

The EPA-Network Interest Group of Noise Abatement (IGNA)

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ABSTRACT

Noise abatement in Europe has made considerable progress in recent decades. Starting with the Green Paper on Noise Policy in 1996, followed by the adoption of the Environmental Noise Directive in 2002, many noise maps and action plans to reduce noise exposure of the population have been developed. However, the problem of noise has not yet been solved and that is why the EPA Network - the informal group of "Heads of European environment protection agencies" - decided in 2010 to boost this topic by creating an "Interest Group on Noise Abatement" (IGNA).

IGNA's first mandate from 2011 to 2016 focused on best abatement measures at traffic noise, decision criteria for applying noise abatement measures, limit values and monitoring methods. IGNA organised eight workshops and issued four reports covering road, railway and aircraft noise as well as various letters to EU-institutions asking for tighter noise regulations. Now in its second mandate from 2017 to 2022 IGNA concentrates on all noise sources, limit values in Europe and quiet areas.

The activities of IGNA are leading to a common understanding of how to tackle and solve noise problems and to disseminate the information to players and stakeholders in other countries.

Keywords: Noise abatement, EPA-Network, Interest Group on Noise Abatement (IGNA), traffic noise, road traffic noise, aircraft noise, railway noise, quiet areas, limit values, cost-benefit methods

1. INTRODUCTION

Noise abatement in Europe has made considerable progress in recent decades. Starting with the Green Paper on Noise Policy in 1996, followed by the adoption of the Environmental Noise Directive in 2002, many noise maps and action plans to reduce noise exposure of the population have been developed. However, the problem of noise has not yet been solved and that is why the EPA Network - the informal group of "Heads of European environment protection agencies" – decided in 2010 at their meeting in Krakow to boost this topic by creating an "Interest Group on Noise Abatement" (IGNA). IGNA should provide a forum to build on the exchange of information on current and future developments, an opportunity to learn from each other, particularly in relation to the development of the regulatory framework and scientific understanding of the issues. Their findings should be summarized in a final report, containing concrete and helpful recommendations for member states to successfully protect the population from noise.

2. Mandate 2010-2016

2.1 Members

After the meeting in Krakow, members of the EPA-Network were invited to nominate their participants to the IGNA. Norway, the Netherlands, Italy, Denmark, Czech Republic, Germany, Slovakia, Slovenia, Malta, EEA participated in IGNA under the co-leadership of Poland and Switzerland (see Figure 1).

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Figure 1 – Members of IGNA for the mandate 2011 – 2016

Source: <https://www.eea.europa.eu/data-and-maps/figures/eea-member-countries-3>

2.2 Objectives

The Interest Group focused its activities to issues related to road, railway and aircraft traffic noise during their mandate from 2010-2016. The main issues of the working program were set to be:

- **Harmonization of noise-monitoring:** harmonization and standardization of methods for monitoring and evaluation of noise exposure and remedial measures;
- **Noise abatement measures at source:** Information and exchange of successful measures at the source, as well as common action plans with stringent regulatory and incentive measures for vehicles and machines;
- **Critical levels:** harmonized critical levels (limit values) that trigger specific remedial measures;
- **Economic instruments:** cost-benefit aspects and application of financial instruments in order to compensate external costs and to set incentives for measures at sources.

2.3 Meetings and outputs

From 2011 to 2016, IGNA organized eight workshops with the aim to establish new noise knowledge and exchange and disseminate information of ongoing projects and facts in the field of noise abatement. Apart from IGNA-members, there were regularly invited guests from EU-Institutions, WHO and external noise experts.

The first workshop on 30th November 2011 in Zurich produced an overview of the ongoing noise abatement activities in Europe and a working plan for the future activities of the IGNA, focusing in 2012 on road traffic noise, followed by railway and aircraft traffic noise in the successive years. As an outcome, IGNA sent a first letter to the EU-commission on behalf of the EPA-Network, asking for tighter noise emission regulations of vehicles in the EU.

The second workshop on 2nd March 2012 in Berne focused on road traffic noise and the range of noise abatement measures was discussed on the basis of a technical report as well as inputs from national experiences. The report together with a second letter asking for tighter noise emission regulations of vehicles was sent to the EU-parliament's committees being in charge of the topic.

In the third workshop on 26th November 2012 in Brussels, IGNA discussed a collection of national outstanding practice examples of noise abatement procedures on local, regional and national levels, addressing aspects such as legal basis, planning, cost-benefit-decisions, financing and implementation. In addition, IGNA had the opportunity to discuss with EU-representatives two ongoing projects regarding the proposed regulation on the sound level of motor vehicles and the assessing and mapping of noise exposure in Europe. Because of the discussion, the group established its opinion on the proposed regulation of sound level of motor vehicles in a position paper that served the IGNA-

members as basis for further interventions in favour of stricter regulations in this field.

