

FACILITATIVE SHARING OF VIEWS – BOSNIA AND HERZEGOVINA

3 December 2018

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Presentation outline

Part I: Summary of BUR and recent development

- ❖ National context
- ❖ GHG inventory
- ❖ Mitigation actions and effect
- ❖ Barriers and support needed and received

Part II: Experience and lessons learned in participating in the ICA process

- ❖ Has participation in the ICA process raised the profile of climate actions at the domestic level?
- ❖ Has the BUR preparation enhanced domestic coordination/ domestic MRV in providing climate related information? If so, how?
- ❖ What's the value addition of the technical analysis of BURs by the team of technical experts?
- ❖ Has the ICA process supported the country to identify capacity building needs?
- ❖ Did the technical analysis supported the country to facilitate its reporting?

Part III: Response to questions received

Part I: Summary of BUR and recent development

National context

Institutional arrangements

BiH has prepared and submitted three national communications and two biennial update reports as follows:

- ❖ FNC 1990, adopted in 2010,
- ❖ SNC 1991-2001, adopted in 2013,
- ❖ FBUR 2010-2011, adopted in 2015,
- ❖ TNC and SBUR , 2002-2009, 2012,2013, 2014, adopted in 2017

BUR preparation:

The project “Bosnia and Herzegovina’s Third National Communication under the UNFCCC” was developed and implemented by UNDP in B&H in partnership with Ministry for Spatial Planning, Construction and Ecology of Republic of Srpska as focal point institution for the UNFCCC convention.

National context

Institutional arrangements

The Project engaged 48 local experts, most of them employed by relevant public institutions in Bosnia and Herzegovina:

- ❖ Hydrometeorological institutes (listed as authors of TNC and SBUR)
- ❖ Statistical offices
- ❖ Faculties of mechanical engineering and faculties of natural science
- ❖ Power utilities of RS and B&H
- ❖ Individual experts

Bosnia and Herzegovina adopted SBUR by the Council of Ministers of Bosnia and Herzegovina on 23.05.2017 and submitted its second BUR on 13 June 2017.

National context

National circumstances

- ❖ BIH decentralized country

On climate change the corresponding authorities at the level of entities and Brčko District are as follows:

- ❖ Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (MOFTER) - coordinating activities and for international relations
- ❖ Ministry of Environment and Tourism of Federation of B&H
- ❖ Ministry of Spatial Planning, Civil Engineering and Ecology of Republic of Srpska (UNFCCC National Focal Point),
- ❖ Department for Communal Works of Brčko District (BD).

GHG inventory

Guideline

UNFCCC biennial update reporting guidelines for Parties not included in Annex I to the Convention pursuant to CP Decision 17 (2/CP.17, Annex III, section 3).

- ❖ GHG inventory
- ❖ Mitigation actions
- ❖ Monitoring, reporting, verification process

GHG Inventory

Methodology

- ❖ Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories
- ❖ Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories and Good Practice Guidance for LULUCF
- ❖ Inventory Software (NAAIS), developed by the UNFCCC Secretariat for Parties not included in Annex I to the Convention
- ❖ Tier 1 methodology
- ❖ NCV for coals, country specific
- ❖ Default EF

GHG Inventory

Activity data

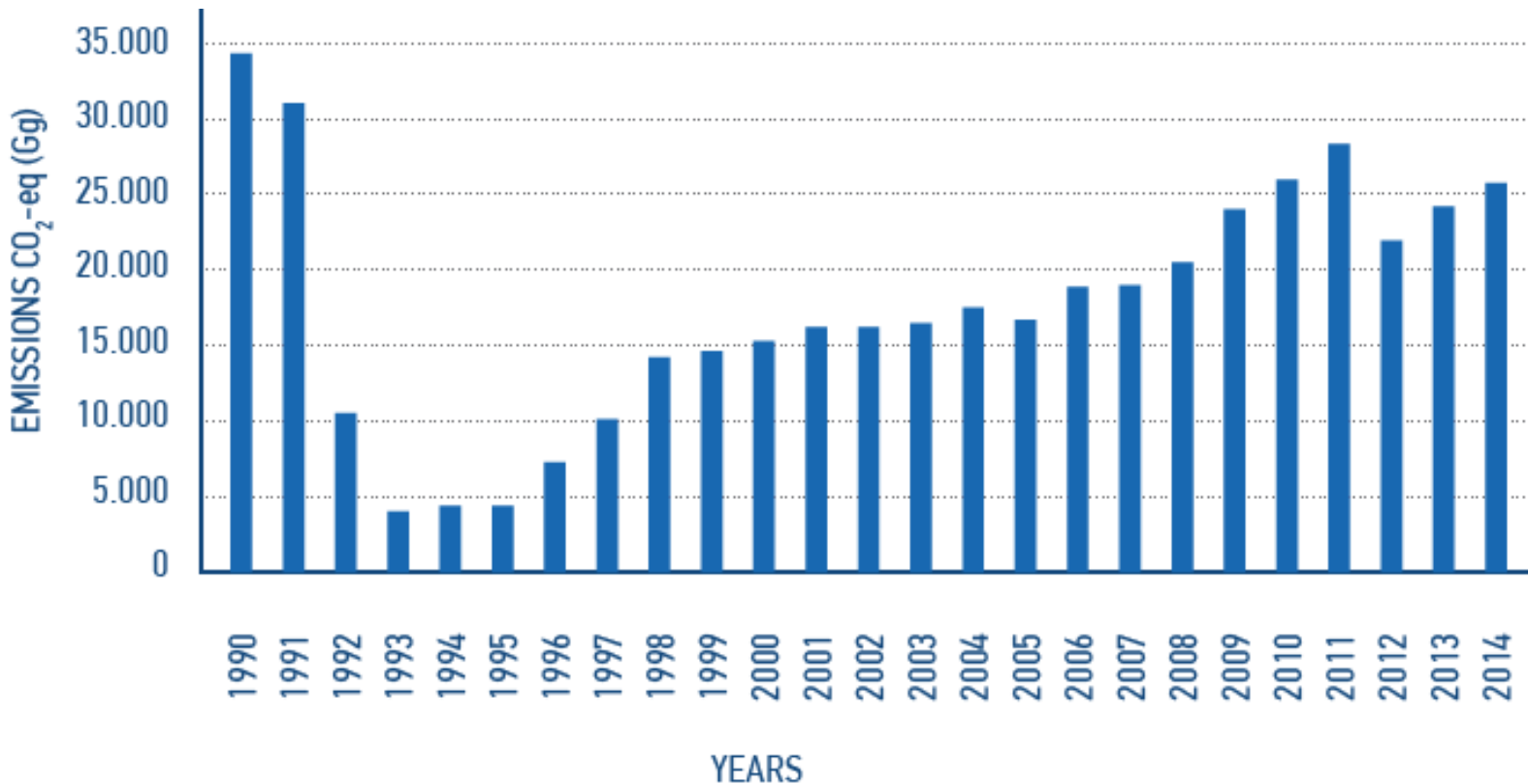
- ❖ Inventory year 2014 (time series 1990-2014)
- ❖ Continuation of the time series from TNC (2002-2009 and 2012-2013)
- ❖ GHG emissions and removals by sector and by gas covering the energy, industrial process, agriculture, land-use change and forestry (LULUCF) and waste sector
- ❖ Emissions of: CO₂, CH₄, N₂O and indirect GHGs (SO₂, CO, NO_x and NMVOC)
- ❖ Data providers, official statistical publications, questionnaires, sectoral development strategies (energy, agriculture etc.), approved projects, public papers, expert judgement
- ❖ National energy balance, 2014

