

**Template for the submission of  
examples of good practices with regard to air pollution  
related policies, strategies and measures**

**Background**

1. The Executive Body, at its thirty-sixth session, adopted decision 2016/3 on improving the effectiveness of reporting on strategies, policies and other measures to implement obligations under the Convention and its Protocols. This decision stipulates that *“the period for reporting the information referred to in article 5, paragraph 1 (a), of the 1994 Protocol on Further Reductions of Sulphur Emissions, article 7, paragraph 1 (a), of the Protocol on Heavy Metals, article 9, paragraph 1 (a), of the Protocol on Persistent Organic Pollutants and article 7, paragraph 1 (a), of the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol) is **at least once every four years**”*. As per this decision, the Executive Body also *“invites States and organizations referred to in article 14, paragraph 1, of the Convention that are not Parties to these four Protocols to provide information on strategies, policies and measures to abate air pollution at the sessions of the Working Group on Strategies and Review.”*

2. The enclosed template has been developed to facilitate the submission by Parties of examples of and good practices with regard to different regulatory, voluntary, economic and other measures relating to air pollution in advance of WGSR’s sixty-first session. The templates with information filled in should be sent to the secretariat at [air\\_meetings@un.org](mailto:air_meetings@un.org) by **1 August 2023**.

3. Delegations are invited to submit to the secretariat case studies/examples which could be of interest to other countries. A summary of submitted information will be made at the Working Group’s session. Parties that had not shared such information during the recent years are particularly invited to do so. An overview of the previous reporting at WGSR sessions since 2013 is available on the Convention website:

<https://unece.org/strategies-and-policies-abatement-air-pollution>

4. Examples could comprise, among others, economic measures such as financial incentives or disincentives (such as taxes, subsidies, set prices or caps/ceilings, payments, rebates), voluntary measures (such as voluntary agreements, programmes or contracts), regulatory or legislative measures or other measures (such as educational or informational measures). They can include policies, strategies and measures emanating from different sectors with positive effects on air pollution abatement (such as acts/laws on sustainable transport, sustainable agriculture/farming, energy, green building, biodiversity conservation and enhancement). A more detailed description of the implementation of your chosen policy, strategy or measure and related challenges and problems as well as solutions would be more useful than the presentation of many different examples. Furthermore, your examples could also be useful to other Parties even if they have not been successful by indicating why this was the case. You are thus also invited to submit experiences that cover such items as:

- a) A measure that was less effective than you anticipated and why;
- b) A measure that was actually more effective than you predicted;
- c) A measure that had particular implementation challenges – what were they and how did you address them;
- d) A measure that was either less expensive or more expensive than you had estimated. What caused the increased or decreased costs?
- e) Goals that were set and were met by innovative strategies.

**Template to facilitate the submission of examples/good practices of strategies, policies and measures employed to implement obligations under any of the protocols to the Convention on Long-range Transboundary Air Pollution**

<b>Country:</b> <b>Republic of Croatia</b>	<b>Pollutant(s):</b> SO <sub>x</sub> , NO <sub>x</sub> , HM, O <sub>3</sub> , VOCs, POPs, NH <sub>3</sub> , PM
<b>Protocol(s):</b>  <b>1994 Protocol on Further Reductions of Sulphur Emissions</b> <b>Protocol on Heavy Metals</b> <b>Protocol on Persistent Organic Pollutants</b> <b>Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol)</b>	<b>Sector:</b> Multi sector
Type of strategy, policy or measure and the level of implementation:  <b>Improvement of Air Quality Monitoring and Management System at national level;</b> <b>Improvement of emission measurements/emission inventories;</b> <b>Plans/Programmes</b> <ol style="list-style-type: none"> <li>1. Project: AIRQ “Upgrade and modernisation of the State Air Quality Monitoring Network”</li> <li>2. Project: “Air quality monitoring in ports”</li> <li>3. Project: “Raising the level of public awareness about air quality - Citizen Science”</li> <li>4. Project NRL “National reference laboratory for emission measurements from non-road mobile machinery”</li> <li>5. Air Quality Plans - Art. 23 of Directive 2008/50/EC on ambient air quality and cleaner air for Europe (CAFE)</li> <li>6. Third National Plan for the Implementation of the Stockholm Convention on Persistent Organic Pollutants in the Republic of Croatia</li> </ol>	<b>Method used for the current analysis:</b>  Environmental Protection Information System  Structural Funds Grants/Schemes/Projects  National Emission Inventory  State Air Quality Monitoring Network
<b>What is the main objective of the strategy, policy or measure? When has it been implemented/or will be implemented?</b> <ol style="list-style-type: none"> <li>1. <b>Project AIRQ - Upgrade and modernisation of the state Air Quality Monitoring Network</b> – The main objective was to ensure full implementation of the Directive</li> </ol>	

2008/50/EC; the result indicator is in increased coverage of national population with air quality data; the project is currently in final phase, successfully implemented and expected to be closed by the end of 2023.

