrić, senior environmental inspector, Ministry of Environmental and Nature Protection, Croatia, gave an introduction on the ETS system and its developments in Croatia. In specific the following elements were discussed:

- EU ETS - basics
- Climate legislation in Croatia
- Environmental Protection Inspection (EPI) and legal basis – EU ETS
- Current practice

Croatia introduced the monitoring, verification and reporting provisions of the EU ETS in accordance to the EU ETS Directive in 2010. Installation operators were obliged to monitor and report in line with the Monitoring and Reporting Guidelines and the Directive's verification requirements. The Ordinance on monitoring, reporting and verification on greenhouse gases emissions took effect for the trading period starting on 1st January 2013 (OG 77/13). The Monitoring plan is based on an Excel template.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

In the Ministry of Environmental and Nature Protection the Climate Change Department of the MENP serves as the administrative CA; responsible for issuing permits, approving monitoring plans (MP) and enforcement. The Directorate for Inspection performs planned and requested on-site visits.

The Croatian Environment Agency serves as the technical CA and

- Provides technical assessment of MPs
- Issues opinions on their approval to the MENP
- Provides other useful information

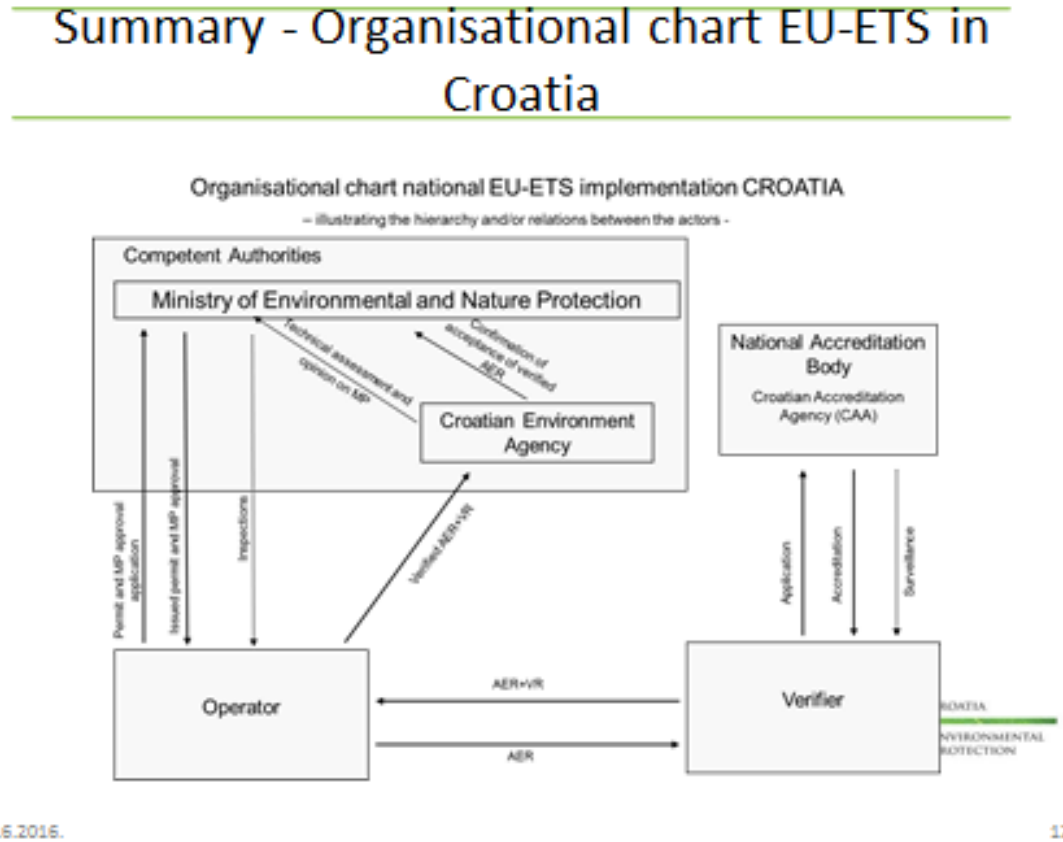
Furthermore the accreditation and verification system function in the ETS system with

1) Verifiers who issue verified AERs

2) Croatian Accreditation Agency (CAA)

- The national accreditation body for the EU ETS:
- Member of the European Cooperation of Accreditation (EA)
- Participated in the EA's peer review

With the accreditation system provided by CAA in accordance with the AVR and ISO 14065, 3 verifiers have been accredited, compared to 22 in Phase II.



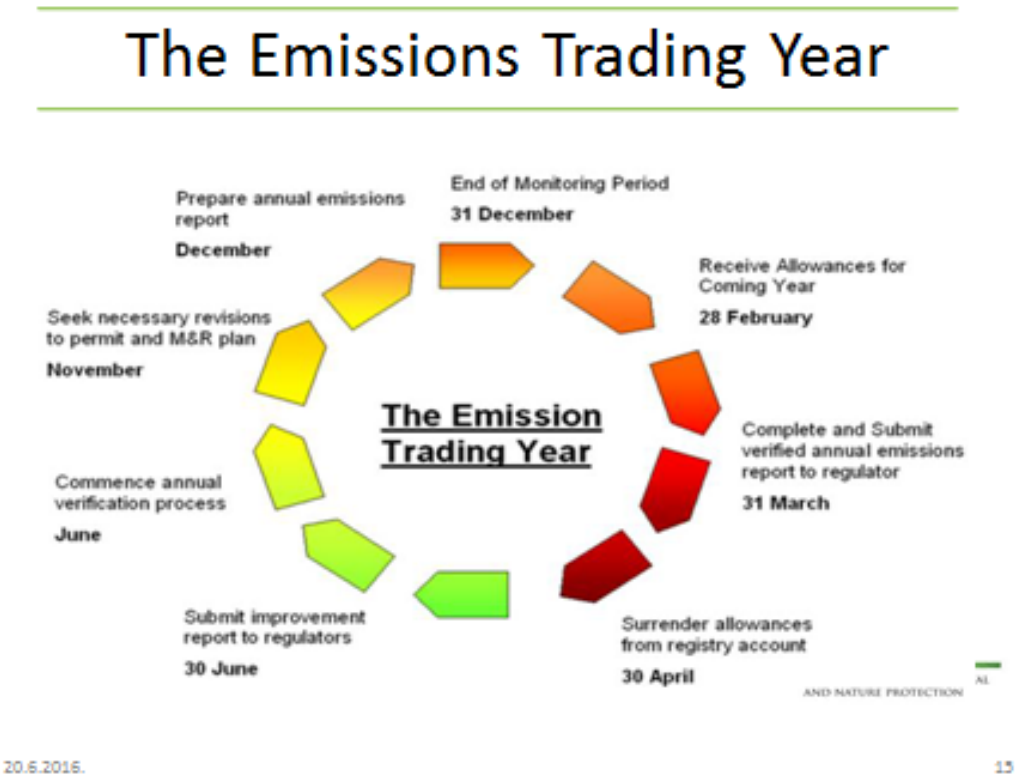
This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

Considering the EU ETS permit it is stated that

- Permit is issued to an installation or a facility
- IED ≠EU ETS permit!
- Monitoring plan is a part of EU ETS permit
- Monitoring plan based on calculations and/or measurements
- Includes emissions from energetic installations and process emissions

The Emissions Trading year consist of various activities that are described in the following overview:



The role of the Environmental Protection Inspection (EPI) in the system is described. The EPI as part of the Ministry of Environmental and Nature protection, functions with 75 inspectors in total operating through the Central office in Zagreb (Coordinated inspection coordinator) and 20 Offices within 3 Branch Units. The legal basis is Art. 224 (3) EPA (Official Gazette 80/13, 78/15).

