
Environment and Climate Regional Accession Network (ECRAN)

WORKSHOP REPORT Activity No 3.1 WORKSHOP ON REGIONAL CAPACITY FOR DEVELOPING LOW EMISSION STRATEGIES AND MODELING (LAUNCH WORKSHOP)

January 2014

ENVIRONMENTAL AND CLIMATE REGIONAL ACCESSION NETWORK - ECRAN

WORKSHOP REPORT

Activity No 3.1

**WORKSHOP ON REGIONAL CAPACITY FOR DEVELOPING LOW EMISSION
STRATEGIES AND MODELING (LAUNCH WORKSHOP)**

January /2014



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A project implemented by
Human Dynamics Consortium

Table of contents

| | |
|---|----|
| I. Background/Rationale | 4 |
| II. Objectives of the workshop..... | 7 |
| General objectives..... | 7 |
| Specific objectives | 7 |
| Results/outputs..... | 7 |
| III. EU policy and legislation covered by the workshop..... | 8 |
| 2020 Package..... | 8 |
| 2030 Framework | 8 |
| 2050 Roadmap | 9 |
| Monitoring mechanism Regulation –Reporting requirements on policies and measures and projections..... | 9 |
| UNFCCC reporting requirements on policies and measures and on projections..... | 10 |
| IV. Highlights from the workshop..... | 13 |
| V. Evaluation..... | 21 |
| ANNEX I – Agenda | 25 |
| ANNEX II – Participants | 29 |
| ANNEX III – Presentations (under separate cover) | 33 |



I. Background/Rationale

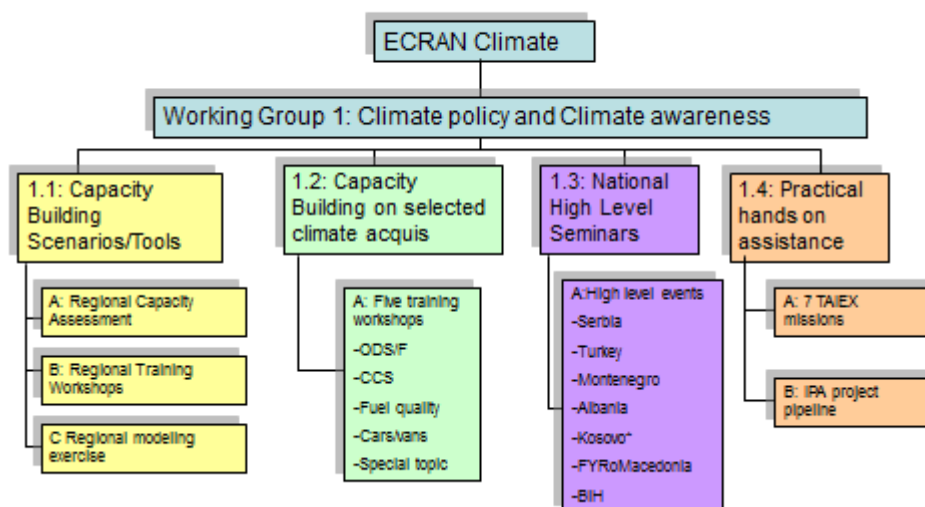
There is a need to start developing concrete climate policies based on full alignment with the EU Climate *acquis* and GHG emission reduction target setting in the ECRAN beneficiaries. At present the absence of national or regional targets and roadmaps towards implementation of these targets hamper the development of robust climate policies in the SEE region and thus low emission development along with the integration of climate policy goals into sectoral policies. ECRAN aims to provide the platform to start a regional work on this topic.

Regarding horizontal integration of climate policy, there is a need to continue to build critical mass and to expand the target group from government institutions also to actors that have a role in implementing key elements of the climate related *acquis*. These include other line Ministries, but also industry. In addition, the role of Civil Society Organisations and academia needs to be strengthened, especially in the field of climate policy related strategy development. The awareness and understanding of EU climate change laws, policies, strategies and the economic benefits associated with progressive climate policy is crucial to strengthening dialogue and cooperation on climate change between the EU and its partners.

The Workshop on ***Regional Capacity for developing low emission strategies and modelling*** has been implemented in the framework of ECRAN-CLIMA Working Group 1: Climate Policy Development and Building Climate Awareness. Under its Task 1.1 (Capacity Building on modelling, scenarios and tools), this has been the first regional event that launches a regional exercise on the development of climate policies and planning converging with the EU *acquis* in the ECRAN beneficiaries. In the framework of this Exercise the beneficiaries will be familiarised with the 2050 decarbonisation target and the draft **2030 framework** for EU Climate change and energy policies. The European Commission invites all citizens and other stakeholders from the ECRAN beneficiaries to take an active interest in the EU action in this field and to engage more actively in the ongoing discussions in the development of the 2030 Framework.

Following this Launch Workshop, ECRAN will implement the following activities until the end of 2016.

Follow-up activities for the period 2013 – 2016



Task 1.1: Capacity Building on modelling, scenarios and tools – Bottom-up approach

This task will include the following three subsequent steps

- Step 1: Regional assessment of capacities for modelling and scenario development
- Step 2: Regional Training workshops on the development of climate policies. Special attention will be paid to the models applied in the EU for climate, energy and transport policy development, also in the framework of the 2020 targets, the 2050 roadmap and the 2030 Framework.
- Step 3: Regional modelling exercise: A pilot exercise will be initiated to apply a selected model or models for trend projection, scenario construction and policy impact analysis up to the year 2030. ECRAN experts will provide hands-on assistance in developing forecasts and scenarios using the applied models. In this exercise local expert teams will be formed with the assistance of the climate focal points. The local expert teams will apply the models for analyzing emission reduction scenarios until 2030. Scenarios to be modelled:
 - Without measures;
 - With measures (EU 2020 climate-energy package related policies);
 - With additional measures (policies enabling to reach 2050 decarbonisation target).

