

Session SECONDMA2021 (2021)

Session starts: 02-08-2021 00:00:00 [GMT+1]

Session ends: 29-10-2021 23:30:00 [GMT+1]



Exported from Session final result section

A compilation of questions to - and answers by - Croatia [exported on 30-10-2021] by the UNFCCC secretariat

Question by Canada at Tuesday, 31 August 2021

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 August

Title: Sensitivity Analysis - Demographic Trends

"In low-carbon scenarios, GDP is separated from greenhouse gas emissions and per capita emissions are falling. In the 'with additional measures' scenario, in 2030 the emission is 5.6 tCO₂e/apartment. Variations in demographic trends have a declining impact on emissions and cannot substantially change the set trends. (p.88)"

Could Croatia help explain what is meant by “variations in demographic trends has a declining impact on emissions”? This is compared to which baseline? What is the “low-carbon” scenario referred to here?

Answer by Croatia, Friday, 29 October 2021

The basic goal of the Low-Carbon Strategy is to decouple the trend of economic growth from greenhouse gas emissions. Figure below shows the GDP growth, the greenhouse gas emission curve, and the greenhouse gas emission intensity curve as a percentage of the 1995 value.

The figure shows the beginning of the decoupling of economic development from greenhouse gas emissions since 2003 (in attachment).

However, the achieved decoupling is only relative, because the reduction in emissions occurred with the fall in the GDP. Through low-carbon development, it is expected that there will be a decoupling of the GDP and emissions, i.e. there will be GDP growth, and a reduction in greenhouse gas emissions.

Low-carbon scenarios separate GDP from greenhouse gas emissions, and thus emissions per capita decrease. In the NU1 scenario in 2030 it is 5.6 t CO₂e per capita and in 2050 4.2 t CO₂e per capita. In the NU2 scenario it is 5.4 t CO₂e per capita in 2030 and in 2050 2.6 t CO₂e per capita. From that it is evident that variations in demographic trends have less and less impact on emissions and cannot significantly change the set trends.

The Republic of Croatia had a population of 4.778 million in 1990, while in 2019 it had a population of 4.076 million (a decrease of 15%). If we look at the GHG per capita indicator, emissions do not correlate with the significant population decline that has occurred. Namely, the emission in 2019 was reduced by about 27.6% compared to 1990. In addition, in 1990 the Republic of Croatia had 6.7 t CO₂e per capita, while in 2019 the indicator was 5.7 t CO₂e per capita.

Attachment: FIGURE.pdf

[Question by](#) Canada at Tuesday, 31 August 2021

[Category:](#) Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

[Type:](#) Before 31 August

[Title:](#) Historical GHG emissions in section 5

The last historical year of GHG emissions presented in section 2 is 2017 (based on NIR2019). In section 5, it is stated that "*Emission projections start from the inventory of greenhouse gas emissions (NIR 2019) which includes an inventory of emissions and sinks of greenhouse gases for the period 1990 – 2017. Reference year for projection is 2016. (p.69)*". Could Croatia explain why 2016 was selected as the reference year? Was the modelling of the projections conducted prior to the release of the 2019 inventory? Is it in reference to the EU Reference Scenario 2016?

[Answer by](#) Croatia, Thursday, 28 October 2021

The main bases used in the projection are: the Energy strategy (OG 25/20) and the draft of the Low-carbon Development Strategy of the Republic of Croatia until 2030 with a view to 2050 (in meantime Low-carbon Development Strategy was adopted, OG 63/21). At the time of making these national documents, the last available historical year of GHG emissions was 2016. Also, projections of parameters used in making projections (GDP, population) were made based on 2016. Because of that, 2016 was selected as the reference year.

There is no reference to the EU Reference Scenario 2016.

[Question by](#) United States of America at Tuesday, 31 August 2021

[Category:](#) All emissions and removals related to its quantified economy-wide emission reduction target

[Type:](#) Before 31 August

[Title:](#) Land Management Strategy

According to the BR4 projections "with existing measures" scenario, Croatia's current LULUCF sink will decrease by more than 50% by 2030. Can Croatia provide an update on the development of their land management strategy? Are additional measures planned to maintain the current sink?