Coordinated inspections are carried out since 2007 according to Agreement on cooperation between inspection services – installations with significant environmental impact (Annex I IE Directive). The EU ETS operators are submitted to coordinated inspections.

The ETS installations in Croatia are:

- 72 installations in total
- 59 installations since 2013 included in EU ETS – EU Emission Trading Scheme
- 13 installations excluded from trading, but have an obligation to monitor and report

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

The EU ETS Inspection started in 2013, following Phase II, with 60 on-site visits being made by inspectors. The review of operator's procedures is not covered (this is left to verifiers). In Croatia, most of ETS installations are also IED installations – one inspector covers all the topics.

The Inspector checks:

- Compliance with the permit
- Data from PRTR
- Verification of the Annual Emission Report- AER
- Reporting
- Union Registry account

Inspections also incorporate

- On site visits
- Checking Monitoring plans (all emission sources included, correct emission factors, changes in process or capacity)
- Occurrence of Planned or unexpected shutdowns
- Checking Data submissions
- Whether Accredited verifier are being used
- Whether Installation is not in use any more

The penalties include Fines of € 13,000-30,000 that can be charged to legal persons in cases where they are:

- Operating without permit
- Have failed to submit an AER
- Have not opened a registry account on time
- Have failed to submit the Monitoring Plan –MP

Considering the EU register it was explained that the Ministry of Finance functions as the national broker for emission units auctioning, whereas the Croatian Environment Agency functions as the national administrator for the Greenhouse gases register. The EU register can be looked into following: http://ec.europa.eu/environment/ets/oha.do?form=oha&languageCode=en&account.registryCodes=HR&accountHolder=&identifierInReg=&installationIdentifier=&installationName=&permitIdentifier=&mainActivityType=30&complianceStatus=-1&search=Search&searchType=oha&currentSortSettings=

9. A roundtable discussion was not held separately as on each subject and presentation a QA session was included with discussion on specific experiences in the countries.

Day 2 – AFA Hotel, Pristina, 15 June

1. In opening the second day, Mr Ike van der Putte summarized the outcomes of the workshop on the first day. The subjects to be handled on day 2 were introduced and covered SEVESO as a special subject, and introductions of the factory to be visited on day 3, introductions on BREF and BAT of the factory to be visited with planning and preparation for the site visit.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

2. Mr. Costa Stanisav, Senior environmental commissioner, Regional Commissariat Cluj-Cluj County Commissariat, Romania, presented the subject of SEVESO Inspections including the use of safety reports.

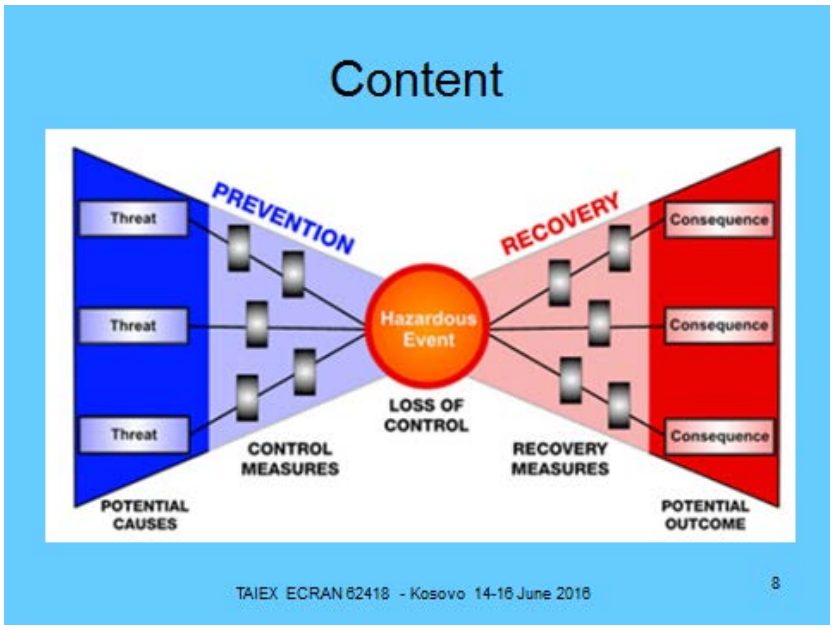
   The specific contents of the presentation included:

   - Bowtie risk evaluation and its use in Seveso installation inspection
   - Seveso inspection report pattern
   - Reporting a Seveso accident pattern
   - Recommendations &Conclusions

An Inspection Authority is not able to inspect all existing safety measures. Compliance Control usually focuses on critical safety aspects. Bowtie risk assessments can be used to identify which safety measures should be considered as critical, and thus can be used to develop inspection programs.

The Bowtie method is essentially a risk evaluation method. It can be used to analyze and demonstrate causal relationships in high risk scenarios. Bowtie diagram benefits include a number of elements:

- It gives a visual summary of all plausible accident scenarios that could evolve around a certain Hazard;
- It identifies the control measures and the Bowtie displays what a company does in control;
- It offers a visualization of interaction between the control systems and escalation factors
- It gives an overview of what activities keep a Control working and who is responsible for Control;
- Is has a highly visual and intuitive nature (understandable).



This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

The Bowtie methodology is a risk evaluation method that can be used to analyze and demonstrate causal relationships in high risk scenarios. Bowtie is less complex in comparison with Fault trees and Event trees analyses.

It uses barriers instead, making it an excellent tool for risk communication and risk based inspections.

It serves also as a communication tool for Compliance Promotion, considering the following advantages:

- The bowtie diagram is perfectly suitable for communication. The diagram is easily understandable and 'the picture paints a thousand words'.
- Inspectorates can use the diagram to communicate information to the industry. For example, in case of non-compliance, the inspectorate can use Bowtie diagrams to show the non-compliant organization which (mandatory) barriers have to be implemented or should be adjusted to achieve the level of compliance.
- Also, when new legislation comes into force, Bowtie diagrams can be used to communicate and 'promote' the new legislation, by visualizing the new mandatory safety measures

On the safety report the following critical issues were mentioned:

- **Approval criteria**: The criteria for approval are still very unclear, and it is therefore difficult both for operators and the inspectors to define what is "good enough".
- **Scenarios**: Choosing and advising on choice of scenarios is an issue where opinions vary. Should the worst cases or the most probable cases be chosen?
- **Level of risk assessment**: How much can an operator be expected to do? Can a consequence/probability matrix be demanded from the operators?