The results will be presented in a regional workshop where the merits, strengths and weaknesses of using the models in the region will be discussed and evaluated.

Task 1.2 Capacity Building on selected climate acquis:

This task will include five regional trainings on selected EU climate acquis topics.

Task 1.3 National High Level Seminars: Building capacity on modelling and scenario work – Top-down approach

To aid the regional modelling exercise, national high level seminars will be held in the ECRAN beneficiaries based on identified priorities, needs and circumstances.

The High Level Seminars will focus on modelling and scenario work, development of national climate strategies, as well as defining GHG targets, the 2015 international climate agreement as well as the expected EU 2030 climate and energy framework.

Task 1.4 Practical hands on assistance

This task is designed to be demand driven. It will support the drafting, fine-tuning and implementation of key policy documents and legislation on low carbon development, mitigation and adaptation. Assistance will be provided for the development of IPA climate project pipeline. The objective should be to increase effectiveness, while not duplicating other initiatives.

To kick start all the above tasks of Working group 1 *this* Launch Workshop has been implemented on **23 January 2014 in Zagreb**.

The workshop has been organized in collaboration with DG Climate Action and the TAIEX unit.

The target group for the workshop was:

- ECRAN Climate focal points and government officials responsible for climate policy;



- Government officials from the ECRAN beneficiaries responsible for strategy development, planning and modelling for those in key emission sectors¹ (e.g. ministries of economy, development, transport, energy, environment; PM's office, etc.) identified in the Common Reporting Format table (UNFCCC);
- Modelling practitioners who are involved with modelling for mitigation scenarios and key sectoral scenarios.

The ECRAN beneficiaries include the Ministries of Environment of Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Iceland, Kosovo*², Montenegro, Serbia and Turkey. In addition the other ministries and other bodies and institutions will be actively engaged in so far as their work is relevant for the scope of ECRAN-CLIMA (such as in the fields of energy, transport, agriculture, economy, health, finance), environment and other agencies, statistical institutions, inspectorates, and other relevant central, regional and local public authorities working on climate issues in the beneficiary countries, environmental NGOs. Other stakeholders will be involved as appropriate.

Chapter 2 describes the objectives of the workshop and the topics addressed. Chapter 3 provides an outline of the EU Climate policy and the 2030 framework. Chapter 4 presents the workshop proceedings and Chapter 5 presents the evaluation. 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/Climate/Climate-Policy>)

¹ identified in the Common Reporting Format table (UNFCCC)

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



II. Objectives of the workshop

General objectives

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

Specific objectives

The **specific objective** of the workshop was to promote and establish an enabling environment for further development of national climate policies converging with EU climate *acquis*.

Results/outputs

The workshop targeted the following topics and results/outputs:

- The launching of the regional ECRAN exercise on modelling and climate policies and explaining the workplan ahead and expected indicators of achievement;
- Participants familiarize themselves with the EU 2030 framework for climate and energy policies and the supporting role of modelling;
- Participants get an insight of the EU Energy, Transport and GHG Emission Trends until 2050;
- An introduction to modelling for climate policy, including modelling needs on country level for climate purposes, basic types of models, choices for public administration on modelling;
- Participants learned about mitigation Scenario development and modelling in selected Member States (The Netherlands, Slovenia, Hungary);
- The workshop provided for an initial assessment of the mitigation scenario modelling capacities in the ECRAN beneficiaries, work done so far in the region, the models used and main assumptions and drivers of the scenarios in the ECRAN beneficiaries;
- The workshop discussed the strengths, weaknesses and needs in the ECRAN beneficiaries.



III. EU policy and legislation covered by the workshop

2020 Package

The climate and energy package is a set of binding legislation which aims to ensure the European Union meets its ambitious climate and energy targets for 2020. These targets, known as the "20-20-20" targets, set three key objectives for 2020:

- A 20% reduction in EU greenhouse gas emissions from 1990 levels;
- Raising the share of EU energy consumption produced from renewable resources to 20%;
- A 20% improvement in the EU's energy efficiency.

The climate and energy package comprises four pieces of complementary legislation which are intended to deliver on the 20-20-20 targets:

- Reform of the EU Emissions Trading System (EU ETS);
- National targets for non-ETS emissions;
- National renewable targets;
- Carbon capture and storage.

Energy efficiency is not addressed directly in the package. This is being done through the Energy Efficiency Directive.

2030 Framework

The 2030 policy framework for climate and energy proposed by the European Commission aims to make the European Union's economy and energy system more competitive, secure and sustainable.

While the EU is making good progress towards meeting its climate and energy targets for 2020, an integrated policy framework for the period up to 2030 is needed to ensure regulatory certainty for investors and a coordinated approach among Member States.

The framework was presented by the European Commission only one day before this workshop (on 22 January 2014) and seeks to drive continued progress towards a low-carbon economy. It aims to build a competitive and secure energy system that ensures affordable energy for all consumers, increases the security of the EU's energy supplies, reduces our dependence on energy imports and creates new opportunities for growth and jobs.

A centre piece of the framework is the target to **reduce EU domestic greenhouse gas emissions by 40% below the 1990 level by 2030**. This target will ensure that the EU is on the cost-effective track towards meeting its objective of cutting emissions by at least 80% by 2050. By setting its level of climate ambition for 2030, the EU will also be able to engage actively in the negotiations on a new international climate agreement that should take effect in 2020.⁴

³ http://ec.europa.eu/clima/policies/package/index_en.htm

⁴ http://ec.europa.eu/clima/policies/international/negotiations/future/index_en.htm



Renewable energy will play a key role in the transition towards a competitive, secure and sustainable energy system. The Commission proposes an objective of **increasing the share of renewable energy to at least 27% of the EU's energy consumption by 2030**.

