Overview

**Directive 2002/49/EC:**
- common approach ... to avoid, prevent or reduce ... the harmful effects, including annoyance, due to exposure to environmental noise.
- providing a basis for developing Community measures to reduce noise

**Environmental noise impact:**
- WHO-JRC → **30% EU population** more than 55 dB
- **2 Mil. DALY** (or more...)
- **10-20.000** Premature Deaths
- **0,4-2,0% EU27 GDP** external costs
Health impact

HEIMTSA-INTARESE° assessment for road traffic noise

<table>
<thead>
<tr>
<th>BAU* scenario</th>
<th>2006</th>
<th>2020</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Million Europeans highly annoyed</td>
<td>25,7</td>
<td>28,1</td>
<td>28,2</td>
</tr>
<tr>
<td>Million Europeans highly sleep disturbed</td>
<td>15,6</td>
<td>16,6</td>
<td>16,7</td>
</tr>
<tr>
<td>Thousand Europeans with myocardial infarction</td>
<td>15,6</td>
<td>16,6</td>
<td>16,7</td>
</tr>
<tr>
<td>Million DALYs per year</td>
<td>1,62</td>
<td>1,75</td>
<td>1,75</td>
</tr>
<tr>
<td>Billion Euros per year</td>
<td>13,6</td>
<td>14,7</td>
<td>14,7</td>
</tr>
</tbody>
</table>

* Business as usual scenario
° D 7.1.9 – Delivery D 7.1.9 HEIMTSA 2011
Number of people in Europe exposed to different noise bands of $L_{\text{night}}$
EU results – 2007 noise mapping

Numbers of people affected by transport noise in agglomerations > 250000 inhabitants (EU27)

- Roads: 56 million (L_{den} \geq 55dB), 40 million (L_{night} \geq 50dB)
- Railways: 6 million (L_{den} \geq 55dB), 5 million (L_{night} \geq 50dB)
- Airports: 3 million (L_{den} \geq 55dB), 2 million (L_{night} \geq 50dB)
<table>
<thead>
<tr>
<th>Effect</th>
<th>Indicator</th>
<th>Threshold, dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in cardiovascular activity</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>EEG awakening</td>
<td>L&lt;sub&gt;max&lt;/sub&gt;,inside</td>
<td>35</td>
</tr>
<tr>
<td>Motility, onset of motility</td>
<td>L&lt;sub&gt;max&lt;/sub&gt;,inside</td>
<td>32</td>
</tr>
<tr>
<td>Changes in duration of various stages of sleep, in sleep structure and fragmentation of sleep</td>
<td>L&lt;sub&gt;max&lt;/sub&gt;,inside</td>
<td>35</td>
</tr>
<tr>
<td>Waking up in the night and/or too early in the morning</td>
<td>L&lt;sub&gt;max&lt;/sub&gt;,inside</td>
<td>42</td>
</tr>
<tr>
<td>Prolongation of the sleep inception period, difficulty getting to sleep</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Sleep fragmentation, reduced sleeping time</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Increased average motility when sleeping</td>
<td>L&lt;sub&gt;night&lt;/sub&gt;,outside</td>
<td>42</td>
</tr>
<tr>
<td>Self-reported sleep disturbance</td>
<td>L&lt;sub&gt;night&lt;/sub&gt;,outside</td>
<td>42</td>
</tr>
<tr>
<td>Use of somnifacient drugs and sedatives</td>
<td>L&lt;sub&gt;night&lt;/sub&gt;,outside</td>
<td>40</td>
</tr>
<tr>
<td>Environmental insomnia**</td>
<td>L&lt;sub&gt;night&lt;/sub&gt;,outside</td>
<td>42</td>
</tr>
</tbody>
</table>
The END 2002/49/EC

• Is meant to achieve:
  • A common approach to avoid, prevent or reduce
  • On a prioritised basis
  • The harmful effects, including annoyance, due to exposure to environmental noise

• Determination of exposure (mapping)
• Information and involvement of the public
• Adoption and implementation of action plans

5 years
The END 2002/49/EC

• Is also aimed at developing community measures to reduce noise emitted by the major sources ... roads, railways, aircraft, industrial ...
The process

- **Noise maps** are performed
- Effect in terms of $L_{den}$ (day + eve + night)
The CNOSSOS-EU