GHG Inventory

Total emissions of CO₂ eq (Gg)

1990: 34,043.49 GgCO₂e (excluding LUCF); 26,619.9 GgCO₂e (including LUCF)

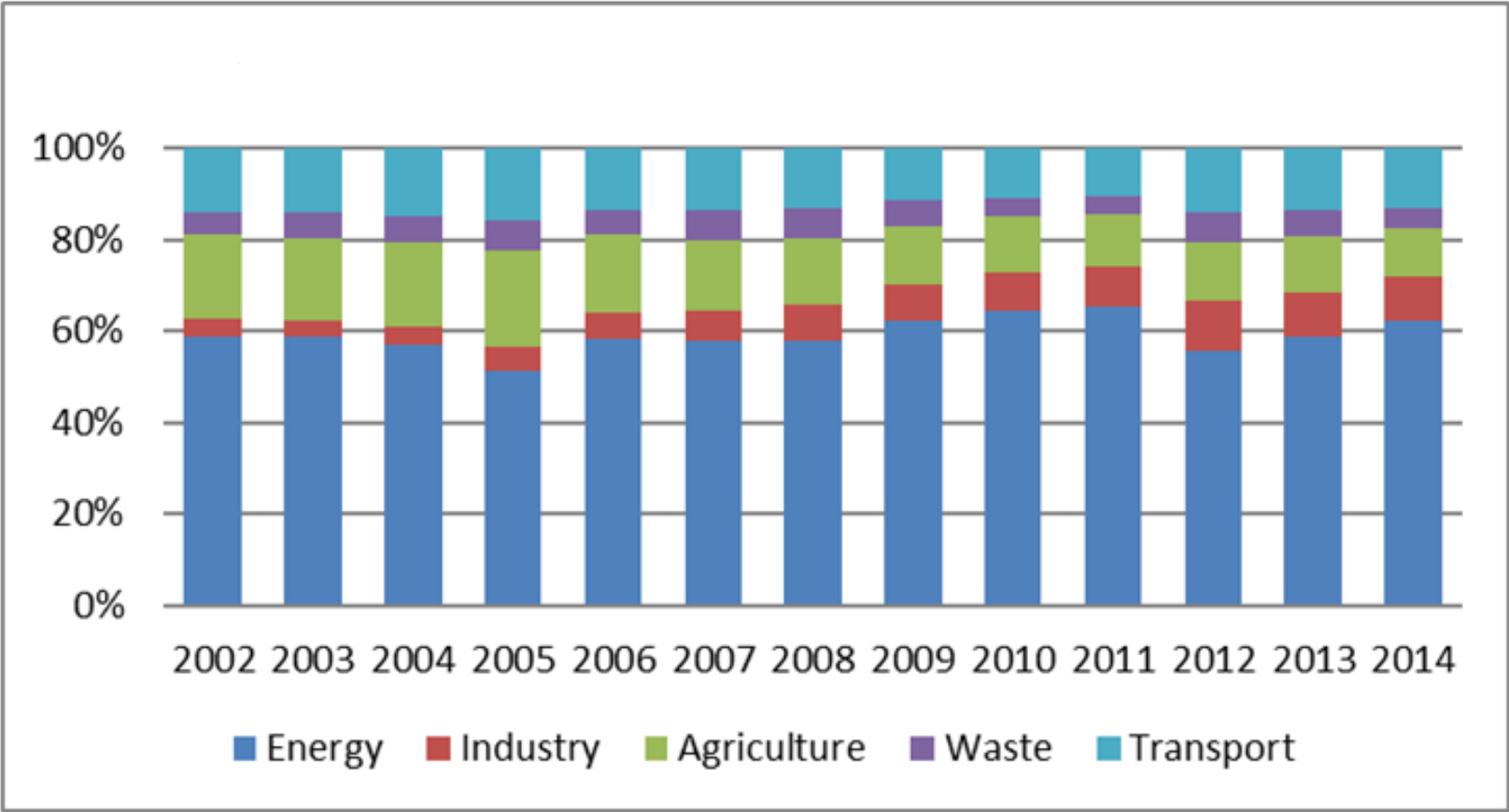
2014: 26,062.18 GgCO₂e (excluding LUCF); 19,664.51 GgCO₂e (including LUCF); 76.5%



GHG Inventory

Share of each sector in total emissions of CO₂eq (Gg)

The most significant source of CO₂ emissions is the energy sector which contributed with about 53% of total CO₂ emissions, followed by agriculture (14%), industrial processes (6%) and waste (5%). The share of emissions from other sectors in the total emissions during this period is about 22%.



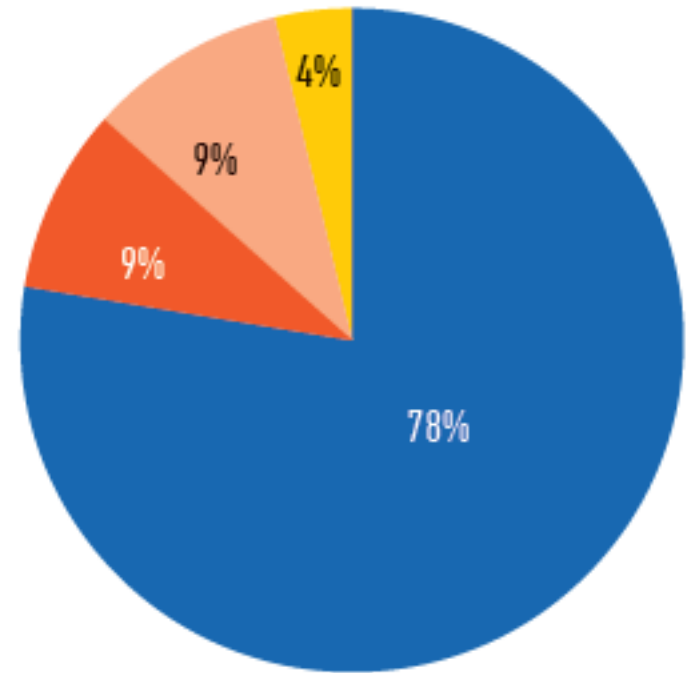
GHG Inventory

Share of each sector in total emissions of CO₂eq (Gg) in 2014

2014:

Total emissions: 26,062.18 Gg CO₂eq
21,711.93 Gg CO₂
119.96 Gg CH₄
5.91 Gg N₂O

Energy sector: 19,734.33 Gg CO₂ eq
Industrial process: 2,247.36 Gg CO₂ eq
Agriculture 2,453.00 Gg CO₂ eq
Waste: 966.00 Gg CO₂ eq
LULUCF: 6,398.00 Gg CO₂ eq



■ Energy ■ Agriculture
■ Industrial Processes ■ Waste

GHG Inventory

Key category analysis

Key category 2014	Gas	CO ₂ e (Gg)	Level assessment (%)	Cumulative total (%)
1A1 Energy Industries	CO ₂	14480,94	57	57
1A3b Road Transportation	CO ₂	3053,20	12	69
2C1 Metal Production	CO ₂	1459,50	6	75
1A4 Other sectors	CO ₂	1240,72	5	80
4D Agricultural Soils	N ₂ O	1240,00	5	85
1A2 Manufacturing Industries and Construction	CO ₂	857,03	3	88
4A Enteric Fermentation	CH ₄	798,00	3	91
6A Solid Waste Disposal on Land	CH ₄	735,00	3	94
2A1 Cement production	CO ₂	728,10	3	97

GHG Inventory

Uncertainty analysis

Estimated uncertainty in the calculation of CO₂ emissions for 2014

Source category / GHG	Uncertainty of activity data (%)	Uncertainty of emission factors (%)	Total uncertainty (%)
Fuel combustion – coal, CO ₂	± 8	± 6	± 10
Fuel combustion – liquid fuels, CO ₂	± 12	± 5	± 13
Fuel combustion – natural gas, CO ₂	± 5	± 5	± 7

The estimated uncertainty of emissions from individual sources is a combination of the individual uncertainties of two elements of emission calculations:

- ❖ Uncertainties associated with emission factors (from published references or measurements); and
- ❖ Uncertainties associated with activity data.