Progress towards the 2020 target of improving energy efficiency by 20% is being delivered by policy measures at the EU and national levels. The **role of energy efficiency in the 2030 framework** will be further considered in a review of the Energy Efficiency Directive due to be concluded later in 2014.

To make the EU ETS more robust and effective in promoting low-carbon investment at least cost to society, the Commission proposes to establish a market stability reserve⁵ at the beginning of the next ETS trading period in 2021. The reserve would both address the surplus of emission allowances that has built up in recent years and improve the system's resilience to major shocks by automatically adjusting the supply of allowances to be auctioned.

The 2030 framework proposes a **new governance framework** based on **national plans** for competitive, secure and sustainable energy. The plans will be prepared by Member States under a common approach to ensure coherence at the EU level.

2050 Roadmap

With its Roadmap for moving to a competitive low-carbon economy in 2050, the European Commission has set out a cost-effective pathway for achieving much deeper emission cuts by the middle of the century. All major economies will need to make deep emission reductions if global warming is to be held below 2°C compared to the temperature in pre-industrial times.

The Roadmap is one of the long-term policy plans put forward under the Resource Efficient Europe flagship initiative intended to put the EU on course to using resources in a sustainable way.

The Roadmap suggests that, by 2050, the EU should cut its emissions to 80% below 1990 levels through domestic reductions alone. It sets out milestones which form a cost-effective pathway to this goal - reductions of the order of 40% by 2030 and 60% by 2040. It also shows how the main sectors responsible for Europe's emissions - power generation, industry, transport, buildings and construction, as well as agriculture - can make the transition to a low-carbon economy most cost-effectively.

Monitoring mechanism Regulation –Reporting requirements on policies and measures and projections

The new Monitoring and Mechanism Regulation⁶ enhances the current reporting rules on GHG emissions to meet requirements arising from current and future international climate agreements as well as the 2009 climate and energy package. It aims to improve the quality of data reported, help the EU and Member States keep track of progress towards meeting their emission targets for 2013-2020 and facilitate further development of the EU climate policy mix.

⁵ http://ec.europa.eu/clima/policies/ets/reform/index_en.htm

⁶ Regulation (EU) No 525/2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change



The MMR also introduces new elements, such as reporting of Member States' and the EU's low-carbon development strategies. In this context the following chapters of the new Regulation are relevant

- Chapter II (Article 4) which describes the requirements for the development of and reporting on low carbon strategies;
- Chapter V of which describes the requirements for setting up and operating national systems (article 12) that will facilitate the reporting on policies and measures (Article 13) and on projections (Article 14) of anthropogenic greenhouse gas emissions by sources and removals by sinks.

The Commission shall adopt implementing acts on the structure, format and submission process of information on national and Union systems for policies and measures and projections (Article 13 and Article 14), and in accordance with relevant decisions adopted by the bodies of the UNFCCC or the Kyoto Protocol or of agreements deriving from them or succeeding them. The Commission shall also ensure consistency with internationally agreed reporting requirements as well as the compatibility of Union and international timetables for monitoring and reporting of that information.

UNFCCC reporting requirements on policies and measures and on projections

Articles 4.1 and 12.1, of the Convention commits Parties to develop national and, where appropriate, regional programmes and measures that will result in the mitigation of human-induced climate change.

The latest UNFCCC requirements for **Annex I parties** on reporting on policies and measures (PaMs) and on projections are outlined in the UNFCCC Guidelines on reporting and review⁷. Annex I Parties shall communicate information on policies and measures adopted to implement the GHG emission reduction commitments. These need not have the limitation and reduction of GHG emissions and removals as a primary objective.

Although **Non-Annex I parties** are not required to take on emission reduction commitments, undertaking climate change mitigation and assessment could provide ancillary benefits for sustainable development, such as particulate pollution reduction, increase of technological efficiency and effectiveness, improvements in energy security, reduction in negative health impacts and road congestion, as well as increase in employment as a result of mitigation projects. Based on national circumstances, non-Annex I Parties are therefore **encouraged** to provide information on programmes, and measures, scenarios and information on the use whatever methods that are available and appropriate in order to formulate and prioritize programmes containing measures to mitigate climate change; this should be done within the framework of sustainable development objectives, which should include social, economic and environmental factors. In their assessment of these programmes on various sectors of the economy, non-Annex I Parties may use the appropriate technical resources

⁷ Link to

https://unfccc.int/files/national_reports/annex_i_natcom/_guidelines_for_ai_nat_comm/application/pdf/01_unfccc_reporting_guidelines_pg_80-100.pdf



The European Commission expects that all ECRAN beneficiaries that have committed themselves on converging with the EU Climate Acquis, will also take on board the requirements on PaMs and projections for Annex I countries (including the requirements following the revised MMR).

Parties should give priority to Policies and Measures, which are:

- the most significant in terms of their impact on GHG mitigation;
- innovative and/or effectively replicable by other Parties;
- Implemented, adopted and planned.

Reported PaMs should be:

- at national, state, provincial, regional and local levels;
- in the context of regional or international efforts;
- PaMs on international transport emissions to be reported in the transport sector;
- Parties should report on those policies and practices that lead to greater levels of GHG emissions.

The primary objective of the projections section of the national communication is to give an indication of future trends in GHG emissions and removals, given current national circumstances and implemented and adopted policies and measures, and to give an indication of the path of emissions and removals without such policies and measures. At a minimum, Parties shall report a 'with measures' projection, and may report 'without measures' and 'with additional measures' projections.

In order to improve the understanding of the potential for mitigation effort in the country, it is important to describe the technical resources used in the mitigation assessment by explaining:

- What it is/what they are;
- How and in what sectors of the economy does/do it/they apply;
- Data and/or information gaps;
- Limitations of the technical resources.

Information could include:

- Description of approaches used to conduct mitigation analysis, e.g. top-down or bottom-up;
- Description of a variety of tools/models and methods used to assess the mitigation. Models that could be used include bottom-up models and top-down models.