In the Fourth Biennial Report of the Republic of Croatia it was stated that is necessary to develop a Land Management Strategy. In the year 2020 Croatia started three projects related to establishment of land information system (“LIFE-CROLIS”), analysis of all LULUCF land categories to consider the potential of each to reduce emissions and increase removals (“Increase removals in the LULUCF sector”) and creating detailed projections of future emissions/removals (“Capacity building for projections of GHG in the LULUCF sector”). Planning of additional measures (and improvement of existing ones) are ongoing process related to technical projects and scientific research in the LULUCF sector.

Given the high distribution of forest area (about 47%) the Republic of Croatia has no significant opportunities in afforestation activities, except on the existing unforested forest land.

Furthermore, 37% of the land is under the NATURA 2000 ecological network regime, which does not allow changing existing habitat types, which would undoubtedly occur through afforestation activities. Therefore, the total available area for afforestation in the territory of the Republic of Croatia is rather limited.

Related to above mentioned Croatia is implementing a project to define activities to increase CO₂ absorption in carbon storage.

The aim of the project is to identify and define activities at the national level in the sector of Land Use, Land Change and Forestry (LULUCF) which can contribute to the increase of sinks and reduction of greenhouse gas emissions in different carbon pools of certain land categories. The identified activities and their implementation will directly contribute to the development of the Republic of Croatia based on low levels of carbon dioxide emissions in the period until 2030 and 2050, respectively.

Question by United States of America at Tuesday, 31 August 2021

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 31 August

Title: Change in livestock diet

Can Croatia provide an update on the implementation of its mitigation measure that involves change in livestock diet and feed quality (MAG-1, p. 53)? Specifically, it would be interesting to hear about the progress and actual emissions reductions achieved through changes in livestock diet from the on-farm application of these practices. Has Croatia worked with researchers/agricultural industry to test feed additives and other changes in diet to increase

digestibility as part of implementation of this action?

[Answer by Croatia](#), Thursday, 28 October 2021

Croatia is currently running a project to improve and develop detailed Tier2/Tier3 national emission factors and parameters, including gathering detailed data on animal feeds, manure management systems and other national specific factors required for National Inventory Report of GHG. The mitigation measure is thus still in research stage and establishing baseline scenario.

[Question by United States of America](#) at Tuesday, 31 August 2021

[Category](#): Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

[Type](#): Before 31 August

[Title](#): Projection models and methods

As described in its BR4, Croatia implements unique projection models and methodologies for each sector. What are the primary advantages and lessons learned from this approach? Does this lead to any challenges in the analysis of projection results?

[Answer by Croatia](#), Thursday, 28 October 2021

The main basis for the projections and also the data for energy and transport sector presented in the BR4 is derived from the Energy strategy and for other sectors from the draft of the Low-carbon Development Strategy of the Republic of Croatia until 2030 with a view to 2050.

In the initial step, projections of macroeconomic and other budget parameters were made. Possible measures, technical and non-technical, were then defined. The measures determine the costs and their impact on the economy and the environment. Based on the criteria of cost efficiency, contribution to economic development and competitiveness, scenarios were formed, which are combinations of different measures.

A number of scenarios were analysed, numerous models for simulations and optimization were applied, and an integrated model for national greenhouse gas projections was developed. This integrated model is used LEAP (the Long-Range Energy Alternatives

Planning System) software package as a framework for the integration of the sectorial projection. The added value is that this integrated model also allows for the planning of scenarios for other pollutants, for harmonization of targets under the obligations of the UNFCCC and the Convention on Long-Range Transboundary Air Pollution (LRTAP). The model outputs are automatically adjusted according to the structure of the emission inventory under the UNFCCC.

For non-energy sectors models derived from the spreadsheet calculation interface was used to create the projections. The models are structured according to the table structure of the UNFCCC's emission inventory. It is an engineering simulation model. The models are detailed, down to the level of individual sources, existing and future.

Projections are being made by 2030, indicative by 2050, in five years increments. The model is a 'bottom-up' type since it starts from sectoral data and individual emission sources.

Greenhouse gas emissions and projections are reported in accordance with the methodology from the 2006 Intergovernmental Panel on Climate Change (IPCC 2006) guidelines and the corresponding greenhouse potential factors for calculating CO2 equivalents.

As described earlier, a few of models are used in modelling, bottom-up models. As a weakness of this approach is that this approach needs considerable resources (time, staff and budget) for an individual scenario.

In modelling a few weaknesses of used models were observed:

- The structure of some models is very complex, which may make interpretation of the modelling output difficult.
- It is very demanding to fill in the necessary data, because a large amount of input data is required. Because of that time to establish the model can be long.

