

TFTEI

Under the Convention on Long Range Transboundary Air Pollution

Technological pathways towards the ratification of the amended Gothenburg Protocol in 6 EECCA and SEE countries

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General approach used

- Status of ratification of the Convention and its Protocols, and strategic plans
- Assessment of air quality
- Assessment of the main sources of SO₂, PM, NO_x and VOC
- Assessment of current regulations implemented for activities covered by Annexes IV, V, VI VIII, X and XI
- Assessment of programmes to reduce air pollution and to develop policies and measures related to activities covered by Annex IV (SO₂), Annex V (NO_x), Annex VI (VOC/solvents), Annex VIII (mobile sources), Annex X (PM) and Annex XI (solvent in paints and varnishes)
- Recommendations for technological pathways

All the work based on exchange of information and discussions with the country experts from the Ministries of environment or the other relevant agencies

Air quality measurement

- Air quality measurement:
 - Air quality monitoring networks with different stages of geographical coverage, of measurement techniques used
- Air quality limit values:
 - In Kazakhstan (probably also in other Central Asia countries) and Armenia, in country limit values for pollutants not yet aligned with international limit values
 - Development plans for improved monitoring networks and alignment of country specific limit values with international limit values in progress (Armenia in the scope of an EU association agreement, in Kazakhstan in the scope of international cooperation projects)
 - In Serbia, Montenegro, Moldova and Georgia alignment with EU air quality directives (2008/50 and 2004/107)



Air emission inventories



- Quality of emission inventories:
 - Different stages of development (Central Asia just starting, longer experience in other EECCA and SEE)
 - Quality, transparency, consistency, comparability, accuracy, completeness: not yet satisfying globally
 - Used inventory methods: based on Tier 1 or simple Tier 2 (disaggregation in sub activities) but default constant emission factors over the years (for stationary sources)
 - Emission inventories not yet able to assess impacts of existing policies and measures
- Projections of emissions not yet done by countries
- Organisation for integrated emission inventory (GHG and AP) not yet set up
- Too few human resources allocated to this activity



Stationary sources

- National legal framework is being developed, upgraded depending on countries

Montenegro, Serbia, Moldova, Georgia, Armenia:

- Works to align in country policies with some EU Directives, mainly the Industrial Emission Directive (IED), the EU Directive on Sulphur content in liquid fuels (806/2016), the EU Directive on solvent content of domestic paints, the EU Directive on petrol distribution (stage I) but with different states of progress of alignment of the legal framework
- With IED, the solvent sectors may not be covered in certain countries yet (Armenia)
- Only Serbia developed the legal framework for petrol distribution stage II
- Compliance of industrial installations with limit values of the AGP technical annexes may also be a long process when the legislative framework has been prepared (by laws, integrated permits)



Stationary sources

- National legal framework is being developed, upgraded depending on countries

Montenegro, Serbia, Moldova, Georgia, Armenia:

- The countries could be in the conditions to comply with the limit values of the AGP technical annexes for stationary sources IV (SO₂), V (NO_x), VI (VOC industry), X (PM) and annex XI (VOC paints), tentatively between 2030-35, with different timelines according to countries and possible exceptions (VOC in industry in Armenia)
- The adaptation of the legal framework has been facilitated through international cooperation programmes, as often the administrative capacity of the countries is not sufficient (EU association agreement in Armenia, Moldova and Georgia, Instrument for Pre-Adhesion (IPA) in Serbia, Montenegro)



Stationary sources

- National legal framework is being developed, upgraded depending on countries

Other countries from SEE (except Montenegro and Serbia) and Eastern Europe countries (except Moldova):

- Not studied in the scope of the TFTEI technological pathways of AGP

North Macedonia

- IED 2010/75/EU transposed ~ 60%. Through an IPA project, a law on Control of industrial emissions expected by end of 2024, by laws to be developed
- Through an EU fund project (IPA) the national framework will be aligned with the national emission reduction Directive, the medium combustion installation Directive, air quality Directives in 2025-2026, (Citepa is involved in the technical support)