2. **Project “NRL - National reference laboratory for emission measurements from non-road mobile machinery”** - The main objective of the project is to establish accredited National Reference Laboratory for measuring and controlling emissions from the internal combustion engine of the non-road machinery along with EU-wide cooperation. The introduction of a monitoring mechanism and the establishment of emission inventories for the non-road mobile machinery sector will enable better definition of targeted measures for improvement of air quality. These measures should contribute to the emission reductions from the non-road mobile machinery sector. Project is still in implementation/progress due to difficulties/challenges occurred in issuing permits for construction works as well as due to the increase in equipment prices on the market, which consequently required extension of the implementation period and financial reallocation. Project is expected to be closed by the end of 2023.
3. **Project “Air Quality monitoring in ports”** – the purpose of the project is to establish air quality monitoring in ports or near ports; to establish measurements of emissions from ships by using mobile equipment (guns, drones); to assess the contribution of emissions from port activities to the air quality levels of specific areas. This project is planned within the framework of the Operational Programme “Competitiveness and Cohesion 2021-2027” and timeframe of the project implementation is 48 months.
4. **Project “Raising the public awareness level about air quality - Citizen science”** - the aim will be to develop infrastructure and capacities for use of low-cost sensors in parallel with reference measurement; obtaining additional information on air quality in urban areas; to raise public awareness of the linkages between air pollution and health. This project is planned within the framework of the Operational Programme “Competitiveness and Cohesion 2021-2027” and timeframe of the project implementation is 36 months.
5. **Air Quality Plans:** to establish and implement effective and efficient measures aiming to achieve compliance with the limit/target values
6. **Third National Plan for the Implementation of the Stockholm Convention on Persistent Organic Pollutants in the Republic of Croatia** - adopted in 2021 pursuant to the obligations from Article 7 of the Stockholm Convention

#### **Background and driving forces:**

The main goal of the above listed measures 1 – 6 is to implement EU obligations and international obligations related to air quality and emissions; to protect and improve air quality; to reduce air pollution; to protect human health and negative impacts on ecosystems and vegetation.

#### **Description of the strategy, policy or measure:**

##### **1. Project AIRQ - Upgrade and modernisation of the state Air Quality Monitoring Network**

Croatia regularly reviews implementation of all important elements of Directive 2008/50/EC that has been transposed into the national legislation and continuously further upgrades the management and monitoring system. Through this project, compliance with the minimum number of sampling points for fixed measurements for all pollutants has been achieved and measuring equipment have been modernised. Within the AIRQ project two EMEP Level 1 and one EMEP Level 2 stations have been established. In summary, this project achieved the following: an increased share of the population covered by air quality data, 6 new and 18 upgraded air quality measurement stations, functional modelling system for the assessment of ozone and other

pollutants levels was established, functional chemical laboratory of Croatian Meteorological and Hydrological Service was upgraded for analyses of the chemical composition of precipitation and air in the framework of EMEP Protocol monitoring strategy, functional chemical laboratory was established for the analysis of the chemical composition of particle matters (HM, PAU..), functional calibration laboratory was established in order to ensure traceability of the measurements to international standards and IT infrastructure was upgraded.

## **2. Project NRL: National reference laboratory for emission measurements from non-road mobile machinery**

Within the project the National Reference Laboratory for measuring and controlling emissions from the internal combustion engines of non-road mobile machinery (NRMM) will be established and accredited. The use of mobile equipment for on the spot measuring and controlling is operational and accredited. Project will contribute to improvement of emission data/inventories and is will support implementation of Commission delegated Regulation (EU) 2017/654 with regard to technical and general requirements relating to emission limits and type-approval for NRMM.

## **3. Project: Air Quality monitoring in ports:**

In cities where larger ports are located, maritime traffic contributes significantly to air pollution therefore through this project is planned to establish air quality monitoring stations in seaports of particular (international) economic interest for the Republic of Croatia and to establish pilot monitoring of emissions from ships. Depending on the monitoring results, the necessary air pollution reduction measures will be planned and implement.

## **4. Project: Raising the level of public awareness about air quality "Citizen science"**

This project is planned with the aim to improve infrastructure and capacities for monitoring and analysing of air quality in urban areas through cooperation between young people and research-scientific institutions. This cooperation will increase the availability of air quality information and raise public awareness of the link between air pollution and health. Also, through this project, the first knowledge about the levels of specific pollutants (ultrafine particles, black carbon and others) will be obtained.

## **5. Air Quality Plans/Measures/Protocol/Programmes**

As an additional measure, within the Air Protection Act amendments adopted in 2022 and new regulation on air quality plans adopted in 2023, the obligation for reporting on progress of implementation of air quality plans after two years of implementation has been introduced. Furthermore, Act amendments prescribe that in cases of non-implementation of adopted measures and if delay in attaining of planned decrease of concentrations occurs, the procedure of amendments of the air quality plans shall be initiated. The Act amendments envisage the penalties provisions for legal entities if the implementation and financing of measures for the reduction of air pollution set out in the air quality plans are not ensured; if the preparation and submission of reports on the implementation of measures are not ensured; and if progress of measures from air quality plans is not monitored. It is expected that the implementation of measures and supervision will be more efficient and consequently result in improved air quality.