On Hazard identification and risk assessment in the safety report it is remarked that:

- Hazard identification and risk assessment appears to be among the most challenging issues both for the operators to produce and for the authorities to evaluate. This is of some concern as accurate hazard identification and consequent risk assessment and consequence modelling are the fundamental cornerstones of a safety report.
- The scenario choices and descriptions appear to be found lacking in many cases. There are large differences between countries in how many scenarios are expected to be included in the safety report, as well as how these should be presented. There is a calling for better definitions of what a scenario actually is. It appears that what can be seen as a good scenario selection in one country may not be acceptable in another.
- The need for presenting methods used and justification of methods used for hazard identification and risk assessment in the safety report have divided opinions. Whilst some saw the need for justifications and descriptions, others were less convinced of this need and suggested any methods can be used as long as these are internationally recognized. However

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

it is clear that the quality of the assessment will inevitably be dependent on the methodology used.

It is concluded that in using the safety report in inspections, these inspections should be focused on concrete examples. These should be used to go through the entire chain of hazard identification, risk assessment, scenario choices, mitigation and prevention measures, and to look for clear evidence of the risk having been taken into account in the emergency planning.

In addition, checking the linkage between maintenance, technical testing, work process and task descriptions and safety management is to be considered as being particularly relevant

The objective would be to identify effective verification measures for safety reports as verifications during the inspection are seen as impacting most on the actual safety level. The starting point should always be the actual safety level of a site, and targeted discussions on how to progress towards better standards could contribute to an improved level of safety.

The presentation was finalised with examples of inspection reports on SEVESO in Romania.

3. Ms. Miljenka Kliček, senior environmental protection inspector, Ministry for Environmental and Nature Protection, Croatia, described the SEVESO III implementation and developments in Croatia.

The historical developments in the legal obligations were described with the present obligations being (2016):

- Convention on the Transboundary Effects of Industrial Accidents (ratified 1999)
- **DIRECTIVE 2012/18/EU on the control of major-accident hazards involving dangerous substances, of 4. July 2012.**
- Environmental Protection Act (Official Gazette No. 80/13, 153/13 and 78/15)
  - Regulation on the prevention of major accidents involving dangerous substances (Official Gazette No. 44/14)
  - Ordinance on the register of installations in which dangerous substances have been identified and on the register of reported major accidents (Official Gazette No. 139/14)
  - Civil Protection Law (Official Gazette No. 82/15)

The Croatian Environment and Nature Agency is responsible for a REGISTER of installations with hazardous substances for Croatia. These comprise:

- 596 installations (in total)
- 19 installations lower tier (SEVESO)
- 20 installations upper tier (SEVESO)
- 557 installations under-tier (national)

Inspection and enforcement of these installations aim to achieve one or more of the following:

- Prevent major accidents

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

- Mitigate the consequences of major accidents
- Ensure safety of man and environment
- Return violators to compliance
- Impose a sanction to prevent future violations
- Remove economic benefit of non-compliance
- Correct company safety management system

In Croatia there is an agreement on cooperation between inspection services in the field of environment, from 5. Jun 2008. Co-ordinated inspections of IED and SEVESO installations are carried out with an Annual plan, and a report on coordinated inspection made available on the web. The environmental inspectorate play a LEADING and coordinating role in inspection and enforcement.

An example of an inspection report and an annual report were given. The discussions as held in TWG 2 (Technical Working Group 2 on SEVESO inspection) on harmonization of inspection approaches across the EU member States were described. The importance was emphasized of continuous capacity building by representation of Croatia in TWG 2 and IMPEL activities, in addition to ongoing assistance programmes.

4. Mr. Halil Berisha (Sharrcem Environmental Manager) gave an introduction on the Sharrcem cement factory to be visited on day 3 (16 June).

   Sharrcem was founded in 1936 with a factory consisting of one vertical kiln with a production capacity of 4,415 tons per year. Sharrcem was acquired by the TITAN Group in 2010, following Kosovo*'s privatisation process. It is the only cement plant in the country, located by the southern border. In 2010 it became a member of the TITAN Group and remains the leading supplier of cement in Kosovo*. Sharrcem significantly upgraded its innovations in technology for the production of raw materials and cement and initiated the application of high standards. The total amount of cement production is 517,689 tons per year and the company serves in principle the market of Kosovo* with occasional sales in FYR of Macedonia and Serbia. It is certified in ISO 18001 and ISO 14001 and has since 2014 as the first company in Kosovo*, an IPPC permit.

Technological process of cement production is performed according to the following stages:

- EXPLOITATION OF RAW MATERIAL(MARL)
- RAW MATERIAL PREPARATION AND STORAGE
- GRINDING AND RAW MILL STORAGE
- CLINKER PRODUCTION
- CEMENT GRINDING AND STORAGE
- PACKIGING AND SHIPING

Primary raw materials used for cement production in Sharrcem are marl, limestone, opalite, industrial waste as fly ash from power plants, whereas solid fuel as pet-coke and liquid heavy oil fuel is used.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

For cement production the following raw materials are used: Clinker, opalite, limestone, gypsum and fly ash. The Sharrcem plant is located closed to the Marl quarry.

Monitoring requirements are given in the Table below, with given emission limit values for 2016 and stricter emission limit values for 2022;

Monitoring & Reporting

Emission sources	Monitoring Frequency	Monitored Parameter	Monitored From
Kiln stack	Continuous (24 h/day)	NOx; SO2; Dust, CO, O2, Flow; H2O, P, T	CEMS
Cooler stack	Continuous (24 h/day)	Dust, flow , T, v	CEMS
Cement mill stack	Continuous (24 h/day)	Dust, flow , T, v	CEMS
Kiln stack	Spot measurements & plausibility checks(calibration test) Once /year	NO2; SO2; Dust; heavy metals; PCDD/PCDF; Benzene; PCBs; PAHs; HCl;HF;NH3;TOC;HCN;	Third Party Certified
Cooler stack	Spot measurements & plausibility checks (calibration test) Once/year	Dust, flow , T, v	Third Party Certified
Cement mill stack	Spot measurements & plausibility checks Once /year	Dust, flow , T, v	Third Party Certified
Ambient noise	Quarterly bases	Day and Night level (dB)	Third Party Certified
Air quality	Quarterly bases	PM 10;PM2.5; SO2 NO2, Ozone	Third Party Certified
Water withdrawal and Waste water	Monthly bases	Standard parameters for water quality	Third Party Certified

As indicated there are three emission points for which continuous monitoring is required: clinker cooler stack, cement mill stack and rotary kiln stack.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

Clinker cooler stack

❖Dust

Cement mills 1 &2 stack

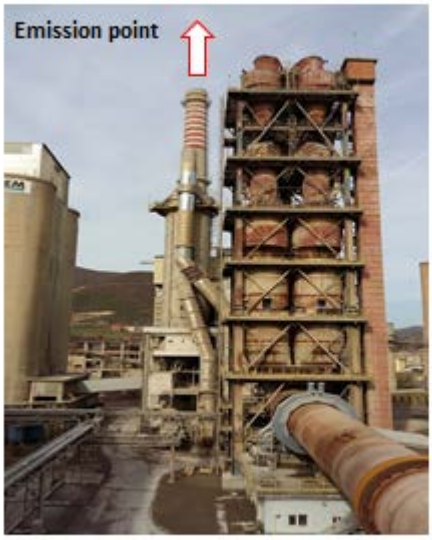
Technique for emission controll:
- Bag filters with efficiency Filter < 5mg/Nm³

Rotary kiln with two stages of preaheter

❖ **Dust**

❖ **Oxides of heavy metals :**
As, Co, Cr, Cu, Mn, Ni, Pb, V, Hg, Cd&Ti.