Mitigation actions and effects

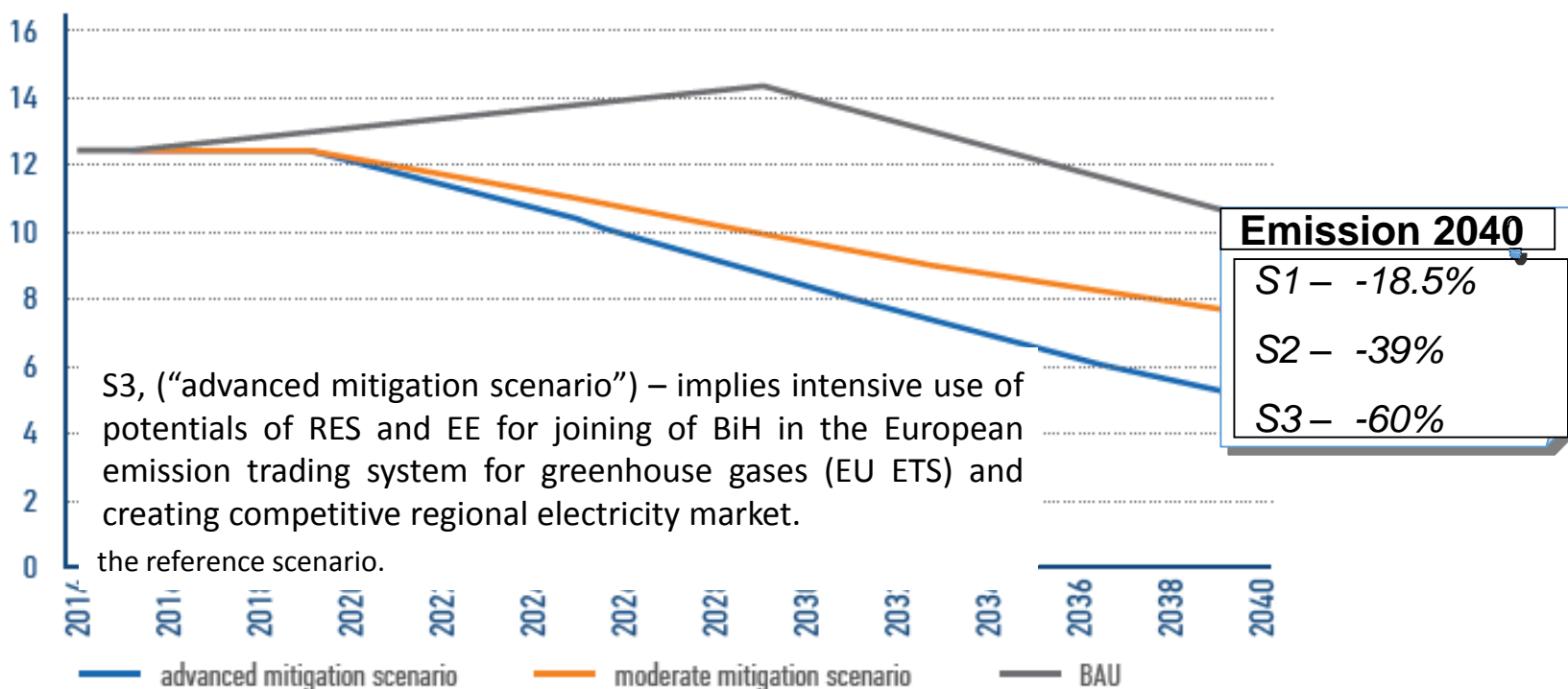
Mitigation actions

- ❖ Sectors
electricity generation, district heating, buildings, transport, waste management, agriculture, and forestry
- ❖ Mitigation scenarios developed until 2040
- ❖ 25 measures identified and proposed
- ❖ Specific modeling involved a quantitative evaluation of time-series
- ❖ GHG emissions and considered taking into account three development scenarios:
 - S1 – a baseline scenario (“business as usual”),
 - S2 – a scenario that assumed partial implementation of mitigation actions (moderate)
 - S3 – an advanced scenario that assumed the implementation of a comprehensive set of mitigation actions (advanced)

Mitigation actions and effects

Electric power sector

Comparison of movements of carbon dioxide emissions from the electricity sector in BiH for three scenarios (millions of tCO₂ annually)



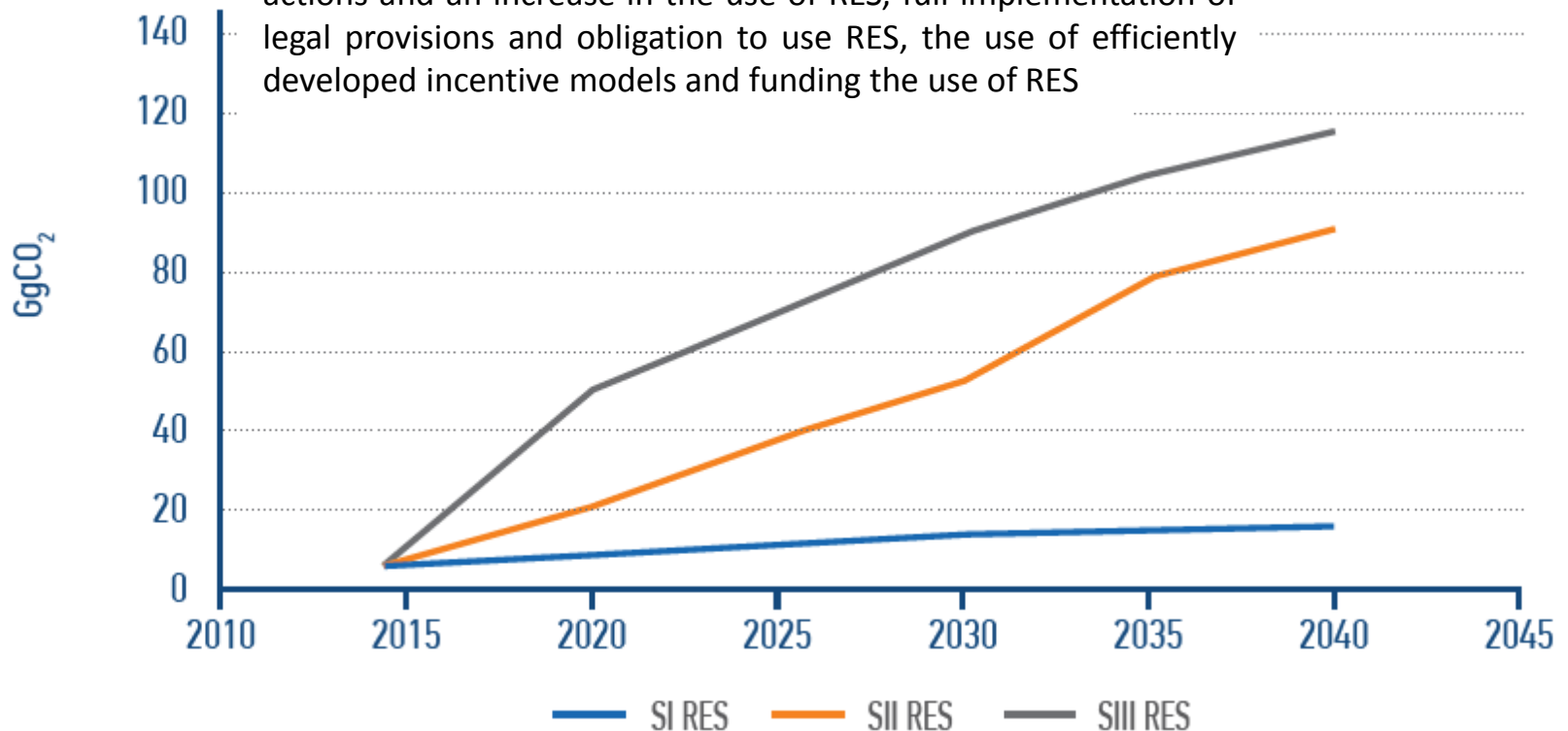
The emission decreases in any scenario in the observed period. This is the result of improving the efficiency of electricity generation from coal and increasing the share of electricity from RES, especially in scenarios S2 and S3.