Question by United States of America at Tuesday, 31 August 2021

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 August

Title: Energy Union

Could you explain the Energy Union, its purpose, and how it was developed?

Answer by Croatia, Thursday, 28 October 2021

The European Commission launched in February 2015 a new strategy for a resilient Energy Union with a forward-looking climate change policy.

The goal of the Energy Union is to give EU consumers - households and businesses - secure, sustainable, competitive and affordable energy. Achieving this goal will require a fundamental transformation of Europe's energy system.

The Energy Union Strategy is made up of five closely interrelated and mutually reinforcing dimensions, designed to bring greater energy security, sustainability and competitiveness.

Energy Union is common EU energy policy based on on five pillars:

- Security, solidarity and trust - diversifying Europe's sources of energy and ensuring energy security through solidarity and cooperation between EU countries
- A fully integrated internal energy market - enabling the free flow of energy through the EU through adequate infrastructure and without technical or regulatory barriers
- Energy efficiency - improved energy efficiency will reduce dependence on energy imports, lower emissions, and drive jobs and growth
- Decarbonisation of economy (climate actions) - the EU is committed to a quick ratification of the Paris Agreement and to retaining its leadership in the area of renewable energy
- Research, innovation and competitiveness - supporting breakthroughs in low-carbon and clean energy technologies by prioritising research and innovation to drive the energy transition and improve competitiveness.

Purpose of Energy union is to give EU consumers (households and businesses) secure, sustainable, competitive and affordable energy.

To fulfil that main goal, purpose of energy union is to decrease dependence of imported energy and to decarbonize all sectors and make new opportunity for businesses and researcher institutions.

In 2019, Energy union is upgraded after Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action was adopted. EU goals for CO₂ savings, interconnections of electricity, renewable energy in final consumption and energy efficiency was set up and every member state was obliged to prepare National Energy and Climate

Plans for ten years period (2021. – 2030.). Plan must contain national goals for CO₂ savings, interconnections of electricity, renewable energy in final consumption and energy efficiency and proposed measures that will help member state to reach those goals.

To secure that process new legislation was adopted and after “Fit for 55” it can be expected that all goals will be increased and that amendments of NECP will be done.

Question by United States of America at Tuesday, 31 August 2021

Category: Progress towards the achievement of its quantified economy-wide emission reduction target

Type: Before 31 August

Title: Lessons Learned: Low-Carbon Development Strategy

Could you outline the lessons learned in preparing the Low-Carbon Development Strategy until 2030 with a view to 2050 and the Energy Strategy? Did it follow the expected development, adoption, and implementation timeline imagined? Why or why not?

Answer by Croatia, Thursday, 28 October 2021

The Low-Carbon Strategy was developed in an inclusive and transparent manner involving a number of stakeholders from all major groups, in four steps.

The first step began in 2012 through the Low Emission Development Strategies (LEDS) Project of the Ministry of Environmental and Nature Protection, in partnership with the United Nations Development Programme (UNDP). With this project, in a series of sectoral workshops, the Framework for the Drafting of the Low-Carbon Development Strategy of the Republic of Croatia (LEDS) was prepared.

In the second step, from 2014 to 2015, with the participation of many institutions, expert basic documents were prepared, which resulted in a Green Paper (detailed technical analyses of goals, measures, scenarios and impacts) and a White Paper (Draft Low-Carbon Strategy). During the preparation of the expert basic documents, a series of sectoral workshops and public presentations were held, in order to involve the expert and interested public in the preparation of the expert basic documents. The process of strategic environmental impact assessment with the main assessment of acceptability for the ecological network was initiated.

In the third step, from 2016 to 2017, new calculations and amendments to the low-carbon

scenarios were carried out. The reason for this were changes in the historical data set, changes in fuel prices and technologies, and new assumptions in development policies. In consultation with the relevant ministries, a second revision of the White Paper was carried out, i.e. the Draft Low-Carbon Development Strategy. The process of the strategic environmental assessment with the main assessment of acceptability for the ecological network was continued, and a public consultation on the Draft Low-Carbon Development Strategy and the Strategic Environmental Impact Study of the Low-Carbon Development Strategy was conducted.