Baseline and mitigation scenarios and projections

Most approaches to mitigation analysis emphasize the importance of assumptions and scenario definition. In particular, the definition of the baseline scenario is of crucial importance for the results of the mitigation costing calculation.

Information provided could include the impacts of implementing mitigation strategies/options identified in relation to "baseline" or "business as-usual" baseline projections in which there are no policies in place designed to reduce GHG emissions, and the assessment of the options for allocating additional resources to mitigation policies compared to non-policy case.

Information should also be provided on the mitigation scenario(s) projection(s) used to reflect a future with climate change mitigation as a primary focus. This section could include the following information:



- Identification of mitigation options relating to the most important future sources and sinks sectors;
- Screening of mitigation options;
- Assessment of reduction potential and cost of mitigation;
- Integration of GHG reductions and costs across measures and sectors, through the construction of GHG mitigation marginal cost curves.

If a macroeconomic assessment was undertaken, information should be included on the:

- Qualitative description of main macroeconomic impacts of national climate change mitigation strategies;
- Assessment of key macroeconomic parameters.

Barriers to and opportunities for mitigation

Mitigation assessment should include information on the barriers and opportunities for implementation. It might be useful to state/identify main implementation requirements including:

- Financial support
- Assessment of technology options for the different mitigation options in various sectors
- Institutional capacity-building to sustain mitigation work
- Regulation policies
- Further improvements of the national decision framework



IV. Highlights from the workshop

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

EU Energy, Transport and GHG Emission Trends until 2050

- The currently adopted policies have significant implications towards higher efficiency and lower emissions but as the legally binding targets are defined only for 2020 and given that policies focus on 2020 with lower effects thereafter, they are not sufficient to allow achievement of climate change targets by 2050;
- There is a significant decoupling of energy consumption from GDP growth and strong energy efficiency gains in all sectors by 2020 owing to the set of policies currently adopted;
- ETS and RES policies drive significant reduction of the carbon intensity of power generation;
- RES supporting policies allow RES targets to be met by 2020 and beyond 2020 ETS and technology learning drive further penetration of RES;
- The period until 2020 involves great transitions:
 - energy savings of the order of 17% in 2020 relative to the benchmark (baseline 2007 scenario)
 - RES targets achieved (slightly overachieved)
 - GHG targets surpassed at EU level (24% decrease to 1990)
- The continuation of the ETS until 2050 and the effects of energy efficiency measures and RES policies result in emissions reduction throughout the projection period, leading to 44% GHG emissions reduction in 2050 – long-term objective for the EU requires further action, which however lags behind the 80% target for 2050;
- Energy system costs become more capital intensive over time and electricity prices increase up to 2020 followed by stabilisation in the long term;
- Import dependency remains stable until 2020 and rises only moderately thereafter thanks to RES penetration which is however not strong enough in the long term to compensate the effects of declining indigenous fossil fuel and nuclear production.

The EU 2030 framework for climate and energy policies and the supporting role of modelling



The Commission is proposing a **GHG emission reduction target of 40% compared to 1990 level by 2030.**

The proposals will set out plans for an **EU-wide RES target**, set at a cost-effective level of 27%.

A new governance system for the 2030 framework will require Member States to establish national plans for competitive, secure and sustainable energy – including the level of ambition for renewable energy.

Aim of these plans is to create more investor certainty, greater transparency, enhance coherence, EU coordination and surveillance



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Energy efficiency remains central; but next steps to be decided following Energy Efficiency Directive review in 2014.

Why is early engagement of EU Candidate Countries and Potential Candidates important

- 2030 is not far away – EU might then be larger:
 - Legal proposals expected to follow, and will once adopted become part of the acquis;
 - Importance of predictability/ investment certainty;
- An important step are analytical capacities to look into long term trends and options including engagement in EU modelling exercises:
 - Reference scenario assumptions and country results for the 2030 framework consulted with Member States
 - Candidate countries were informed, process planned to develop reference scenario for Candidate Countries too.

Looking beyond 2020 important for several reasons

- Importance of predictability and investment certainty;
- Presented post 2020 EU framework change proposals would also be relevant in enlargement process;
- EU Monitoring Mechanism Regulation requires low carbon development strategies and GHG projections for 20 years.

Need for strategic long term thinking and capacity

- Necessary first step: building analytical capacity (within administration; links research – policy – stakeholders, ...);
- MMR Art. 12: need for national systems for policies and measures and projections.

Assessing the emissions and mitigation costs implications of air pollution and greenhouse gases

- In Reference scenario air pollutant emissions decline but flatten out after 2030 (except for SO₂ and NO_x in decarbonisation case). As a result health and ecosystem impacts will be reduced;
- Decarbonisation further reduces emissions impacts (7 million life years saved; 450 deaths/yr avoided; +35-40,000km² protected against excess deposition);
- Decarbonisation avoids up to 20bln Euro/yr in air pollution control costs
- GAINS provides an integrated management approach for the European Commission: multi-pollutant/multi-effect, multiple scale, cost-effectiveness
- There is substantial scope for further emission reductions from dedicated air pollution control measures:
 - New proposal by the EC (18 December 2013): new national emission ceilings in 2030 for SO₂, NO_x, PM_{2.5}, VOC, NH₃ and CH₄
 - To be considered in the context of the new 2030 Climate Policies

Modelling at national level for climate policy

Specific model choice issues were addressed in the presentation:

- Most models could serve both purposes: general energy policy modelling and mitigation modelling;



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- But bottom-up models will more helpful in answering questions from both areas (energy policy vs. mitigation policies) and time frame (mid vs. long term);
- Macro-economic models provide framework conditions and assess distributional effects of policies.

Reference scenario setting must be closely monitored by the national authorities. The economic assumptions must be harmonised with references from big ,think tanks’: OECD, IMF...