The fourth workshop took place on 27th June 2013 in Copenhagen and the focus was changed from road to railway traffic noise abatement. IGNA discussed national and international approaches of railway noise abatement measures and as a result had sent a letter by the EPA-Network to the European Railway Agency (ERA) asking for stricter noise limits for new railway vehicles and that these values should be also applied to existing vehicles after a transition period. The letter was responded in January 2014 with the acceptance of the invitation of IGNA for further discussions with members of ERA in the next IGNA-workshop.

Discussions of this topic were continued in the fifth meeting in Amsterdam. The result of the work were summarized in the final IGNA-report on railway noise abatement measures and presented in the EPA-Network plenary in Riga at the end of April 2015.

The sixth meeting in Berlin dealt with aircraft noise abatement and its summary report was endorsed and published in mid-2015. In the seventh meeting in Maastricht in June 2015, IGNA discussed topics of noise monitoring and critical levels.

The eighth meeting in June 2016 in Bern was used to prepare the final report of the IGNA work as well as an additional report dealing with decision methods that are applied to implement noise abatement measures. For the latter report, there was conducted a survey at the Eionet-members for noise. Both reports were presented in the EPA-network plenary meeting in spring 2017.

All outputs of IGNA (letters, reports) can be found on the webpage of the EPA-Network homepage³.

2.4 Final report of IGNA

The main findings of the previous reports on traffic noise were summarized, updated and integrated into a general scheme (1). This scheme, also in use by the EEA, defines the environmental impact of traffic noise as a series of relations between the drivers, the pressure and the state, leading to an impact. Responses to reduce or compensate for the impact are organized at all levels. This DPSIR framework is depicted in the figure below.

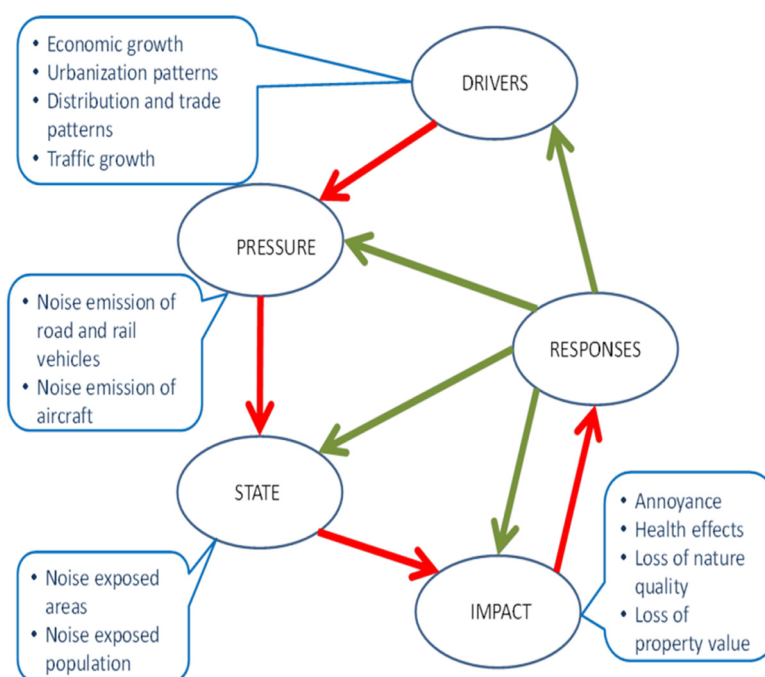


Figure 2 – DPSIR framework used in the final report of IGNA to define the cause, nature and control measures for traffic noise

Based on this, IGNA makes the following recommendations:

- Pressure on type approval regulations has to be continued, not only for lower limit values,

³ <http://epanet.pbe.eea.europa.eu/fo1249409/>

but also to improve representativeness of test methods and to prevent too many allowances. The best effects are found in the control of the existing car and rail fleet, by effective tyre regulations, extension of the TSI-noise to existing stock and the improvement of road and rail infrastructure.

- The lower limits defined in the END to report noise exposure cause significant underestimation of sleep disturbance and annoyance, especially in the case of aircraft noise. Extending the END reporting to lower noise levels down to 45 dB Lden and 40 dB Lnight is recommended.
- It is regarded a good thing that in several regulations the obligation to apply mitigation measures shall be balanced with the costs. This will lead to a better distribution of available budgets, in order to maximize the health improvement within a certain budget. A standard procedure to perform such cost and benefits balancing, however, is needed. Transparent cost/benefit decisions will enhance the public acceptance.