Also, in the observed period, most of the cities and municipalities on whose territory the ozone target value was exceeded have adopted measures/recommendations that should contribute to the reduction of ozone levels; those on whose territory the alert and/or information threshold were exceeded adopted Protocols on action and measures that shall be taken to protect the most sensitive population. Also, according to the Air protection act, the representative body of the county and a large city (large cities are cities with more than 35,000 inhabitants) have obligation to adopt and implement the Programme for protection and improvement of air quality. The Programme shall be adopted for a period of four years.

## **Costs, Funding and Revenue allocation:**

<ol style="list-style-type: none"> <li><b>1. Project AIRQ - Upgrade and modernisation of the state Air Quality Monitoring Network</b> - total project budget: EUR 16.5 mil. - 80% from the European Regional Development Fund ERDF funds with national co-financing of 15%</li> <li><b>2. Project NRL: National reference laboratory for emission measurements from non-road mobile machinery</b> - the total budget of the project is EUR 7.6 million - 85% from the European Regional Development Fund and national co-financing share is 15%</li> <li><b>3. Project: Air Quality monitoring in ports:</b> planned project budget: EUR 3.6 mil. - 85% from the European Regional Development Fund along with national co-financing of 15%</li> <li><b>4. Project: Raising the level of public awareness about air quality "Citizen science":</b> planned project budget: EUR 2.5 mil. - 85 % from the ERDF fund with national co-financing of 15%</li> </ol>
<p><b>Effect and impacts on air pollution abatement:</b></p> <p>The above-mentioned measures 1–6 are expected to have positive effects and impact on improvement of air quality; to contribute to the air pollution abatement; to improve air quality/emissions monitoring and management system/inventory; to improve compliance and implementation in a line with EU legislation and CLRTAP Protocols obligations.</p>
<p><b>References/Further information:</b></p> <p>Project AIRQ - Upgrade and modernisation of the state Air Quality Monitoring Network – Implementation of Directive 2008/50/EC: <a href="https://www.airq.hr/">https://www.airq.hr/</a></p> <p>Project NRL National reference laboratory for emission measurements from non-road mobile machinery: <a href="https://nrle.fsb.hr/">https://nrle.fsb.hr/</a></p> <p>Air Quality Plans and other documents :  <a href="https://iszz.azo.hr/iskzl/godizvrpt.htm?pid=0&amp;t=4">https://iszz.azo.hr/iskzl/godizvrpt.htm?pid=0&amp;t=4</a></p> <p><a href="https://eko.zagreb.hr/UserDocsImages/arhiva/dokumenti/okoli%C5%A1/zrak/2023/javni%20uvidi%20i%20savjetovanja/javni%20uvid_o3/NACRT%20-%20MJERE%20ZA%20O3.pdf">https://eko.zagreb.hr/UserDocsImages/arhiva/dokumenti/okoli%C5%A1/zrak/2023/javni%20uvidi%20i%20savjetovanja/javni%20uvid_o3/NACRT%20-%20MJERE%20ZA%20O3.pdf</a>;</p> <p><a href="#">protokol-ozon.pdf (gorica.hr)</a></p> <p>NIP Stockholm Convention:  <a href="https://mingor.gov.hr/UserDocsImages/klimatske_aktivnosti/zrak_tlo_svetlosno/Postojane%20organske%20one%C4%8Di%C5%A1%C4%87uju%C4%87e%20tvari/NIP/treci_nac_plan_pops.pdf">https://mingor.gov.hr/UserDocsImages/klimatske_aktivnosti/zrak_tlo_svetlosno/Postojane%20organske%20one%C4%8Di%C5%A1%C4%87uju%C4%87e%20tvari/NIP/treci_nac_plan_pops.pdf</a></p>
<p><b>Contact:</b> <i>Please insert your contact details below.</i></p> <p><b>Contact:</b></p> <p><b>Name:</b> Mr Mario Stipetić, Head of Sector; Ms Sandra Krmpotić, national focal point</p> <p><b>Country:</b> Republic of Croatia</p> <p><b>Organization:</b> Ministry of Economy and Sustainable Development</p> <p><b>Address:</b> Radnička cesta 80, 10000 Zagreb, Croatia</p> <p><b>Telephone:</b></p> <p><b>Email:</b> <a href="mailto:mario.stipetic@mingor.hr">mario.stipetic@mingor.hr</a>; <a href="mailto:sandra.krmpotic@mingor.hr">sandra.krmpotic@mingor.hr</a></p>
<p><b>Additional comments:</b> <i>Please include any additional information you may wish to provide here.</i></p>