Member State Presentations (Netherlands, Slovenia and Hungary)

The presentation of the Netherlands explained the general approach for energy and emission projections (institutional organization and models applied, projection results). The presentation of Slovenia addressed the GHG target setting in the framework of the Effort Sharing Decision, the mitigation scenario development and the scenario modelling (methodologies applied and calculations). The Hungarian presentation detailed the results of the electricity sector analysis and the heat sector analysis.

Transition to low carbon development – The case of Croatia

The presentation by the UNDP described their experiences and results of low-emission development strategy project for Croatia. A Minus 80% scenario was elaborated. The results indicated that the goals can be met by using existing and predictable new technologies, but significant changes in all sectors are needed. The instruments to achieve the goal require political will and behaviour change, whereas the required instruments will be numerous.

ECRAN beneficiaries Presentations

| Croatia | |
|------------------------|--|
| Models used | <p>BOTTOM UP</p> <ul style="list-style-type: none"> ▪ Engineering Spreadsheet System based on CRF UNFCCC structure (<i>ISPE – Integrated System for Emission Projections</i>) ▪ Detail bottom-up structure in electricity sector on plant and boiler levels, different RES technologies ▪ Available models in use (ISPE, MAED, MESSAGE, WASP, PLEXOS, COPERT, GAINS...) ▪ 5 years step estimates till 2050 ▪ LULUCF for above and below ground biomass (ARD and FM) ▪ Scenarios: <ul style="list-style-type: none"> - Without measures - With measures - With additional measures <p>TOP DOWN</p> <ul style="list-style-type: none"> ▪ Yearly update with top down approach based on GDP corrections and elasticity <ul style="list-style-type: none"> - Total Primary Energy Demand - Electricity Demands |
| Projects/policy | 1) The Framework for Low Carbon Strategy adopted as part of the <i>Plan for protection of air quality, ozone layer and mitigation of climate change of</i> |



| Croatia | |
|---|--|
| framework | <p><i>Republic of Croatia for period 2013-2016 (OG 124/13)</i></p> <ol style="list-style-type: none"> 2) The Low Carbon Strategy (including LULUCF Action Plan) 3) Reporting in the framework of the MMD/MMR and UNFCCC |
| Drivers / Main mitigation scenario assumptions | <ul style="list-style-type: none"> ▪ EU 2020 Package (non-ETS sector in Croatia + 11% versus 2005) ▪ 2030 framework ▪ 2050 roadmap |
| Capacity needs/Challenges | <ul style="list-style-type: none"> ▪ insufficient of Intersectoral cooperation ▪ Macro-economic forecasts are short term ▪ insufficient of governmental capacities for non-energy sectors driver projections ▪ LULUCF different carbon pools insufficiently complete ▪ Hydro dependant power system ▪ Electricity network capacity and power compensation reserve for integration of RES in the system ▪ Agriculture sector feasible measures and social impact analysis ▪ Improving social –economic impact assessment tools of mitigation measure ▪ CCS technology employment ▪ Fitting with EU models and assumptions ▪ Detail coverage of some PaMs (especially energy efficiency measures) ▪ Improvements in automatization of the whole system ▪ Improvements in ETS and non-ETS projections (top-down and bottom-up matching) ▪ Improving social –economic impact assessment tools of mitigation measures |

| Serbia | |
|----------------------------------|--|
| Models used | LEAP – The Long-range Energy Alternatives Planning System |
| Projects/policy framework | <ol style="list-style-type: none"> 1) Draft Energy Sector Development Strategy until 2025, with the projections until 2030 - <i>Adoption by the Parliament is pending; Government adopted</i> 2) National Renewable Energy Action Plan - <i>Energy Community Treaty obligations and EU Directive on Renewable Energy (Directive 2009/28/EC)</i> 3) 2nd National Communications (ongoing) - <i>A GHG emission abatement action plan until 2020 developed – including identifying a registry of Nationally Appropriate Mitigation Actions (NAMAs) and potential areas for carbon finance interventions. Long-term mitigation possibilities analysed and proposed</i> |
| Drivers mitigation | <ul style="list-style-type: none"> ▪ Key assumptions (demographic and macroeconomic indicators, projections on economic development) |



| Serbia | |
|----------------------------------|--|
| scenario assumptions | <ul style="list-style-type: none"> ▪ Energy needs (per sector) ▪ Energy transformations (transport, distribution, consumption etc.) ▪ Changes in supply (primary and secondary energy sources) ▪ EU Climate acquis partially considered (mainly RES and LCP Directive) |
| Capacity needs/Challenges | <ul style="list-style-type: none"> ▪ Different models used in different documents addressing mitigation & GHG reduction ▪ Lack of emission reduction calculations in certain documents with mitigation scenarios modelling ▪ Project-based preparation of documents by different institutions/contractors ▪ Lack of mainstreaming – no legal act prescribing main entity responsible for modelling on the national level ▪ Incorporation of EU climate change policies and legislation in sectoral policies; ▪ Capacity building is required |

| Former Yugoslav Republic of Macedonia | |
|---|--|
| Models used | MARKAL |
| Projects/policy framework | <ol style="list-style-type: none"> 1) To analyze the implications of energy efficiency and renewable energy sources on the national energy system development (financed by USAID) 2) In support of the preparation of Green Growth project (World Bank) 3) In support of the preparation of mitigation analyses under the Third National Communication on Climate Change (UNDP) 4) To assess the impact of the new Energy Efficiency Directive, if this is adopted by the Contracting Parties of the Energy Community (EC) |
| Drivers / Main mitigation scenario assumptions | <ul style="list-style-type: none"> ▪ EU candidate status (European Commission. Green paper, A 2030 framework for climate and energy policies. COM(2013) 169 final of 27 March, 2013) ▪ On going discussions at UN level about the future climate regime (possible quantified commitments for developing country) ▪ Carbon pricing introduced in all mitigation scenarios ▪ For scenarios modelling the following mitigation targets have been considered <ul style="list-style-type: none"> - Group 1: EU mitigation scenarios (low, medium and high) (2030, 2040 and 2050) - Group 2: QELRC mitigation scenarios (High -20% to low +20%) until 2028 - Group 3: BAU High to BAU low Baseline deviation of -10% to -20% for 2020, -15% to -30% for 2028 and -30% to -60% for 2050 |
| Capacity needs/Challenges | <p>Needs in analytical work</p> <ul style="list-style-type: none"> ▪ Refining of constraints and assumptions already introduced in the model and/or introducing new constraints and assumptions in order to improve |



Former Yugoslav Republic of Macedonia

reliability and robustness of the results.