Mitigation actions and effects

RES

Comparisons of values for total savings of CO2 emissions by using renewable energy sources in BiH, for three scenarios

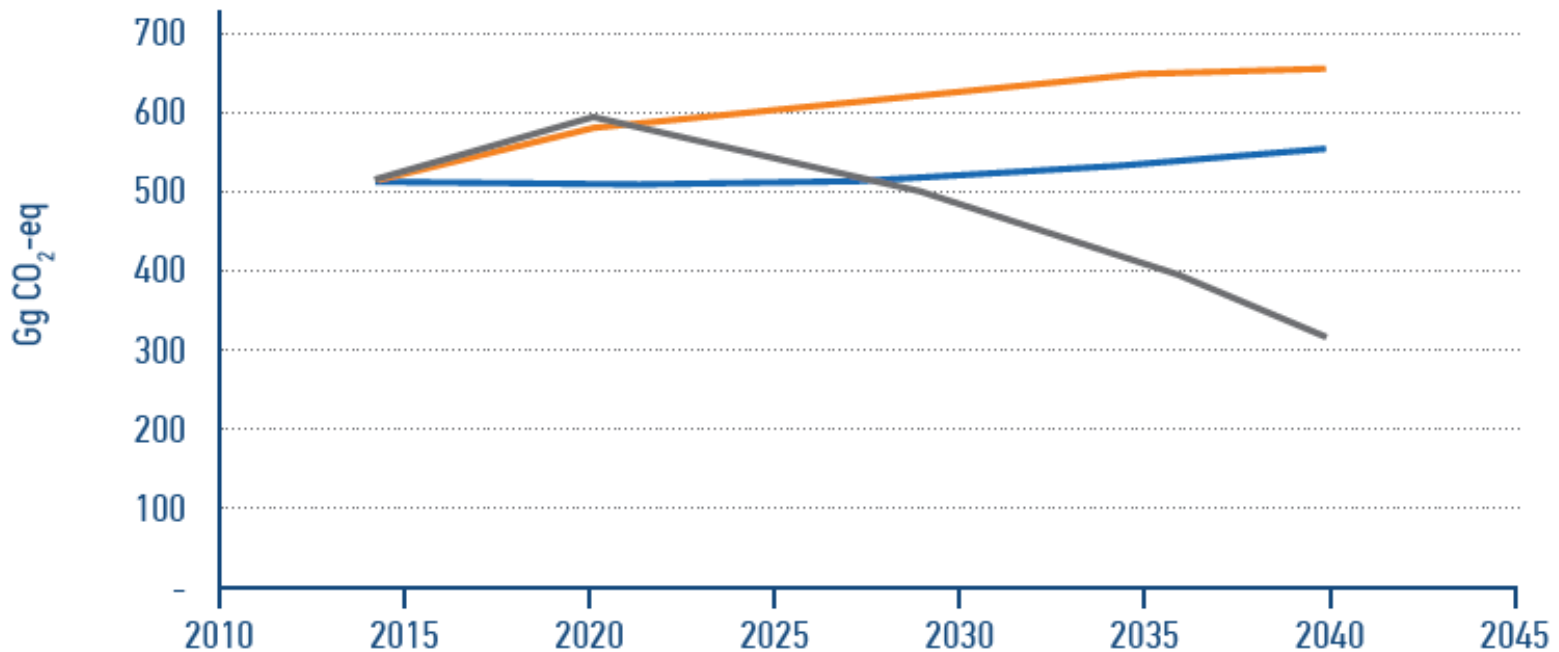
The S3 scenario assumes a high level of climate change mitigation actions and an increase in the use of RES, full implementation of legal provisions and obligation to use RES, the use of efficiently developed incentive models and funding the use of RES



Mitigation actions and effects

GHG reduction scenarios in district heating sector

Assessment of CO₂ emissions in the district heating sector based on different scenarios