In the fourth step, from 2019 to 2020, amendments to the White Paper were carried out. Namely, the Energy Development Strategy of the Republic of Croatia until 2030 with a view to 2050 was also developed at the time as well as the Integrated National Energy and Climate Plan for the period from 2021 to 2030, and in coordination and through an iterative approach, consistent targets for reducing greenhouse gas emissions in the energy sectors have been set. At the same time, the reference and low-carbon scenarios of the non-energy sector (industrial processes and product use, agriculture, waste, land use, land-use change and forestry - LULUCF) were updated.

New Croatian Energy Strategy till 2030 with view till 2050 was adopted by Croatian Parliament in February 2020. Document boosts renewable energy sources and propose CO2 reduction and it is in line with new EU climate policy and idea that till 2050 Europe will be first decarbonized continent.

For new energy strategy set of analytical documents was prepared (Green and White Book).

Timeline for preparation and adoption of new strategy was pretty tight but reasonable.

Although new strategy is strongly in line with new EU clean energy policy some deep changes that occurred in last two years in Europe shows that strategic planning need to be open for new ideas and technologies and that any kind of strategic document must not be taken rigidly.

We also learned that stakeholder need to be involved in whole process of preparation of strategy to provide the best possible result.

[Question by](#) United Kingdom of Great Britain and Northern Ireland at Tuesday, 31 August 2021

[Category:](#) Progress towards the achievement of its quantified economy-wide emission reduction target

[Type:](#) Before 31 August

[Title:](#) Low Carbon Development Strategy

We thank the Republic of Croatia for the opportunity to comment on the Fourth Biennial

Report. We note that at the time of the publication of the Fourth Biennial Report, the Republic of Croatia was in the process of adopting a Low Carbon Development Strategy. Could you provide an update on this strategy?

[Answer by Croatia](#), Thursday, 28 October 2021

Low-carbon development strategy of the Republic of Croatia until 2030 with a view to 2050 has been adopted in 2021 (OG 63/21).

[Question by Japan](#) at Monday, 30 August 2021

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 August

Title: A measure using forest reference level

A measure of "Carbon accumulation on areas of existing forests (MLF-2)" is explained as incentivizing carbon accumulation exceeded the pre-determined reference levels. In terms of introducing this type of measure, how has Croatia ensured maintaining appropriate level of wood harvesting volume through forest management as harvesting itself leads to a reduction of on-site carbon stocks?

[Answer by Croatia](#), Thursday, 28 October 2021

Croatia has developed Forest management plan for period 2016-2025. There is prescribed harvesting volume for each management unit by tree species. History shows that deviations between real and planned wood removals varies +/-10%. Also, there are organized forestry inspectorate organized at national level that controls forestry management in the field.

[Question by Japan](#) at Monday, 30 August 2021

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 August

Title: Policy and measures in the LULUCF sector

The BR4 contains more and comprehensive menu of the LULUCF policy and measures comparing with those in the BR3. How has Croatia involved the relevant stakeholders in relation to the new policy and measures into climate-change contexts?

Answer by Croatia, Friday, 29 October 2021

In the LULUCF sector in Croatia, stakeholders are included into past and ongoing national LULUCF projects: "Improving Croatian reporting in the Land use, Land use change and Forestry sector (LULUCF) in the First commitment period of the Kyoto Protocol" (abbreviated: LULUCF 1), "Upgrading the Croatian National System for the reporting of greenhouse gas emissions for the implementation of the Decision No 529/2013/EU of the European Parliament and of the Council of 21 May 2013 on accounting rules on greenhouse gas emissions and removals resulting from activities relating to land use, land-use change and forestry and on information concerning actions relating to those activities" (abbreviated: LULUCF 2), Defining preconditions for applying IPCC higher Tiers in the estimation of GHG removals/emissions in Land use, land use change and forestry sector (LULUCF 3)", **CRO**atian **L**and **I**nformation **S**ystem – LIFE CROLIS.

Relevant stakeholders have been informed and consulted through many workshops, meetings and seminars. Some of the main stakeholders were Ministry of Agriculture (different Directorates), Croatian Forests Ltd, State Geodetic Administration, Paying Agency for Agriculture, Fisheries and Rural Development, Faculty of Forestry and Wood Technology, Croatian Forest Research Institute etc.

Question by New Zealand at Friday, 27 August 2021

Category: Assumptions, conditions and methodologies related to the attainment of its quantified economy-wide emission reduction target

Type: Before 31 August

Title: LULUCF

1. Does Croatia have a research plan for the LULUCF sector?
2. Does Croatia have any priority areas for research on LULUCF?
3. How will Croatia quantify additionality (i.e., removals from forests over and above the forest reference level)?