- Estimation of job creation potential in different sectors, as well as other contributions of the mitigation technologies to sustainable development.
- Impact analyses of different policy instruments for GHG emission reduction including prioritization and policy recommendations.
- In line with the EU approach in setting the GHG emission reduction national targets, the total national emissions should be divided in ETS and non-ETS emissions and various mitigation scenarios should be developed for non-ETS emissions.
- Analyses of possible targets for GHG emission limitation/reduction in different sectors

Needs institutional/regulatory

- Institutionalized scientific support of wise policy making.

Needs awareness raising

- Raising awareness of national policy-makers from different sectors about international GHG emission reduction endeavours and particularly EU climate policy.
- Support to stakeholders' engagement and social marketing in order to facilitate participatory approach in decision-making and behavioural changes of the population.

Kosovo *

Models used None. The GAINS model, used by the European Commission in climate policy planning, and the US based International Futures considers Kosovo as part of a group together with other countries in the region, due to lack of separate historic statistical data.

Only very general observations regarding scenarios for Kosovo are possible until separate datasets are developed and entered in these models for the country

- Projects/policy framework**
- 1) National Climate Change Strategy- support UNDP and TAIEX
 - 2) Low-emission Development Strategy for Kosovo
 - 3) National Adaptation Strategy (NAS) for Kosovo
 - 4) at the level of policy-making- law drafting and implementation, from EU accession perspective,
 - 5) Preparation of GHG Inventory 2008- 2009

Drivers / Main mitigation scenario assumptions Kosovo* has formulated qualitative mitigation objectives. No quantities are mentioned at this stage.

- Kosovo* will develop the capacity to fulfil its obligations under the UNFCCC and as a member of EU.
- Kosovo will slow decrease GHG emissions through:
 - increased energy efficiency in all sectors,
 - development of renewable energy sources and



| Kosovo * | |
|----------------------------------|--|
| | - sustainable use of natural resources |
| Capacity needs/Challenges | <ul style="list-style-type: none"> ▪ Climate policy development and implementation ▪ Negotiations in UNFCC and EU ▪ Enhancing strategic planning and performance assessment capacities, at the national and sub national level for measurement and analysis of the effectiveness of mitigation measures ▪ Lack of human capacities ▪ Financing. |

| Albania | |
|---|---|
| Models used | <ul style="list-style-type: none"> ▪ Scenarios for energy & transport sectors has been done using the LEAP (Long Energy Alternative Planning) ▪ Markal Optimization Software (in evaluation of penetration rate for different technologies) and GACMO (the GHG costing tool) were used as well. |
| Projects/policy framework | 1) 2 nd National Communication |
| Drivers / Main mitigation scenario assumptions | <ul style="list-style-type: none"> ▪ Two Scenarios have been built for the GHG emissions for 5 economical sectors for the period (2000 – 2025): <ul style="list-style-type: none"> - The Baseline considers the development of the sectors without considering the climate change effects. - The Abatement Scenario considers the implementation of a set of prioritized measures, aiming to reach a reduction of GHG emissions of 48% by the year 2025 |
| Capacity needs/Challenges | ▪ TBD |

| Montenegro | |
|---|--|
| Models used | ▪ Scenarios for energy & transport sectors has been done using the LEAP (Long Energy Alternative Planning) |
| Projects/policy framework | 1) 1 st National Communication |
| Drivers / Main mitigation scenario assumptions | <ul style="list-style-type: none"> ▪ based on the High Scenario from draft Energy Development Strategy until 2030 ▪ taking into account all of its forecasts and budgets in relation to the adopted base year (2008), i.e. <ul style="list-style-type: none"> - planning of the electricity generation sector, - scenarios of consumption in all energy sub-sectors, - energy efficiency and energy savings, |



| Montenegro | |
|----------------------------------|---|
| | <ul style="list-style-type: none"> - demographic information and assessment of the GDP per capita increase. ▪ GHG abatement analysis is based on the assumptions from TNA (Technology Needs Assessment) process, while the Manufacturing Industry Development Strategy 2014-2020 is under development ▪ KAP is a major consumer of electricity and fossil fuels in the state Two Scenarios have been built: <ul style="list-style-type: none"> - KAP is operating with full installed production capacity 120.000 t casting aluminium annually - KAP is operating with reduced installed production capacity 70.000 t casting aluminium annually ▪ Agriculture Development Strategy 2014-2020 is under development. ▪ the Draft National Forestry Strategy with development plan of forests and forestry through a vision up to 2023 ▪ the Revision Study of the Strategic Master Plan for Waste Management in Montenegro and recommendations for the organization of waste management operations in the period up to 2030 |
| Capacity needs/Challenges | <ul style="list-style-type: none"> ▪ The country has not yet founded a public body in charge for mitigation analysis. ▪ Define National mitigation team for tracking preparation of Natcoms. |

Discussion, conclusions and follow-up

The workshop discussed the best way forward to address the modelling and scenario building needs in the framework of the 2015 international climate agreement as well as the expected EU 2030 climate and energy framework. In general the workshop identified three main obstacles/challenges that have been highlighted by the ECRAN beneficiaries during their presentations and the discussions:

- Weak or absent regulatory and institutional structures to allow modelling aided scenario building on a recurring basis (i.e. lack of national systems)
- Lack of (a system that is able to collect) reliable and available data that hampers reliable results from modelling aided scenario building
- There is a strong need to build more awareness of national policy-makers from different sectors on the 2015 international GHG emission reduction endeavours and in particular EU climate policy.