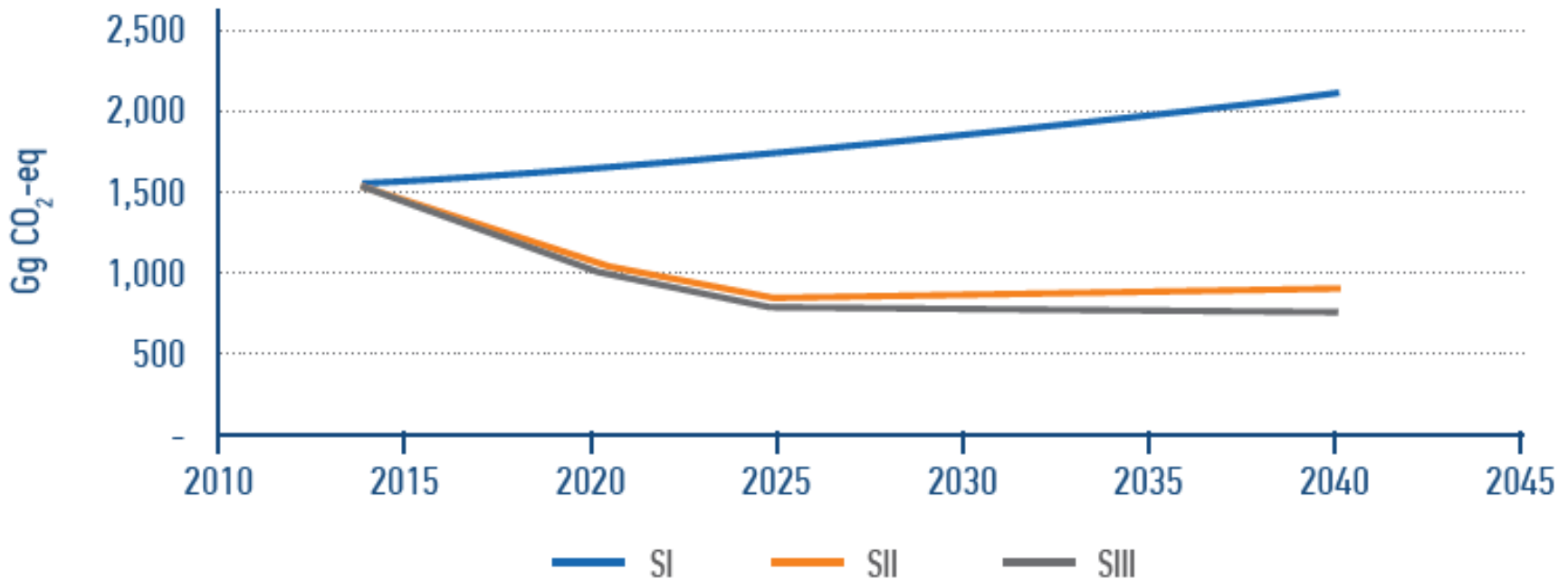


The Scenario S3 – This scenario envisages more intensive heating system so that in 2040 Specific consumption of the thermal energy is decreasing, RES are intensively being introduced particularly biomass and geothermal energy, the construction of several smaller heating plants that will use municipal waste for energy, intensive introduction of cogeneration in district heating systems, as well as increased efficiency in production and distribution of thermal energy.

Mitigation actions and effects

GHG emission reduction scenarios in the buildings sector

Summary view of the results of CO₂ emissions for Bosnia and Herzegovina for residential and commercial sub-sectors

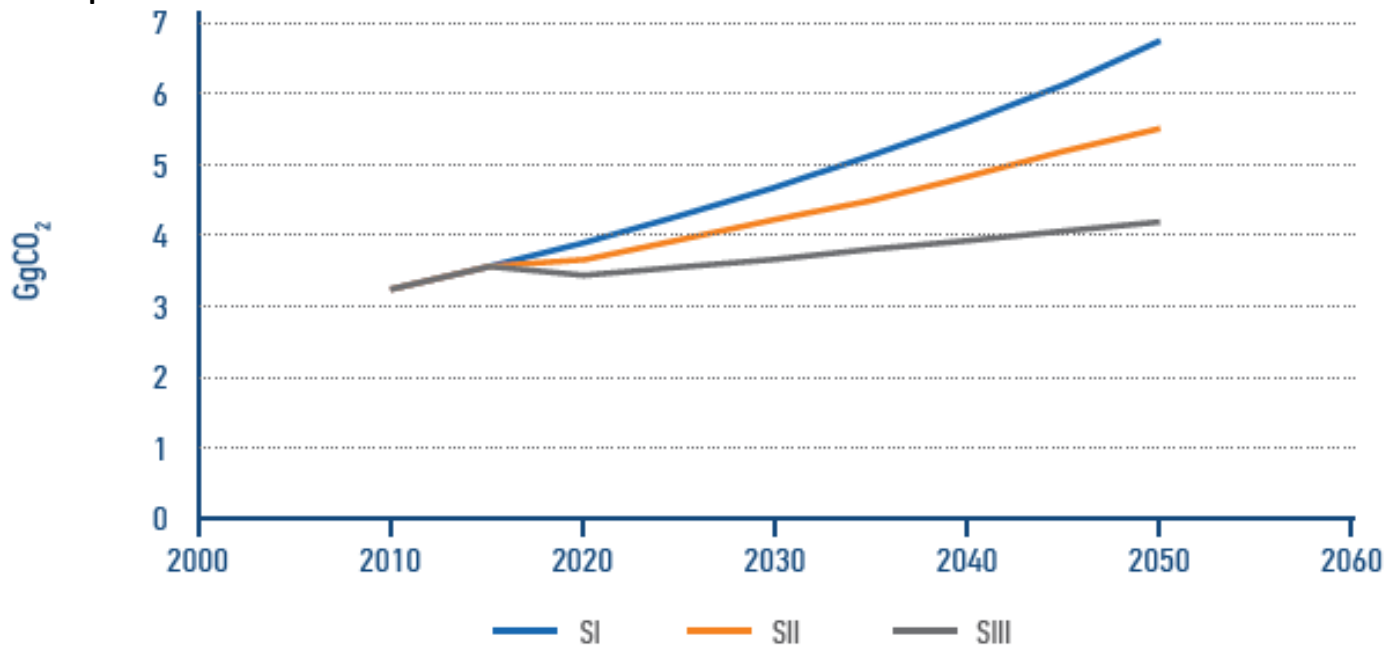


The S3 scenario – this scenario assumes intensified implementation of energy efficiency measures in the residential housing sector, especially through the reconstruction of the existing buildings, as well as the application of the legislation, which should lead to a significant reduction in the average energy consumed for heating at 50 –70 kWh/m² by 2040. Similar to S2 with more intense activities

Mitigation actions and effects

GHG emission reduction in transport sector

Projections of total CO₂ emissions in the transport sector by scenarios for the period 2010 – 2040