- Common Noise Assessment methods are the major future change to the END
The process

- **Action plans** are prepared, disseminated and discussed with the public, adopted.
<table>
<thead>
<tr>
<th>Data flow</th>
<th>Summary description of information to be reported</th>
<th>Legally binding deadline</th>
<th>Updates by MS</th>
<th>END provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>DF0</td>
<td>Definition of reporting structure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DF1_5</td>
<td>Major roads, major railways, major airports and agglomerations designated by the Member State.</td>
<td>First legally binding deadline: 30 June 2005. (1st implementation step) (1). Second legally binding deadline: 31 December 2008 (2nd implementation step) (2).</td>
<td>Mandatory every five years for DF1 — 1st implementation step (suggested for DF5 — 2nd implementation step).</td>
<td>Art 7-1 Art 7-2 Art 7-5</td>
</tr>
<tr>
<td>DF2</td>
<td>Competent bodies for strategic noise maps, action plans and data collection.</td>
<td>18 July 2005.</td>
<td>Possible at any time.</td>
<td>Art. 4-2</td>
</tr>
<tr>
<td>DF3</td>
<td>Noise limit values in force or planned and associated information.</td>
<td>18 July 2005.</td>
<td>Possible at any time.</td>
<td>Art. 5-4</td>
</tr>
<tr>
<td>DF4_8</td>
<td>Strategic noise maps related data as listed in annex VI for major roads, railways, airports and agglomerations.</td>
<td>First legally binding deadline: 30 December 2007. (1st implementation step). Second legally binding deadline: 30 December 2012 (2nd implementation step).</td>
<td>Mandatory every five years.</td>
<td>Art 7-1 Art 7-2 Art 7-5 Art 10-2 Annex VI</td>
</tr>
<tr>
<td>DF6_9</td>
<td>Noise control programmes that have been carried out in the past and noise-measures in place.</td>
<td>First legally binding deadline: 18 January 2009. (1st implementation step). Second legally binding deadline: 18 January 2014 (2nd implementation step).</td>
<td>No updates.</td>
<td>Art. 10-2 Annex VI 1.3 &amp; 2.3</td>
</tr>
</tbody>
</table>
The features of the 2002/49/EC

- Mandatory process
- Mandatory reporting to the Commission
- No EU limits, no mandatory actions

National authorities and national limits

Review of Directive on-going, on-line consultation closed:
http://ec.europa.eu/environment/consultations/noise_en.htm
Implementation status

- **Common methods still to be finalised**
  - JRC delivered CNOSSOS-EU – COM now supported by consultant (Extrium) – Work starts December 2012

- **Delayed implementation**
  - Very slow implementation by MS - COM followed only in extreme situations – now more effective legal procedures

- **Discretionality of measures to be adopted by M.S.**
  - MS are free to adopt at own discretion – Generally only few, local, inefficient measures

- **Poor source control at EU level**
  - 2002/49/EC did NOT trigger source control measures
Current legal initiatives ongoing by EC:

- **Tyres** *(1,5 dB benefit in 20 years)*
- **Road vehicles** *(new proposal in Parliament with 0,5-3 dB benefit in 20 years)*
- **Airports** *(process to prepare action plans defending the balanced approach – benefit)*
- **New railway vehicles** *(revision of the TSI during 2012-2013)*
- **Financial support to railway freight vehicles improvement through the Connecting Europe Facility** *(potential benefit 8dB during night times)*
Technical issues for review

- **Enforceability**
  - No binding limits (only noise maps and action plans with any ambition level)

- **Trigger or limit values**
  - To be possibly introduced to enhance action plans with specific ambition level

- **Exposure reduction targets**
  - Other, cost effective mean to facilitate EU wide benefits

- **Noise indicators**
  - Lowering reporting bands to 40 dB, as indicated by WHO?

- **Relation to source legislation**
  - Strategy to reduce at source (cost effective e.g.: cars → external costs / costs = 20)

- **Definitions, requirements, concepts** quiet areas and soundscapes

- **Administrative burden and aligning legal aspects**
Key issues

- Is the 2002/49/EC sufficient to:
  - Drive actions at MS level?
  - Drive regulation on source?