Stationary sources

- National legal framework is being developed, upgraded depending on countries

Central Asia: Kazakhstan

- Development of a regulation for large industrial plants in progress
- Development of country specific BREFs
- Integrated permits for new installations
- For existing first-category facilities that have not received an IEP, coefficients will be applied to increase emission fee rates in geometric progression—doubling, quadrupling, and then increasing eightfold every three years. At the same time, for the 50 largest first-category facilities, this increase will begin in 2025, and for the remaining first-category facilities, in 2031.
- Sulphur in fuels from Eurasian Economic Union (EAEU) regulations, not aligned with the limit values of the AGP
- No legal developments identified for VOCs both from industry, petrol distribution, and decorative paints
- For the time being, limit values not yet completely aligned with AGP ELVs technical annexes IV, V, VI, X and XI, 2035 at minimum for achieving the limits



Stationary sources

- National legal framework is being developed, upgraded depending on countries

Central Asia: Other countries (except Kazakhstan)

- Not examined through the TFTEI studies
- Most probably ELVs in industry from the former Soviet Union system
- Eurasian Economic Union (EAEU) regulations
- For the time being, most probably, limit values not yet aligned globally with AGP ELVs technical annexes IV, V, VI, X and XI



Small domestic heating appliances



- Largest source of PM emissions in countries examined

- Georgia, Armenia, Kazakhstan, Moldova**

- No specific programmes identified

- Serbia**

- One of the key measures of the recently adopted air protection programme (2022) relates on domestic heating with proposed programmes for replacement of appliances
 - The legal framework for alignment to the Ecodesign Directive has to be completed as well as plans for financial incentives to promote replacement

- Montenegro**

- Transposed the EU provisions and ELVs for small domestic appliances used solid fuels
 - A draft air pollution control programme (2021-2029) including measures for replacement of appliances and for energy efficiency improvement



Mobile sources



- **Road vehicles**

Serbia:

- EU directives for road transport vehicles implemented with some delays
- Imports of Euro 3/III vehicles still possible two years ago but changes expected in 2024
- Quality of fuels aligned with EU directives (and tables 13/14 of annex VIII)

Moldova:

- According the association agreement, the legal framework for introducing Euro 6/VI should have been approximated but no information to confirm this
- Quality of fuels partially aligned with EU directives (and tables 13/14 of annex VIII). Sulphur content aligned

Georgia (no production of road vehicles)

- Imports of road vehicles with at minimum Euro 5b
- Quality of petrol and diesel aligned with table 13/14 of annex VIII (except some parameters)



Mobile sources



Road vehicles

Montenegro:

- The latest EU directives (euro 6/VI) for road transport vehicles transposed
- Latest standards applied for both domestically produced vehicles and imported vehicles
- Quality of fuels aligned with EU directive on specification of petrol and diesel (2009/30) (and tables 13/14 of annex VIII)

Kazakhstan:

- Rules of the Eurasian Economic Union (EEU) applied. Currently the fifth ecological class for road vehicles (similar to Euro 5)
- Sulphur content of petrol and diesel aligned with tables 13/14 of annex VIII (but no information on other parameters)

Armenia:

- Rules of the Eurasian Economic Union (EEU). Currently the fifth ecological class for road vehicles (similar to Euro 5) both for produced vehicles and imported vehicles
- Sulphur content of petrol and diesel aligned with tables 13/14 of annex VIII, other characteristics may be different



Mobile sources



NRMM

Serbia

- The latest EU directive of 2016 will be approximated after 2025

Moldova

- No sufficient information on NRMM rules applied

Georgia

- Legal framework not yet developed

Montenegro

- Legal framework not yet developed for latest EU standards

Kazakhstan

- No information obtained (the same as in Armenia)

Armenia

- Rule TR CU 018/2011 of the Eurasian Economic Union equivalent to Stage IIIa



General conclusions

Key Takeaways:

- The technological pathways to comply with the AGP technical provisions of annexes IV, V, VI, X and XI are well known and quite similar for the countries. Only the priorities in terms of activities, may be different depending on the country
- Small domestic heating appliances using solid fuels remain a major challenge in all countries:
 - Technical solutions for appliances exist but are not sufficient. The role of policies related to energy efficiency and energy saving is crucial
 - The use of “Code of good practices for wood burning and small combustion installations” developed by UNECE may be recommended

UNECE

Code of good practice for wood-burning
and small combustion installations



Thank you very much
Questions?