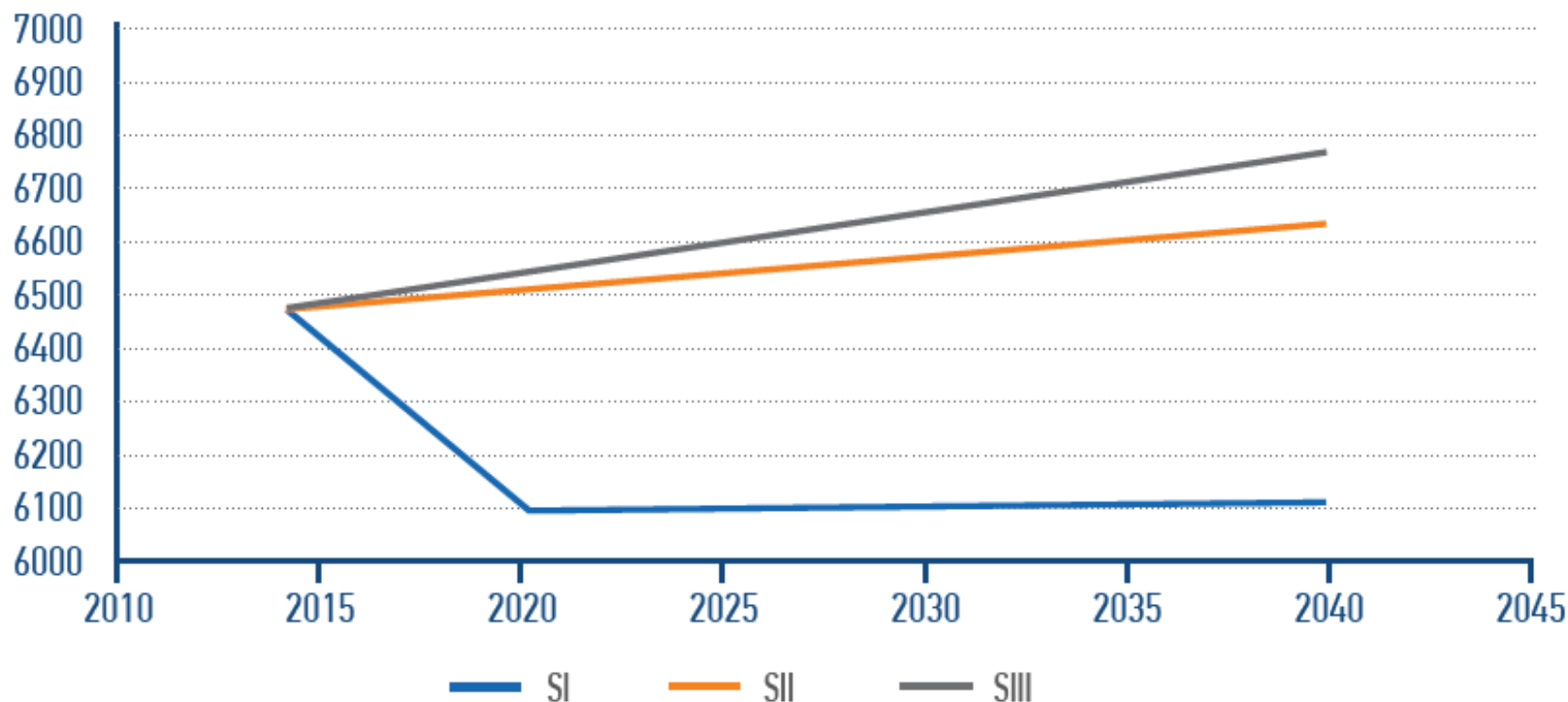


Scenario S3 –is based on a significant mitigation, that is, significant reduction in emissions in the transport sector through the implementation of EU directives in BiH by 2025 (better fuel quality, efficient motor vehicles, better tires, exclusion of vehicles without catalytic converter from the traffic, introduction of new regulations on the importation of road vehicles, introduction of the EURO 6 standards, compliance with the EU Regulation 443/2009 on the limitation of emissions of CO₂ from new passenger

Mitigation actions and effects

GHG emission reduction in forestry sector

Scenarios of CO2 sinks (Gg) in the forestry sector by 2040



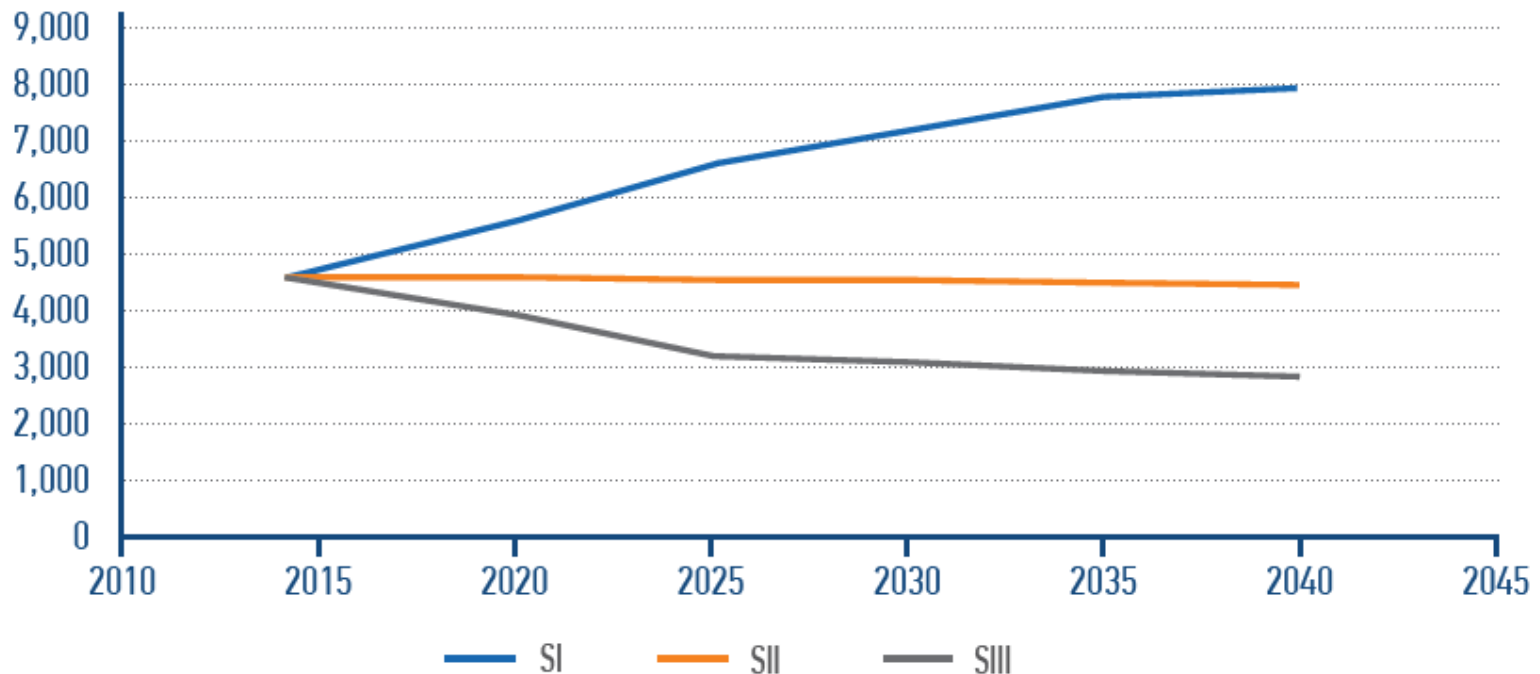
The S3 scenario is based on the assumption that BiH will become a member of the EU by 2025 and will thus be obliged to comply with directives related to the forestry sector/ certification programs which aim to improve sustainable forest management.

Mitigation actions and effects

Mitigation potentials in agriculture

Mitigation potential in the agricultural sector in BiH can be observed in two ways: the potential for GHG sinks and the potential to reduce sources of greenhouse gas emissions.