❖ **Gases :**
CO_2, NO_x, SO_2, NH_3, Dioxin/Furane, HF, HCl.



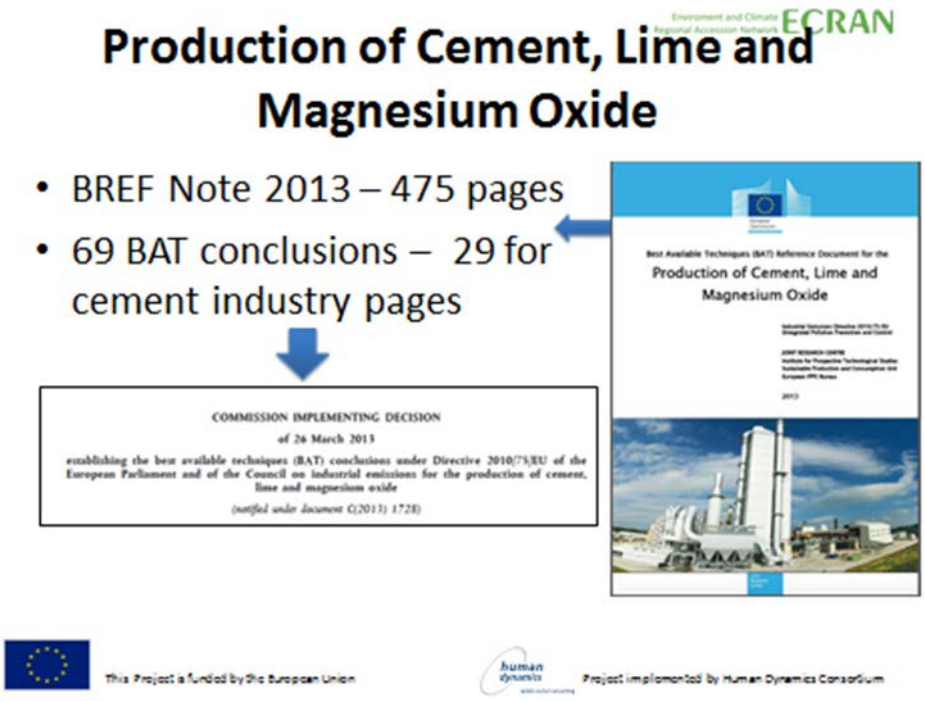
Technique for emission controll:
- Bag filters with efficiency Filter < 5mg/Nm³

A rehabilitation plan for the quarry is being carried out.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

5. Mr. Jens Christensen (ECRAN ECENA SSTE) gave an introduction to BREF and BAT of the selected industry in relation to IED/IPPC permitting and inspection and in preparing the site visit. His presentation covered the BREF note 2013 and BAT conclusions and implementing decision of 26 March 2013 on cement production. Other BREF documents are also relevant for the sector (Emissions from storage; Energy efficiency; Industrial cooling systems; Waste incineration; Large combustion plants).



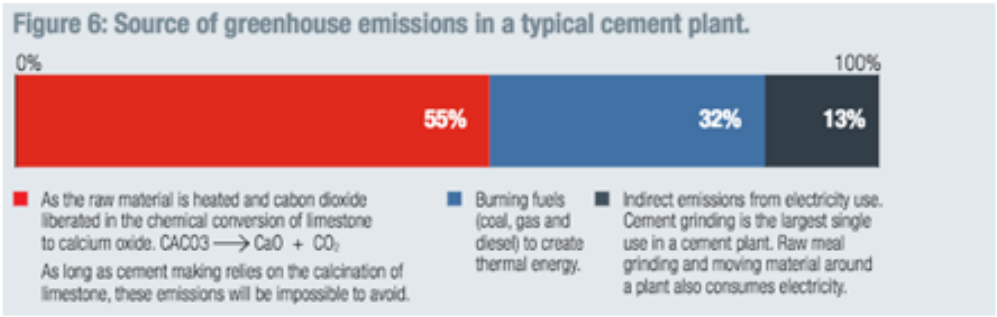
Major environmental issues for the sector are:

- Greenhouse gases
- Dust pollution
- Ecological concern arising from the degradation of mined-out areas
- Noise and transport pollution

Especially Carbon dioxide emissions and climate change is to be considered as an important issue. The concrete industry is one of two largest producers of carbon dioxide (CO2), creating up to 5% of worldwide man-made emissions of this gas, of which 50% is from the chemical process in cement production itself and 40% from burning fuel.

Enviroment and Climate Regional Accession Network ECRAN

Sources of CO_2 emission



This Project is funded by the European Union

Project implemented by Human Dynamics Consortium

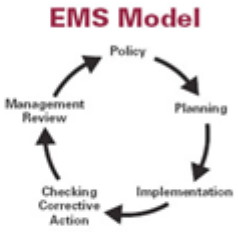
After a general presentation on the cement industry, the focus of the presentation was on the BAT conclusions in the various steps of the manufacturing process.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