In most ECRAN beneficiaries there is experience in modelling aided scenario work, especially in the framework of the preparations of National Communications. However, in many cases this work has been designed and outsourced by international organisations without adequate involvement or ownership of the results by the countries. As such, the knowledge base within the administrations on modelling aided scenario work is limited.

In this context there is a need to continue to build capacity and a knowledge base on modelling aided



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scenario building in the administrations of the countries. The workshop reaffirmed the ECRAN workplan targeted at building capacity and knowledge on this subject using an approach where capacity is build from two angles.

A bottom-up training programme is required targeted at the relevant authorities/administrations. The training programme will need to be designed to achieve the following results:

- To improve the understanding and the skills within the administrations to identify the framework conditions required for modelling aided scenario work in their countries;
- To understand better how models work and how they can be used affectively as a tool to support low emission development in the countries

As indicated in the ECRAN workplan the following steps will be implemented until the end of 2015.

- Step 1: Regional assessment of capacities for modelling and scenario development and design of training programme
- Step 2: Regional Training workshops on the development of climate policies. Special attention will be paid to the models applied in the EU for climate, energy and transport policy development, also in the framework of the 2020 targets, the 2050 roadmap and the 2030 Framework.
- Step 3: Regional pilot modelling exercise for emission reduction scenarios until 2030. Scenarios to be modelled:
 - Without measures
 - With measures (EU 2020 climate-energy package related policies)
 - With additional measures (policies enabling to reach 2050 decarbonisation target)

To aid this capacity building work ECRAN will also apply a top-down approach where National (high level) seminars will be held on topics to be selected, and which are based on the priorities, needs and circumstances of each beneficiary. These events will include communication and awareness-raising on informing on the EU 2030 climate policies and the climate change impacts in the region (including the 5th IPCC Assessment Report as well as the World Bank’s “Turn down the heat” - reports).

Above two approaches should facilitate commitment and work in the countries to submit their intended 2030 GHG reduction commitments, consistent with the call from Warsaw COP 19. In addition these two approaches should allow the countries to start building their national systems to allow modelling aided scenario work and the development of low emission policies consistent with the approaches as per the EU’s Monitoring Mechanism Regulation.

V. Evaluation

Summary of the training evaluation report, developed on the basis of analysis of the training questionnaires.

Statistical Information



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| | | |
|-----|---|---|
| 1.1 | Workshop Session | Regional workshop |
| 1.2 | Facilitators name | Imre Csikós/ József Feiler / Jan Nill / Marina Elena Zampara / Fabia Wagner / Koen Smekens / Péter Kaderják / Matej Gasperic / László Szabó |
| 1.3 | Name and Surname of Participants (evaluators) | As per participants' list. |

Your Expectations

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

| My Expectations | My expectations were met | | |
|---|--------------------------|-----------|------------|
| | Fully | Partially | Not at all |
| 1. Filling gaps in knowledge | (41%) | (59%) | |
| 2. Information about and better understanding of EU Climate Policy and support by modelling | (92%) | (8%) | |
| 3. Case studies/exchange of experiences | (75%) | (25%) | |
| 4. Getting prepared for modelling supported climate policy development | (25%) | (75%) | |

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 | (54%) | (46%) | | | | |



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| | | | | |
|---|---------------------------|--------------------|------------------|-----------|
| 2 The quality of the workshop was of a high standard | IIIIII IIII IIII (58%) | IIII IIII (38%) | | I (4%) |
| 3 The content of the workshop was well suited to my level of understanding and experience | IIII IIII III (54%) | IIII III (33%) | III (13%) | |
| 4 The practical work was relevant and informative | IIII IIII I (46%) | IIII IIII (42%) | III (12%) | |
| 5 The workshop was interactive | IIII IIII IIII (58%) | IIII II (30%) | I (4%) | II (8%) |
| 6 Facilitators were well prepared and knowledgeable on the subject matter | IIII IIII IIII I (67%) | IIII III (33%) | | |
| 7 The duration of this workshop was neither too long nor too short | III (17%) | IIII IIII (37%) | IIII II (29%) | III (17%) |
| 8 The logistical arrangements (venue, refreshments, equipment) were satisfactory | IIII IIII IIII (58%) | IIII II (30%) | II (8%) | I (4%) |
| 9 Attending this workshop was time well spent | IIII IIII III (54%) | IIII IIII (42%) | I (4%) | |

Comments and suggestions

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

Workshop Sessions:

- “I suggest that in the next workshop a presentation on energy and transport will be provided. Also a focus on electricity or cogeneration by thermal power plants which combust lignite.
- “Workshop has been greatly organised, with very good content, but too much for one working day. It would be better to split this in two working days”
- “Too much information for a one-day workshop”
- “Presentations were too long and with a lot of detailed information and data. The workshop should last more than one day”
- “The facilitators/speakers should be more concise in the presentations”
- “For this material, presented for one day, I think is too much (is very intensive). It was more better to divided in two days”

Facilitators:

- “Just great”



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-
- “Very well prepared”
 - “Mr Matej Gasperic – Excellent presentation”
-

Workshop level and content:

- “High level”
 - “Workshop on Regional capacity for developing low emission strategies and modelling was of a high standard, was well suited to my level of understanding”
 - “For this volume of workshop one day is very short time”
 - “Excellent”
-