- Dialogue on appropriate level of ambition

- **EU STRATEGY?**
Summary!

- 30% EU population, 2 Mil. DALY, 20000 premature deaths
- 3-phases ➔ Noise maps, involvement of public, action plans
- Reporting of data and publication of maps
- Partial implementation by MS
- Weak COM enforcement (no legal actions, weak at source noise reduction proposals)
- Directive revision, possible EU strategy
Concerning quiet areas in the END

- **Preamble**

  “the need to apply the principle of prevention in order to preserve quiet areas in agglomerations.”

- **Art. 2 (Scope)**

  “in public parks or other quiet areas in an agglomeration, in quiet areas in open country”

- **Art. 11 (Review)**

  That report shall in particular assess the need for further Community actions on environmental noise and, if appropriate, propose implementing strategies on aspects such as:

  (c) the protection of quiet areas in open country.

- **Art. 8 (Action plans)**

  Such plans shall also aim to protect quiet areas against an increase in noise.

- **Annex V (Minimum requirements for action plans):**

  “actions which the competent authorities intend to take in the next five years, including any measures to preserve quiet areas”

- **Annex I – Supplementary noise indicator**

  “quiet areas in open country”
Thank you for your attention!

Questions!!!!!

Email: ENV-NOISE@ec.europa.eu
Modifications in the templates:

This dataflow can be delivered with templates.

1. Your first step is to upload one or more files into this envelope by using the Add file button.

The following file formats are supported under this reporting obligation:

- Spreadsheet files based on templates in the Data Dictionary. Only this template is supported.
- Other files, excluding Excel files.

More information in the Data Dictionary.
Reportnet – It's convenient!

- Check delivery and download data: 5', 20'
- Check automatic QA: 5', 45'
- Check link between codes: 20', 45'
- Spatial data: 7 h

Minutes

0 50 100 150 200 250 300 350 400 450

Reportnet
Other means or old templates
Major EU actors for the 2002/49/EC

- European Commission DG Environment
  (all formal communications - legislation)
- European Commission DG JRC
  (technical support – CNOSSOS-EU)
- European Environment Agency
  (data analyses, statistics, data reporting)
- ETC (European Topic Centre)
  (technical assistance in collecting data from MS)

- NRC (Noise Regulatory Committee)
- NEG (Noise Expert Group)
Suggestions for "newcomers"

• Plan at least 3 years before the release of the data to the EC
• Consider interacting with local administrations
• Collect data (3-D terrain, population, traffic!)
• Use (most likely) the on line guidelines and CNOSSOS-EU
• Use Reportnet and follow EEA Eionet courses
• Inform and involve the public both in mapping and action plans!
Possible elements for revision of the END

• Trigger, target or recommended values

• Lowering noise indicators (reporting bands)

• Improving enforcement (i.e. action planning)

• Technical definitions, clarifications

• Administrative burden, aligning legal aspects
Action plans

- Approximately 80 airports in EU were subject to the END 2002/49/EC.
- At least partial noise mapping data is available for approx. 80% of the airports.
- Concerning action plans, though difficult to establish, possibly only half of EU airports comply so far with the END Directive obligations.
- European Commission is verifying ...
Typical noise reduction measures

- Insulated windows (if windows are kept closed!)
- Approach / take off procedures & tracks (noise preferential routes)
- Rotation of tracks use
- Phase-out of the noisiest aircraft (COM/2011/0828 final)
In conclusion...

- Aircraft noise is a **sensitive issue** for those people living within a few kilometres from the airports.
- It affects health of **approx. 2 million EU citizens**.
- For comparison, overall population exposed is **20 times less than that to road noise**.
- The **END obliges** to mapping, inform and discuss with the public the noise reduction action plans.
- Still, the **END is not appropriately implemented**.
The features of the 2002/49/EC

• Though **not mandatory to take action** (but action plans yes!)
• Directive obliges a **5 year** "awareness and action planning process"
• Therefore obliging public/airport authorities and the citizens to **discuss** the noise reduction plans
• Allows **deriving local and EU wide data** to estimate the impact of noise
EU results – 2007 mapping

Number of people living in agglomerations exposed to noise from airports in Europe

- $L_{den}$
  - All airports
  - Major airports

- $L_{night}$
  - All airports
  - Major airports