3. Mandate 2017-2022

3.1 Members

As noise abatement is an important and enduring task in Europe in order to protect the people from severe health problems, the EPA Network decided at their plenary meeting in April 2017 in Rome to renew the mandate of IGNA for 2017 – 2022. Under the co-chair of Germany and Switzerland, the following members participate now in IGNA: Poland, the Netherlands, Italy, Denmark, Czech Republic, Norway, Slovakia, Slovenia, Malta, Austria, Hungary, EEA and EPA-Network (see Figure 3). New members are always welcome to join.



Figure 3 – Members of IGNA for the mandate 2017 – 2022

Source: <https://www.eea.europa.eu/data-and-maps/figures/eea-member-countries-3>

3.2 Objectives

So far, IGNA focused its activities to issues related to traffic noise. Future IGNA work is to widen its focus by including noise from other sources, such as industry, trade and general community noise and quiet areas. In general, the following objectives are pursued:

- Updating and deepening noise abatement topics from all noise sources as well as quiet areas and summarizing the findings in reports.
- Establish expert opinions on specific technical, regulatory or policy issues and if necessary propose statements of the EPA-Network on specific topics.
- Informing EU-institutions and experts.

3.3 Activities

The actions of the IG will focus on recommendations for actual and long term objectives, mainly to the following issues:

- **Harmonization of noise-monitoring:** harmonization and standardization of methods for monitoring and evaluation of noise exposure and remedial measures;
- **Noise abatement measures at source and quiet areas:** Information and exchange of successful measures to limit noise at sources and to protect quiet areas; exchange knowledge on action plans with stringent regulatory and incentive measures at sources such as for vehicles and machines;
- **Critical levels:** harmonized critical levels (limit values) that trigger specific remedial measures;
- **Economical instruments:** cost-benefit aspects and application of financial instruments in order to compensate external costs and to set incentives for measures at sources.

The group will prepare themes of interest in advance to the meetings by developing and discussing them via multimedia (email, video-conferences, etc.). The meetings will be held at least once a year, preferably as satellite-meetings of a noise conference in order to use synergies with the whole noise abatement expert community and to reduce traveling expenses.

3.4 Working program and outputs

The first IGNA workshop of the new mandate took place in November 2017 in Berlin. IGNA reviewed the work of the last mandate-period and discussed its working program 2017-2022. Representatives of DG-Move and ERA (European Railway Agency) presented the new railway noise abatement policy of the EU. Although most countries in Europe are not particularly affected by railway freight traffic noise, IGNA decided to send letters to DG-MOVE and the ERA with a request to reconsider the system of quieter routes in the noise abatement strategy for freight railway traffic and proposed banning all noisy freight wagons from the entire railway network. Both DG-MOVE and ERA responded, showing understanding of the arguments, but still arguing in favour of the quieter route concept. As a second outcome, IGNA finalized their report "Decision and cost/benefit methods for noise abatement measures in Europe".

The second IGNA workshop in Basel took place on 10th and 11th October 2018 in conjunction with the launch event for the "WHO Environmental Noise Guidelines for the European Region". On the first day WHO together with the noise effect experts presented the results of the eight yearlong process to establish up-to-date limit values for critical health effects from noise exposure. The publication is a milestone in noise abatement and will be an important basis for establishing harmonized threshold values in the EU.

On the second day, the IGNA-members together with some guests from the WHO-expert-panel discussed the consequences and possible applications of the guidelines. IGNA is also preparing a technical report with an overview of the existing "limit-value-situation" in Europe. This report will be finalized at the next IGNA workshop, which is taken place in conjunction with the International Congress of Acoustics (ICA) in Aachen. In addition, the workshop will focus on the topic of quiet areas, urban planning and soundscaping.

In 2020, the fourth workshop is planned to be held in Malta. The aim of the meeting is to finalize the report on noise abatement methods of quiet areas, urban planning and soundscape and to update the report on traffic noise abatement (covering road-, railways- and aircraft-noise, decision and cost/benefit methods).

It is not yet clear where the workshop in 2021 will take place. The focus of the meeting will be on future trends and challenges with a special focus on noise wind turbines, construction sites, machinery, leisure activities. The last workshop of this mandate in 2022 will be in Berlin to prepare the final report.

4. Conclusion from the IGNA-activities

The activities of IGNA leads to a common understanding of how to tackle and solve noise problems and to disseminate the information to other countries. Moreover, based on the general reports it is possible to form concise expert opinions on specific questions and topics (e.g. the process to establish new EU-vehicle noise limit values) and to inform via the EPA-Network directly the relevant EU-bodies and experts.

REFERENCES

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