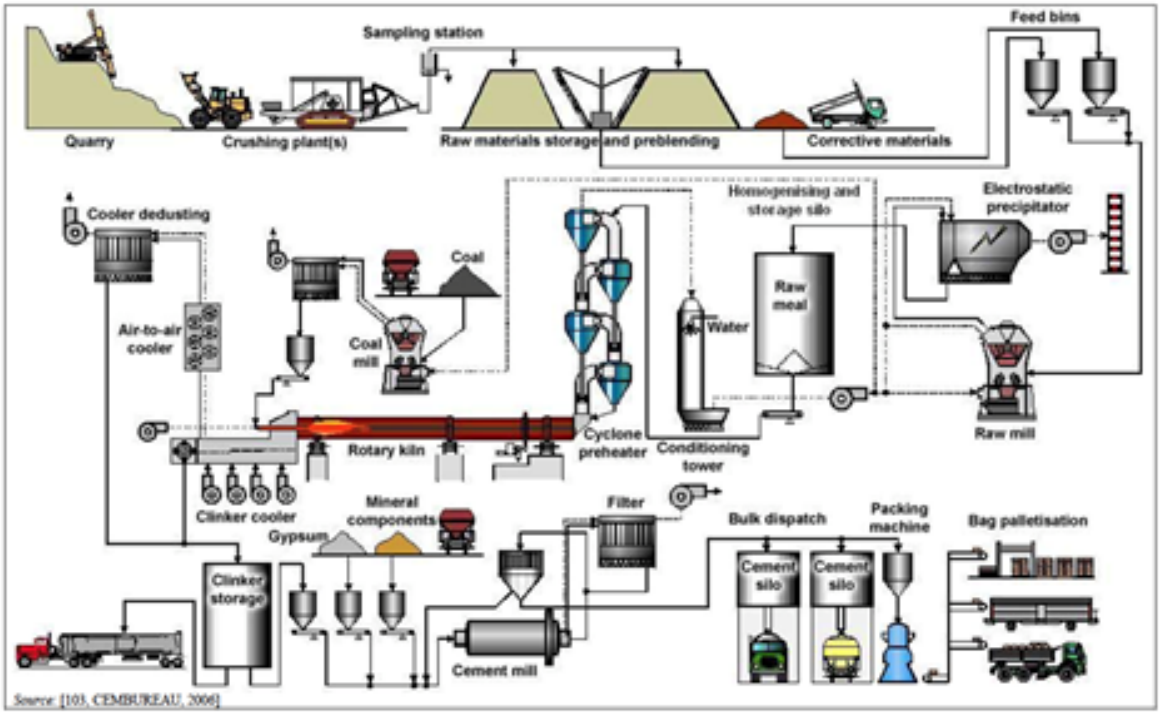
BAT conclusions – 29 articles

1 Environmental management systems (EMS)
2 Noise
3-5 General primary techniques and monitoring
6-10 Energy consumption and process selection
11-13 Use of waste
14-18 Dust
19-26 Gaseous compounds (NOx, Sox, CO, TOC, HCl HF) emissions
27-28 PCDD/F and metal emissions
29 Process losses/waste



This Project is funded by the European Union
Project implemented by Human Dynamics Consortium

Manufacturing process



This Project is funded by the European Union
A project implemented by Human Dynamics Consortium

For the group work it was decided to divide the participants in two groups, each of which had to define up to 5 questions in order to get an idea of the specific issues. Group A was assigned to analyse the energy and air issues, whereas Group B was assigned to analyse the waste and raw materials issues. The following questions were formulated;

Group A. Energy and Air

1) Which fuels are presently used and which other materials can be used as a source of fuel
2) In the presentation an increase was noticed in energy use with almost an equal amount of fuel (in kcal) in the first half of 2016 as compared to the total fuel use in 2015
3) Is air quality monitoring also performed in the neighbouring environment and are data available for the public
4) Does the company has an intention to use other sources of energy
5) Are there any plans for CO2 reduction

Group B. Waste and raw materials

1) Based on the presentation by the company the reserve of raw materials (quarry) is only 15 years. What happens afterwards?
2) Is there a plan and finance for rehabilitation of the quarry
3) Are you analysing the raw materials for heavy metals (and how to manage the emissions)
4) What residues do you have and how do you classify these (hazardous/non-hazardous)
5) How do you treat the run off waters of the site

Day 3 – Sharrcem Cement factory, Hani I Elezet, 16 June

The site visit started with an introduction by Mr. Ike van der Putte for the director and management of the factory on the purpose of the visit with a description of the background of the experts and participants. This was followed by an introductory presentation on Sharrcem by Mr. Emmanuel Mitsou, Managing Director of the company. Mr. Halil Berisha, environmental Manager of Sharrcem, assisted by the managerial and technical staff, answered and discussed the formulated questions of

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

Group A (Energy and air) and Group B (Waste and raw materials). The participants were subsequently guided through the various parts of the plant, concentrating on the cement kiln and storage of raw materials.

Q/A session:

Group A. Energy and Air

1) Q/Which fuels are presently used and which other materials can be used as a source of fuel

   A/The majority of fuels consist of pet coke (90%) and Mazut -heavy oil (1%). The latter is used for start-up operations. In the discussion it was clarified that pet coke (petroleum coke) is to be considered as a by- product from refinery processes and should not be considered as a waste. Alternative fuels (for example waste materials like used tyres) are not used yet as the legislative basis for using alternative fuels is still lacking in Kosovo*.

2) Q/In the presentation an increase was noticed in energy use with almost an equal amount of fuel (in kcal) in the first half of 2016 as compared to the total fuel use in 2015.

   A/This figure is probably due to the seasonal character as in and after summertime energy use is normally decreasing related to reduction in processing and maintenance.

3) Q/Is air quality monitoring also performed in the neighbouring environment and are data available for the public

   A/Monitoring is performed at the perimeter of the factory on a quarterly basis with reporting on an annual basis. Data are available for the public. Background data revealed that emissions from the road (traffic) is higher than that produced by the factory. This has been checked in periods when the factory is not in operation.

4) Q/Does the company has an intention to use other sources of energy

   A/Bottom ash from Large Combustion plants is already being used as an additional source of energy. Its energy content and price makes it profitable (1 EURO for 2000kcal, with 156 EURO for 8000Kcal as pet coke). For other sources see answer on question 1.

5) Q/Are there any plans for CO2 reduction

   In CO2 reduction one can think of alternative fuels (bio-waste) or alternative raw materials. For fuels see question 1). Alternative raw materials can be used to replace the traditional raw materials extracted from quarries, such as clay, shale and limestone, which are used in the kiln. Examples of alternative raw materials include contaminated soil, waste from road cleaning and other iron-, aluminium-, and silica-containing wastes, such as coal fly ash and blast furnace slag. The chemical suitability of alternative raw materials is important to ensure that they provide the necessary constituents for the formation of clinker. In Sharrrcem 70% clinker is used with 30% other materials, resulting in the best performance on this issue in the TITAN Group. Filter dust is also reused in the process.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

Group B. Waste and raw materials

1) Q/Based on the presentation by the company the reserve of raw materials (quarry) is only 15 years. What happens afterwards?

   A/This will be depending on the decisions by the Government for opening new quarries. A final option would be the import of clinker.

2) Q/Is there a plan and finance for rehabilitation of the quarry

   A/In Kosovo* the land for mining is returned to the owner after rehabilitation. A bank guarantee has been provided by the company for rehabilitation purposes. The process is under control of the mining and environmental inspectorate.

3) Q/Are you analysing the raw materials for heavy metals (and how to manage the emissions)

   A/Analyses on radioactivity and on heavy metals are made by the central Titan laboratory. Materials are discarded in case these cannot be used in the process.

4) Q/What residues do you have and how do you classify these (hazardous/non-hazardous)

   A/Wastes include domestic waste. Filter dust is reused in the process. The biggest problem is fugitive dust, which is difficult to control. For other types of waste/non-waste see previous questions.

5) Q/How do you treat the run off waters of the site

   A/These cannot be controlled. Monitoring of its quality is showing no major pollution.