1. Croatia has research plan for LULUCF sector. Annual plans related to LULUCF are developed by Ministry of Economy and Sustainable Development and Ministry of Agriculture. Croatian Forest Research Institut and Faculty of Forestry and Wood Technology are also included. Additionally, relevant research institutions are included to take care on LULUCF needs and national obligations when applying for international calls.
2. Priority areas for LULUCF research in Croatia is defined on the basis of the international obligations, NIR reviews (ERT), key source analysis, sensitivity and uncertainty analysis.
3. Croatia is in the process of improvement of its capability for quantification additional removals of GHGs. Project on "Capacity building for projections of GHG emissions and removals in Croatia" is going on. The project started in June this year, it is planned for 2 years, and within this project Croatia should strengthen its' capacities. The main goal of the project is establishment of national basis for decision making, planning and adoption of policies and measures, both at the national and international level, raising the quality in fulfilment of international obligations. This will be achieved by improving the estimation of emissions/removals and projections modelling in the LULUCF, in accordance with binding legal acts and existing methodology. Improvements in capacity will help Croatian for strategic planning during the adoption of new regulations at the international and EU level, regarding the increase of the EU's ambition within the framework of the "Paris Agreement", "Green Deal" and "Fit for 55".

Question by New Zealand at Friday, 27 August 2021

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 31 August

Title: Agriculture:

1. Section 4.3.4 of the BR4 outlines the expected effects from implementing measures relating to agricultural greenhouse gases but does not quantify reductions for Croatia from each measure. Can Croatia provide more information on the measures successfully implemented in the agricultural sector, and the associated reductions?
2. Noting many of the agriculture mitigation actions described are information and education instruments, does Croatia have any indicative estimates of the effect of these initiatives on agriculture emissions?
3. Is Croatia considering any regulatory instruments for agriculture emissions?
4. Does Croatia have any sector-specific reduction targets or ambitions relating to

agriculture or agricultural greenhouse gases (biogenic methane and nitrous oxide), in addition to or under the EU-wide reduction targets?

[Answer by Croatia](#), Thursday, 28 October 2021

Due to the difficulty of achieving significant reduction in the agriculture sector, the policy for mitigation of emissions in the agricultural sector relies on a multipronged and iterative approach: research, education, technical measures and possible introduction of regulatory instruments and incentives (through Rural development programme etc).

The Low-Carbon Development strategy of the Republic of Croatia until 2030 with a view to 2050 envisages a reduction of emissions from the 1990 level under several scenarios. Of the more than a dozen measures in the agriculture that passed the initial screening and are proposed, it is quite possible that not all be viable following the detailed research phase.

Estimates of the emission reductions were thus kept quite conservative – ie. introduction of food supplements may have a higher impact on total emissions from cattle.

Most of the mitigation measures are still in research/valorisation phase and improving on baseline scenario: ie., Croatia is currently running a project to improve and develop detailed Tier2/Tier3 national emission factors and parameters, including gathering detailed data on animal feeds, manure management systems and other national specific factors required for National Inventory Report of GHG.

Based on the Strategy, the development of an Action Plan for the implementation of the Strategy for a five-year period is underway. It will take into account measures to achieve greater emission reductions by 2030, and will define sources of funding and the deadlines for the implementation of the measures.

[Question by New Zealand](#) at Friday, 27 August 2021

Category: All emissions and removals related to its quantified economy-wide emission reduction target

Type: Before 31 August

Title: LULUCF

1. Could Croatia please provide more information about specific policies and measures to promote carbon storage in existing forests?
2. Could Croatia please provide more information about the specific policies and measures used to promote the use of harvested wood products and increase stocks in this pool?

[Answer by Croatia](#), Thursday, 28 October 2021

1. The most important activities to promote carbon storage in existing forests is within the ongoing project “Conducting analysis to determine the possibility of increasing removals by sinks and reducing emissions in LULUCF sector”. The project started in 2021, and analyses of all sectorial subcategories and pools will be performed. On that basis future activities in the LULUCF sector will be planned and carried out.
2. The most important activities to promote carbon storage in harvested wood products pool will be determined within project on Harvested wood product pool. The project is planned to be implemented by Ministry of Economy and Sustainable Development.

Session SECONDMA2021 (2021)

Session closes at 29-10-2021

UNFCCC - LAST PAGE OF EXPORT