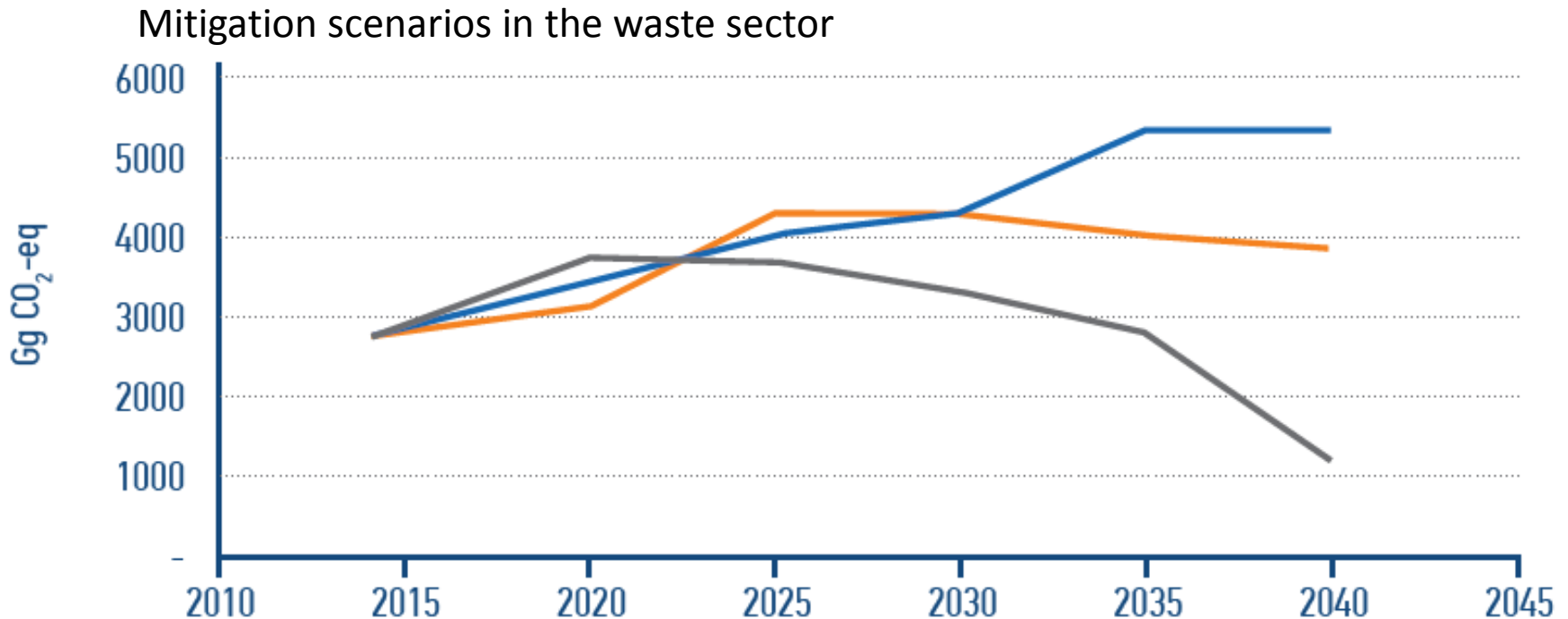
Total emissions CO₂eq from the agricultural sector in BiH for the period 2014-2040 according to S1, S2 and S3 scenario



The S3 scenario, as in most other sectors, is based on the expectation that by 2025 BiH will become an EU member

Mitigation actions and effects

Mitigation potentials in waste management sector

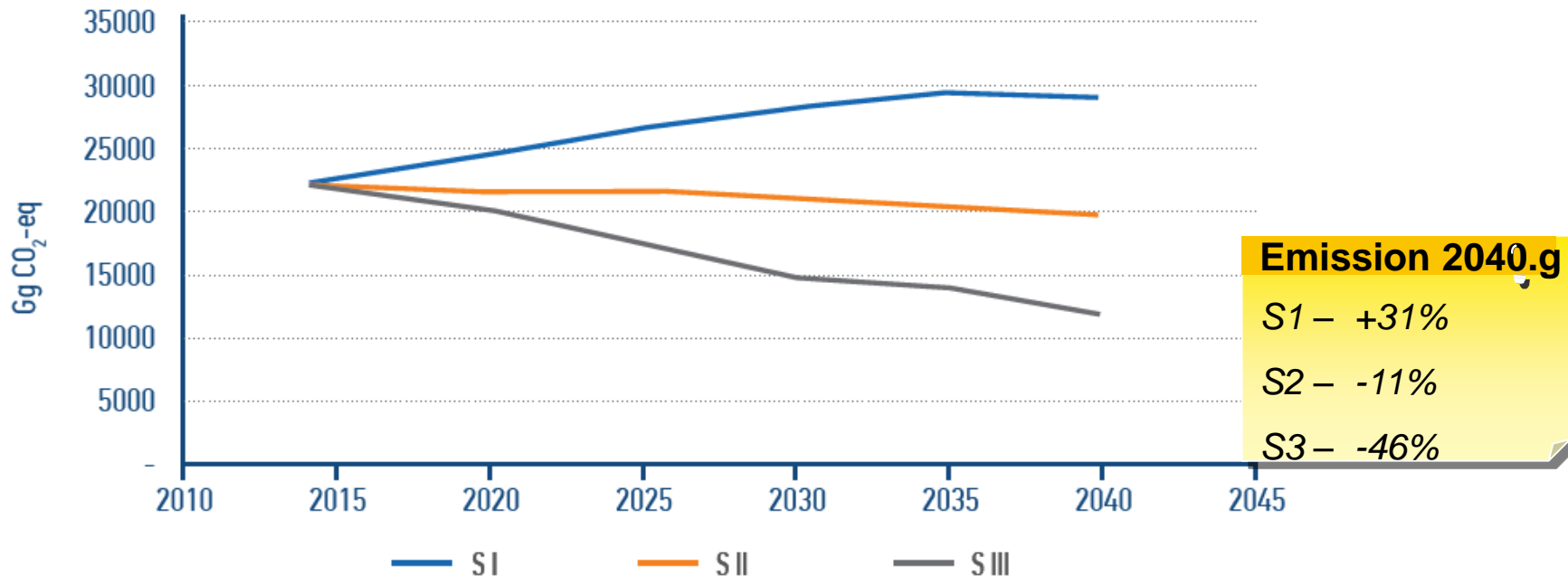


The S3 scenario assumes significant increase in recycling (40% by 2040), as well as treatment using other methods, such as biological treatment or incineration (up to 35% by 2040). It also assumes the disposal of residual waste only on regional landfills by 2020

Mitigation actions and effects

Summary Results For Mitigation Scenarios

Total (sink in the forestry sector is not included) emissions by scenarios for the period 2014 – 2040



Advanced scenario S3 records more intense decline in emissions by the end of the observed period and in 2040 they are recorded with values less than the baseline of 2014 by 46%.