In the site visit and presentations it was clear that a number of innovations have been planned to be implemented. These are reported in the in the yearly Corporate Social Responsibility and Sustainability Report (CSR). In the certification systems for example, the CO2 footprint is included based on the CO2 Management System according to the World Business Council for Sustainable Development (WBCSD) Protocol, incorporated in the EMS ISO 14001 certification. Another technological example is the innovation in a new Clinker Hall. Sharrcem has finalized a complete solution for the lasting problem of dust at the clinker storage hall. The solution provides for a tightly closed building with unmanned

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

automated operation. The cranes will be pre-programmed and, by a system which detects in precision the relief of the stored clinker stockpile- actually “reading” the surface, will move, load and unload the material for continuous feeding of the Cement Mills. In this way, there will be no dust emission from the site, while 16 positions of risky jobs will be eliminated. Sharrcem will train the current operators of the cranes for the needs of the new installation, one of the first implementations in Europe.

In finalising the site visit, Mr. Ike van der Putte thanked the management of the Company for their hospitality and openness in answering the questions and their contributions in the presentations and guidance during the visit.

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

V. Evaluation and impact achieved

Impacts achieved

The objectives of the training course include increasing the effectiveness of inspection bodies and promoting compliance with environmental requirements with capacity building and better understanding of implementation issues. An important aspect is that the target group in the courses are inspectors and permit writers to improve not only the inspection but also the permitting aspects in enforcement and compliance. As participants were from different countries in the region, exchange of experience was an inherent aspect. The contribution of the training course to the defined objectives are strongly linked to the specific outputs. The following outputs and resulting impacts can be identified.

1).Inspection management. The region is now working towards streamlined working methods in inspection management. The risk based IRAM methodology has been developed through the IMPEL network and is now being applied in an increasing number of countries including the ECRAN beneficiary countries. The course has given explanations of the IRAM methodology with the experiences in practice, not only in the existing EU member countries but also in a new member country (Croatia). Within the ECRAN beneficiary countries IRAM is now fully applied or considered to be applied in Turkey, FYR of Macedonia, Serbia, Kosovo*, Croatia and Bosnia Herzegovina. The latter country has asked for additional assistance via ECRAN/TAIEX to implement IRAM and integrating it into their specific IT systems. In an earlier stage additional assistance by ECRAN/TAIEX has been given to Serbia and Kosovo* on a national scale whereas in the ongoing sub-regional training courses the progress in IRAM implementation has been reported, with Kosovo* needing an additional course considering its development and limited staff. Enforcement and issuing of penalties was another debated subject as within the participating countries different systems are applied considering procedures for administrative penalties and starting criminal court cases. *(impact: exchange of experience, increased effectiveness of inspection bodies and harmonized approaches)*

2).IED monitoring and reporting. In the course explanations have been given on the required systems (PRTR) and the guidance tools. Emphasis was placed on public access, on electronic handling and the quality of the data. This not only refers to the quality requirements of monitoring (Accredited laboratories), but also to the validation of reported data (EC validation tool).Examples were given on the developments in Croatia *(impact: exchange of experience, compliance with requirements, capacity building and better understanding of implementation issues)*

3). IED Cross cutting issues: In earlier training courses the cross-cutting issues of IED with the water legislation (Water framework directive) and Nature legislation were explained. The ECRAN beneficiary countries were kept up to date on the newest developments via IMPEL experts and via the outcomes of the newest IMPEL activities. In the preceding training course emphasis has been given on the cross cutting issues of IED and Waste and IED and REACH/CLP. In IED/waste interactions all articles in the IED referring to waste have been explained and discussed. Examples from practice considering waste and /or by-products were given. On the IED/REACH interactions the participants were kept up to date on the analysis that have been made by IMPEL. Furthermore it was clarified that for appropriate implementation of the IED knowledge on REACH/CLP was required. The participants were informed about the recommendations by IMPEL on proposals for integration of REACH aspects into the procedure for the development of BREF documents. In the present training course also attention has

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

been given to the IED and Waste interaction and IED and ETS interaction and differences. *(impact: exchange of experience, compliance with requirements, capacity building and better understanding of implementation issues).*

4). On the special subjects a further elaboration was given on SEVESO requirements. In this course explanations were given on risk assessment and the use of safety reports for inspection of SEVESO installations. Examples were shared and provided on inspection reports for SEVESO installations (Romania and Croatia). Continuous capacity building has been mentioned to be required also for this subject as was illustrated by the description of the tools of the TWG 2 on SEVESO for Europe and on the work of IMPEL. *(impact: compliance with requirements, capacity building and better understanding of implementation issues).*

5). To increase the experience in practice, the course also included a site visit to an IED installation. In this course a cement industry has been selected (Sharrcem). Information was given to the participants on the installation with its status in IPPC permitting. Explanations were given on the BREF and BAT decisions for these type of installations. Based on the information and guiding questions that were formulated by the participants the site visit was carried out to analyse the installation considering IED and BAT requirements. The newest developments were shared by the company in environmental protection and human health protection measures even beyond those described in the BREF documents. This illustrates that participants were kept up to date of the actions taken by proactive industries. *(impact: compliance with requirements, capacity building and better understanding of implementation issues)*

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

Evaluation

The following summary of the training evaluation report, developed on the basis of analysis of the training questionnaires can be given. A number of 14 out of 14 participants filled the evaluation form. It shows that the expectations of the workshop were met.

Most of the trainees indicated that the training was of a high quality and useful. The excellent preparation and knowledge of the trainers were acknowledged. The site visit provided practical know-how and clarified a number of issues on environmental protection.

Statistical information

1.1	Workshop Session	Multi-beneficiary Capacity Building Workshop on Compliance with Environmental Legislation 14-16 June 2016, Pristina, Kosovo
1.2	Facilitators name	As per agenda
1.3	Name and Surname of Participants (evaluators) optional	As per participants' list

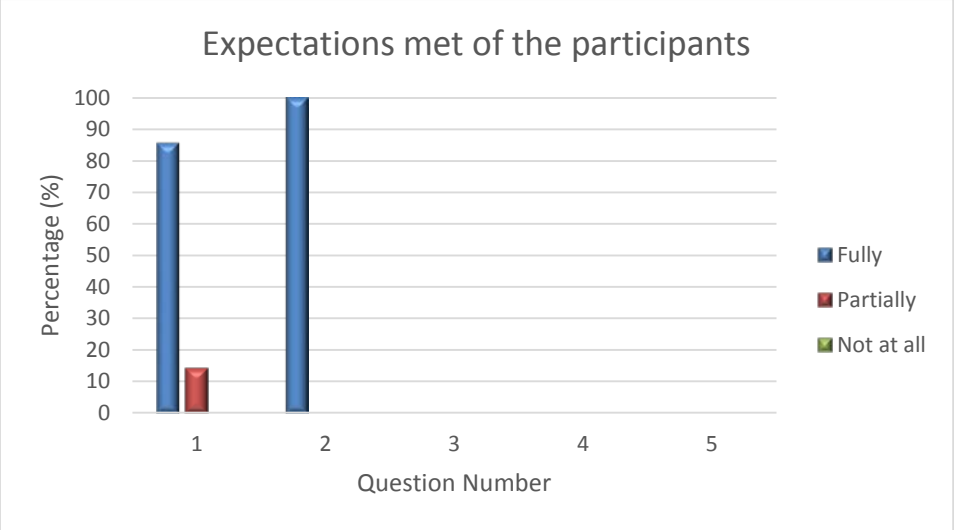
Your Expectations

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

My Expectations	My expectations were met		
	Fully	Partially	Not at all
1. Filling gaps in knowledge (several IED, Inspection, management, permitting, cross cutting issues), general and specific.	IIIII IIIII II (86%)	II (14%)	
2. Practical experience of the new Member States and Candidate Countries.	IIIII IIIII IIII (100%)		