ANNEX I – Agenda

Chair: Imre Csikós

| Start | Finish | Topic | Speaker |
|--------------|--------------|---|---|
| 08:00 | 08:30 | Registration | |
| 08.30 | 08.40 | Welcome and Introduction | Imre Csikós, ECRAN |
| 08.40 | 08.50 | Presentation of TAIEX collaboration in ECRAN | Anne-Marie Banescu, TAIEX, European Commission |
| 08.50 | 09.15 | <p>ECRAN Climate</p> <ul style="list-style-type: none"> • <i>ECRAN Climate – Working Groups</i> • <i>Regional ECRAN Climate exercise of the development of climate policies</i> • <i>Sharing EU experiences on modelling and scenarios work,</i> • <i>Setting up of GHG targets – linking with the 2015 international agreement, the period until 2020, and the expected 2030 EU framework.</i> • <i>Other initiatives in the region and complementarities</i> • <i>Discussion</i> | József FEILER, ECRAN |
| 9.15 | 10.00 | <p>EU Energy, Transport and GHG Emission Trends until 2050</p> <ul style="list-style-type: none"> • <i>Reference Scenario: Assumptions and Drivers</i> • <i>Scenario calculations: methodologies applied</i> • <i>Trends until 2050:</i> <ul style="list-style-type: none"> ○ <i>Implications for the energy sector</i> ○ <i>Impacts on power generation</i> ○ <i>Impacts on primary energy supply</i> ○ <i>Impacts on emissions and RES</i> ○ <i>GHG Emission variant: Baseline with adopted measures only</i> • <i>Conclusions</i> | Marilena ZAMPARA, E³MLab, Athens |



| Start | Finish | Topic | Speaker |
|-------|--------|---|--|
| 10.00 | 10.45 | <p>The EU 2030 framework for climate and energy policies and the supporting role of modelling</p> <ul style="list-style-type: none"> • <i>20-20-20 targets. What has been achieved in terms of these targets</i> • <i>2050 Roadmap</i> • <i>Objectives and key elements of the 2030 framework</i> • <i>The role of the underpinning scenario analysis</i> • <i>Why is early engagement of the EU Accession Candidates and Potential Candidates in the discussion important</i> • <i>Discussion</i> | Jan NILL , European Commission |
| 10.45 | 11.00 | <i>Break</i> | |
| 11.00 | 11.30 | <p>Assessing the emissions and mitigation costs implications of air pollution and greenhouse gases</p> <ul style="list-style-type: none"> • <i>Implications of the reference Scenario: air pollutant emissions, environmental impacts, control costs</i> • <i>Methodologies, the online GAINS model, scenarios</i> • <i>Co-benefits of GHG mitigation: Environmental benefits, costs savings</i> | Dr Fabian Wagner, IIASA |
| 11.30 | 12.00 | <p>Support energy and climate policies – Case of the Netherlands</p> <ul style="list-style-type: none"> • <i>Dutch legislation in EU framework</i> • <i>National system for MRV for energy, GHG</i> • <i>Supporting tools for projections, ex-ante and ex-post policy evaluations</i> • <i>Decision support tools to assess additional reduction targets and abatement costs</i> | Koen Smekens, Energy research Centre of the Netherlands (ECN) |
| 12.00 | 12.30 | <p>Modelling at national level for climate policy</p> <ul style="list-style-type: none"> • <i>Modelling needs and approaches – Bottom up and top down modelling</i> | Prof. Péter Kaderják, REKK, Corvinus State University, Budapest |



| Start | Finish | Topic | Speaker |
|--------------|--------|--|--|
| | | <ul style="list-style-type: none"> • <i>Energy policy modelling and mitigation policy modelling – integrated approach?</i> • <i>Assessing co-benefits of mitigation and incorporation into decision-aid</i> | |
| 12.30 | 13.00 | Slovenia – Mitigation Scenario modelling <ul style="list-style-type: none"> • <i>GHG target setting in Slovenia in the framework of the EU Effort Sharing Decision</i> • <i>Mitigation scenario development</i> • <i>Scenario modelling: methodologies applied and calculations</i> • <i>Discussion</i> | Matej Gasperic, Ministry of Agriculture and the Environment |
| 13.00 | 14.00 | <i>LUNCH</i> | |
| 14.00 | 14.30 | Hungary – Mitigation Scenario modelling <ul style="list-style-type: none"> • <i>GHG target setting in Hungary in the framework of the EU Effort Sharing Decision</i> • <i>Mitigation scenario development</i> • <i>Scenario modelling: methodologies applied and calculations</i> • <i>Discussion</i> | László Szabó REKK, Corvinus State University, Budapest |
| 14.30 | 15.00 | Past and current projects on mitigation scenario modelling in the Western Balkans and Turkey | World Bank, UNDP and/or other IFI |
| 15.00 | 15.15 | <i>Break</i> | |
| 15.15 | 16.15 | Experience and capacities on mitigation scenario modelling in ECRAN beneficiaries <ul style="list-style-type: none"> • <i>Mitigation scenario modelling capacities (key players in the country)</i> • <i>Models used and main assumptions and drivers of the scenarios</i> • <i>Results of GHG mitigation scenario modelling (NatComs)</i> • <i>Strengths, weaknesses and needs</i> | Croatia Republic of Serbia Former Yugoslav Republic of Macedonia Kosovo* Albania Montenegro (10 – 15 minutes maximum) |



| Start | Finish | Topic | Speaker |
|--------------|--------------|---|--------------------------------------|
| | | | <i>per country)</i> |
| 16.15 | 17.00 | Discussion, conclusion and wrap up <ul style="list-style-type: none"> • <i>Next steps Capacity strengthening scenario modelling</i> • <i>Complementarities with other regional initiatives</i> • <i>ECRAN Modelling Workplan</i> | József FEILER and Imre CSIKÓS |



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ANNEX II – Participants

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|------------|-------------|--|---|--|
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ANNEX III – Presentations (under separate cover)

Presentations can be downloaded from

<http://www.ecranetwork.org/Climate/Climate-Policy>



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