Mitigation actions and effects

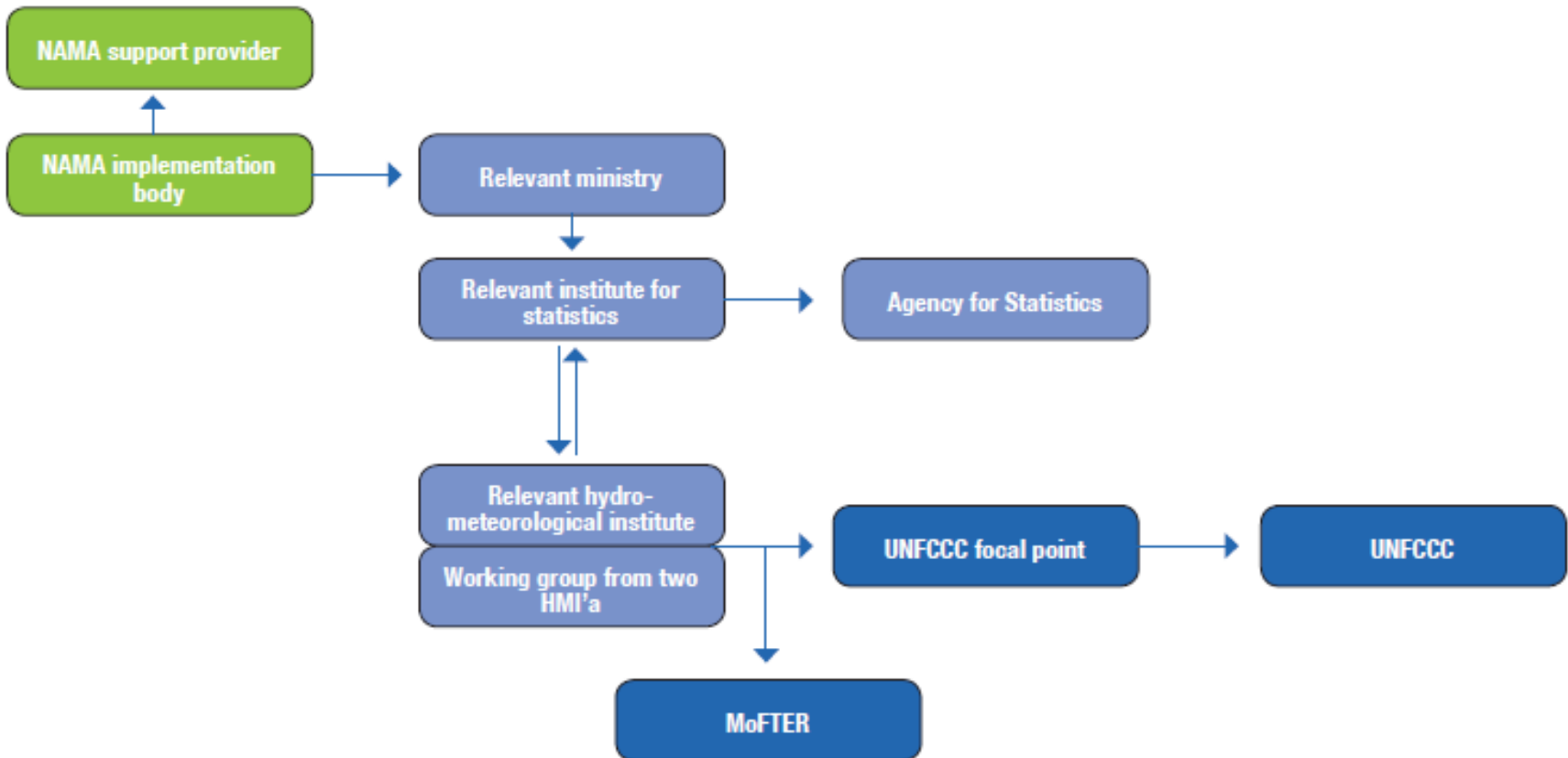
Description of domestic MRV

- ❖ Establishment of institutional framework for measuring, reporting and verification of Nationally Appropriate Mitigation Actions
- ❖ Developing Guidelines for NAMA projects implementation
- ❖ Formulation of initial NAMA projects

Bosnia and Herzegovina lacks mechanisms to monitor, report, and verify their mitigation and adaptation actions and policies and corresponding finance in manner to be able to generate forecasting scenarios and strategic (economic, investment, technological, among others) information for policymakers needed to support transformational change.

MRV reporting scheme

The MRV system in B&H is currently under development
Proposed NAMA reporting scheme



Obstacles and barriers

- ❖ Lack of institutional responsibilities due to non-existence of legal competencies and procedures for developing of greenhouse gas inventory for B&H on continuous basis
- ❖ Lack of legislative requirements on the type and scope of data to be collected,
- ❖ Lack of data
- ❖ Incompatibility between the existing data and those required under the IPCC methodology
- ❖ Lack of permanent funding
- ❖ Lack of administrative capacity
- ❖ Statistical data published officially, along with background documents in statistical offices are not in line with requirements of the IPCC methodology, preferably 2006 Guidelines
- ❖ The reporting system is not in line with the most recently developed IPCC Guidelines (i.e. moving from the 1996 IPCC Guidelines to 2006 IPCC Guidelines); Incompatibility between the existing data and those required under the IPCC methodology;

Obstacles and barriers

- ❖ Inventory compilers don't have access to all data necessary for the emission calculation and inventory compilation;
- ❖ Data for calculation of local emission factors for different coal types are not available, i.e. detailed coal analyses have to be submitted by operators to the inventory compilers;
- ❖ Most of landfills don't have data on waste composition, in order to extrapolate it on the state level, which would enable calculation of reliable degradable organic content (DOC), to move forward from using the default one;
- ❖ Incompatibility between the existing data and those required under the IPCC methodology
- ❖ Data on mineral fertilizers' consumption are not available;
- ❖ Data for F gases are not available;
- ❖ Capacities in institutions on any administrative level are not enough and should be improved

Support received and needed (finance, technology, capacity building)

Description of FTC received and needed

- ❖ FNC /TBUR - 852.000 USD which will to complete GHG inventory till 2018, revise NDC
- ❖ NAP - 2,5 mil USD, to develop NAP with action plan 2020 – 2030
- ❖ URBAN LED – 122,5 mil USD, Catalyzing Environmental Finance for Low-carbon Urban Development
- ❖ CBIT initiative - Project document under preparation
- ❖ Training and review of GHG inventory, Environment Agency Austria
- ❖ IPCC 2006 Methodology Training, UNFCCC, IPCC

Support received and needed (finance, technology, capacity building)

Capacity-building needs:

- ❖ Capacity-building needs related to GHG inventories
- ❖ Establishing and fostering institutional arrangements that support the planning, preparation and management of GHG inventories
- ❖ Supporting the establishment of a legislative framework to secure permanent funding for reporting
- ❖ Establishing a system to identify, collect and record the relevant sectoral data to calculate GHG emissions in accordance with the relevant tiers in the various IPCC guidelines,
- ❖ Providing technical assistance to staff compiling the GHG inventory

Support received and needed (finance, technology, capacity building)

- ❖ Capacity-building needs related to mitigation actions and their effects
- ❖ Establishing a system to identify, collect and record relevant sectoral data in order to facilitate timely availability of relevant multisectoral data on mitigation;
- ❖ Related to needs and support, enhancing coordination and cooperation among national institutions and agencies involved in the preparation of BURs to reinforce their capacities to capture financial, technical and technology support received.
- ❖ Strengthening the capacities of the governmental administration, State bodies and local entities to implement legislation related to environmental issues and climate change;
- ❖ Building and strengthening domestic MRV arrangements,
- ❖ Strengthening institutional and human capacities for the fulfilment of obligations under the Convention;
- ❖ Enhancing the national capacity to establish a systematic and continuous approach to raising public awareness on climate change.

**Part II: Experience and lessons learned in participating in the
ICA process**

Preparing for the ICA process

Bosnia and Herzegovina submitted its second BUR on 13 June 2017

The technical analysis of the BUR took place from 4 to 8 December 2017 in Bonn and was undertaken by the TTE roster of experts from the UNFCCC

The TTE responded to and incorporated all comments and finalized the summary report in consultation with Bosnia and Herzegovina on 25 June 2018.

Review was done via e-mails between the local experts, National Focal Point representative and TTE

Participation in the ICA process raised the profile of climate actions at domestic level and improve knowledge of expert involved in the review process and BUR thus influencing institutional capacities of institutions in field of climate change monitoring and reporting.

Enhancing transparency of reporting and areas for improvement

The TTE, in consultation with Bosnia and Herzegovina experts, identified 24 capacity-building needs that will facilitate the preparation of the subsequent BURs

As a lesson learned from those processes, development of a unified and coordinated system for MRV has been recognized as way to enhance knowledge transfer and increase both stakeholder involvement and awareness amongst policy makers and general public that is consistent with the Transparency Framework under the Paris Agreement.

Thank you for your attention

Part III: Response to questions received