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium



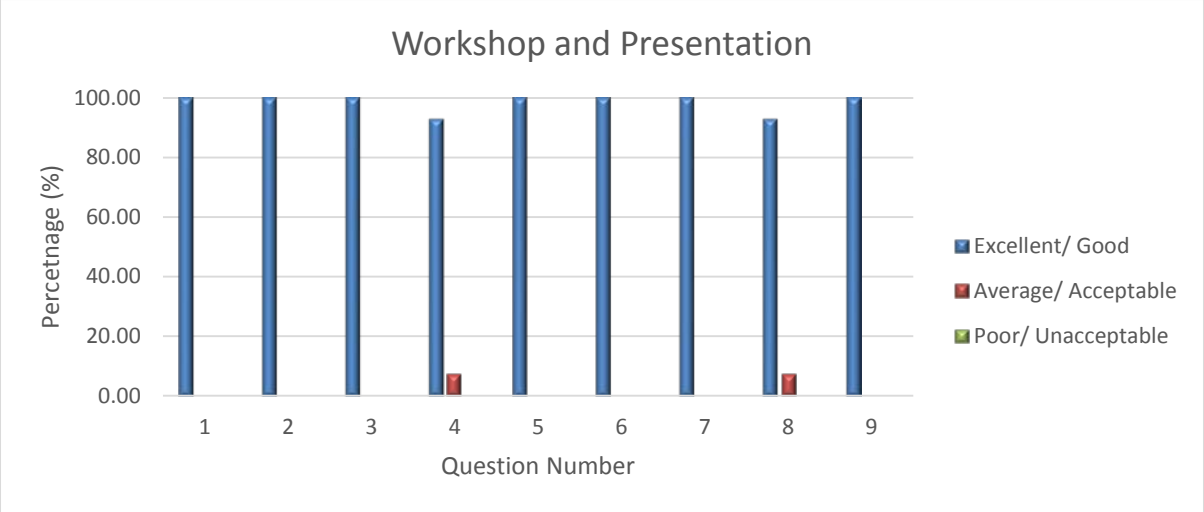
Workshop and Presentation

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

Aspect of Workshop	Excellent	Good	Average	Acceptable	Poor	Unacceptable
1. The workshop achieved the objectives set	IIIII IIIII III (93%)	I (7%)				
2. The quality of the workshop was of a high standard	IIIII IIIII III (93%)	I (7%)				
3. The content of the workshop was well suited to my level of understanding and experience	IIIII IIIII III (93%)	I (7%)				
4. The practical work was relevant and informative	IIIII IIIII III (93%)		I (7%)			
5. The workshop was interactive	IIIII IIIII III (93%)	I (7%)				
6. Facilitators were well prepared and knowledgeable on the subject matter	IIIII IIIII III (93%)	I (7%)				
7. The duration of this workshop was neither too long nor too short	IIIII IIIII II (86%)	II (14%)				
8. The logistical arrangements (venue, refreshments, equipment) were satisfactory	IIIII IIII (64%)	IIII (29%)	I (7%)			
9. Attending this workshop was time well spent	IIIII IIIII II (86%)	II (14%)				

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium



Comments and suggestions

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

Workshop Sessions:

- Very well;
- Further support is needed for candidate countries;

Facilitators:

- Very supportive discussions in workshops;
- Excellent;
- Good team

Workshop level and content:

- In some cases there were gaps in knowledge emphasizing the need for follow-up;
- Very Good;

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

ANNEX I – Agenda

Day 1: Tuesday 17 November 2015

Day I : Tuesday 12 April 2016 **Topic: Inspection Management; IPPC/IED implementation and IED cross cutting issues (waste legislation linkage)** **Co-Chairs: Mr. Ike van der Putte, Mr. Zjelko Pantelic (TBC)**				
Start	**Finish**	**Topic**	**Speaker**	**Sub topic/Content**
08.30	**08.45**	**Registration**		
08.45	09.00	Opening	Mr. Zjelko Pantelic (ECRAN ECENA National Coordinator) Ike van der Putte (ECRAN –ECENA Coordinator)	Welcome, introduction of trainers, introduction of participants
09.00	09.30	Introduction	Ike van der Putte (ECRAN –ECENA Coördinator)	Explanation of the training programme, information on ECRAN and defined ECENA activities
09.30	10.30	**Inspection Management** Framework of environmental inspections	Ms. Dubravka Pajkin Tučkar , Directorate for Inspection, Ministry of Environmental and Nature protection, Croatia	Management and planning of risk based environmental inspections linked to European environmental legislation (IED and SEVESO) and the RMCEI. Specific reference is made to the application of the IRAM tool in Croatia with practical cases
10.30	10.45	***Coffee Break***		
10.30	11.30	Experience of Host country in Inspection Management	Mr Slavida Bankovic / Ms. Olivera Topalov (Ministry of Agriculture and Environment, Serbia) TBC	Brief description of the inspection system in Serbia and its development considering inspection management
11.30	12.30	Implementation IPPC/IED	Mr. Huib van Westen (senior inspector)	A series of IED cross cutting subjects with other environmental legislation

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

		Cross cutting issues: IED interaction with other environmental legislation	Intelligence and Investigation Service Waste, Industry and Businesses (TAIEX expert) Human Environment and Transport Inspectorate, the Netherlands	will be given, including those amongst other with ambient water quality, air quality, nature, waste, chemicals and EIA. In this training session further guidance is given on IED and Waste legislation interaction (part 3) .
12.30	13.30	***Lunch Break***		
13.30	14.00	IED-Monitoring and reporting	Mr. Ike van der Putte (ECRAN-ECENA coordinator)	Introduction on further Developments regarding the implementation of the IED/IPPC requirements with specific reference to monitoring and reporting (EPER/PRTR)
14.00	15.30	IED – Monitoring and reporting	Ms. Jelena Manenica and Ms. Brigitte Mrvelj Čečatka Directorate for Inspection, Ministry of Environmental and Nature protection, Croatia (TAIEX experts)	Developments in the implementation of IED requirements in Croatia with specific reference to reporting (PRTR) and monitoring With practical cases
15.30	15.45	*Coffee break*		
15.45	16.45	Interlinkage REACH with IED	Gisela Holzgraefe (TAIEX expert) Ministry for Energy, Agriculture, Environment and Rural Areas of Land Schleswig-Holstein, Germany	- The IMPEL work is summarised on the IED/BAT/chemicals legislation interlinkages
16.45	17.15	Experience of ECENA beneficiary countries in implementation IPPC/IED/PRTR and IRAM	ECENA country representatives	Brief description of developments in beneficiary countries
17.00		Closure	Ike van der Putte (ECRAN ECENA Coordinator)	

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

			Mr. Zjelko Pantelic (ECRAN ECENA National Coordinator)	

Day 2 : Wednesday 18 November 2015

Day 2: Wednesday 18 November 2015 **Special subjects (SEVESO) and preparation for common inspection/site visit**				
Start	**Finish**	**Topic**	**Speaker**	**Sub topic/Content**
09.00	09.45	Special subject SEVESO	Costa Stanisav, Senior environmental commissioner, Regional Commissariat Cluj-Cluj County Commissariat, Romania Ike van der Putte (ECRAN ECENA Coordinator)	A strong relationship exists between the IPPC/IED installations and SEVESO installations. In a series of presentations introductions are given on the major elements of the SEVESO Directive with developments from SEVESO I to SEVESO III, Safety Report, Safety Management System, Hazard Identification, Consequence Analysis, Internal and External Emergency Plans and Land-use planning. ***In this training session further attention is paid to the Site safety report with Hazard Identification/ Scenario selection/Consequence analysis and internal/external emergency plans***
09.45	10.30	Special subject SEVESO		Case exercises
10.30	10.45			
10.45	12.30	Introductions on the factory to be visited	Invited Representative of the Factory PANCEVO refinery – Mr. Svetozar Eremic HSE manager Refining Department NIS	Presentation of the factory with permit (and conditions) Exchange of experience from other ECENA countries
12.30	13.30	***Lunch Break***		

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

13.30	15.00	Introduction to BREF and BAT of the selected industry in relation to IED/IPPC permitting and inspection and in preparing the site visit	Jens Christensen (ECRAN ECENA SSTE) Ike van der Putte (ECRAN ECENA Coordinator)	Comparison of prevailing emission and monitoring data with the information from the BREF/BAT;BAT decision documents. Practical steps for inspection and preparation for site visit
15.00	15.15	***Coffee Break***		
15.15	16.15	Planning of visits in groups with specific assignment/ Preparation for next day visit	Participants	Study in groups on the specific assignments setting up a questionnaire with questions and attention points during the site visit.
16.15	16.45	Summary of questionnaires	Participants	Brief Presentation of questionnaires/checklists
16.45		Closing Session	Ike van der Putte (ECRAN ECENA Coordinator)	

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

Day 3 : Thursday 19 November 2015

Day 3: Thursday 14 April 2016 **Visit to PILOT FACTORY – NIS Oil Refinery, Pancevo**			
8.00	9.30	**Transport from the hotel to pilot site installation**	
Visit to PILOT FACTORY All participants			
9.30	10.00	Preliminary discussion in the factory office – Speaker Moderator: Mr. Svetozar Eremic	Review documentation (monitoring data, quality checks, site plans and permits. Is necessary documentation in place. Comments and questions
10.00	10.30	Divide into groups with chairman and reporter each. Chairman has allocated specific responsibilities to each member of the group	
10.30	13.30	Site visit	Request site staff to provide guides: groups to see the entire site, but focus on areas: like handling storage, dust abatement, waste handling and filling stations, cleanliness of factory, evaluate surrounding area. Each member of the group will make their own inspection and make notes and compare results later in the group
13.30	14.30	Lunch break at the company	
14.30	15.00	General comments on site visit and any further questions	
15.00	16.30	Return to the hotel	
16.30	17.00	Visit report preparation in groups	

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

17.00	17.30	Presentation of reports by members of the group		- Conclusions of site visit - Suggested follow-up actions
17.30		***Closure***		

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

ANNEX II – Participants

Name	Surname	Institution	Country	Email
Enis	Tela	State Inspectorate of Environment and Forestry	Albania	Enis.Tela@moe.gov.al
Enver	Halipaj	State Inspectorate of Environment and Forestry	Albania	enver1halipaj@gmail.com
Kujtim	Bebja	State Inspectorate of Environment and Forestry	Albania	kujtimbebja@yahoo.com
Skënder	Hasa	State Inspectorate of Environment and Forestry	Albania	skenderhasa1953@yahoo.it
Husni	Thachi	State environmental inspectorate	former Yugoslav Republic of Macedonia	h.thaci@sei.gov.mk
Bedjet	Abazi	State environmental inspectorate	former Yugoslav Republic of Macedonia	b.abazi@sei.gov.mk
Adem	Tusha	Ministry of Environment and Spatial Planning	Kosovo*	adem.tusha@rks-gov.net
Elbasan	Shala	Ministry of Environment and Spatial Planning	Kosovo*	elbasan.shala@rks-gov.net/
Florije	Kqiku	Ministry of Environment and Spatial Planning	Kosovo*	florije.kqiku@rks-gov.net
Ismet	Dervari	Ministry of Environment and Spatial Planning	Kosovo*	ismet.dervari@rks-gov.net
Mustaf	Hyseni	Ministry of Environment and Spatial Planning	Kosovo*	mustafe.hyseni@rks-govnet
Naim	Alidemaj	Ministry of Environment and Spatial Planning	Kosovo*	naim.alidemaj@rks-gov.net
Nazmi	Maxhera	Ministry of Environment and Spatial Planning	Kosovo*	nazmi.maxhera@rks-gov.net
Safete	Kuçi	Ministry of Environment and Spatial Planning	Kosovo*	safete.kuci@rks-gov.net
Tringa	Gjikolli	Ministry of Environment and Spatial Planning	Kosovo*	tringa.gjikolli@rks-gov.net
Zelfije	Aruqaj	Ministry of Environment and Spatial Planning	Kosovo*	zelfije.aruqaj@rks-gov.net/

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

Name	Surname	Institution	Country	Email
Brigitte	Mrvelj Cecatka	Ministry of Environmental and Nature Protection	Croatia	Brigitte.mrveljcecatka@mzoip.hr
Dubravka	Pajkin Tuckar	Ministry of Environmental and Nature Protection	Croatia	Dubravka.pajkin.tukcar@mzoip.hr
Jelena	Manenica	Ministry of Environmental and Nature Protection	Croatia	Jelena.manenica@mzoip.hr
Sandra	Pezelj Mestric	Ministry of Environmental and Nature Protection	Croatia	smestric@email.t-com.net
Hubrecht	Van Westen	Ministry of Infrastructure and Environment	The Netherlands	Huib.van.westen@ilent.nl
Costa	Stanisav	Ministry of Environment and Climate Change	Romania	cstanisav@yahoo.com
Jens	Christensen	ECRAN	Denmark	jc@iml.dk
Ike	van der Putte	ECRAN	Netherlands	ike.van.der.putte@rps.nl

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium

ANNEX III – Presentations (under separate cover)

Presentations can be downloaded from:

http://www.ecranetwork.org/Files/Workshop_Presentations_Common_Inspection_June_2016_Pristina.zip

This Project is funded by the European Union

A project implemented by Human Dynamics Consortium