



YMPÄRISTÖMINISTERIÖ
MILJÖMINISTERIET
MINISTRY OF THE ENVIRONMENT

Actions of Finnish Ministry of the Environment in mitigating environmental noise and informing the inhabitants

The Environmental Noise Conference
Tallinn, 21 October 2010

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- # Content

- ## Background

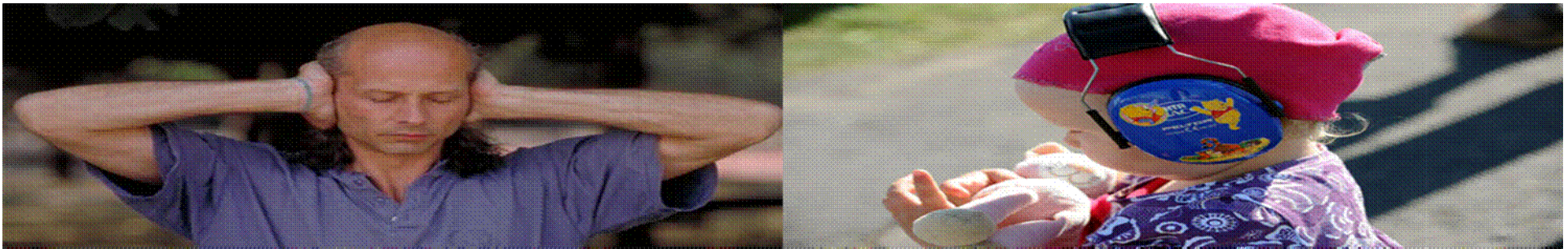
- Noise impact
- Policy
- Legislation and decisions
- Administrative structure
- Mitigation of environmental noise, two examples
 - Basic principles in noise abatement
 - Global action: Directive on environmental noise 2002/49/EC
 - Local action: Snowmobiles

- ## Information to inhabitants

- ## Conclusions

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- **Background – noise impact**

- One in six Finns lives in an area where the daily noise level exceeds the recommended target value of 55 dB
- Economical impacts may be remarkable
 - 0,2 – 2% from GDP (gross domestic product)
 - In the area of EC (European Community) approximately 13-38 billion euro
 - GDP /FIN/2008 184,7 billion € → 0,37 – 3,7 billion €



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- ## Background - policy

- Common will to mitigate noise

- Drivers

- Influence to health and well-being
- Pleasant low-noise living environment

- Government Resolution on Noise Abatement (2006/05/31)

- The noise levels in the environment and exposure to noise must be significantly reduced by 2020
- In comparison with 2003, at least 20% fewer people will live in areas where the daytime noise level exceeds 55 dB
- Noise abatement measures will initially focus on residential areas in which the average daytime noise level exceeds 65 dB and areas in which large numbers of people are exposed to noise

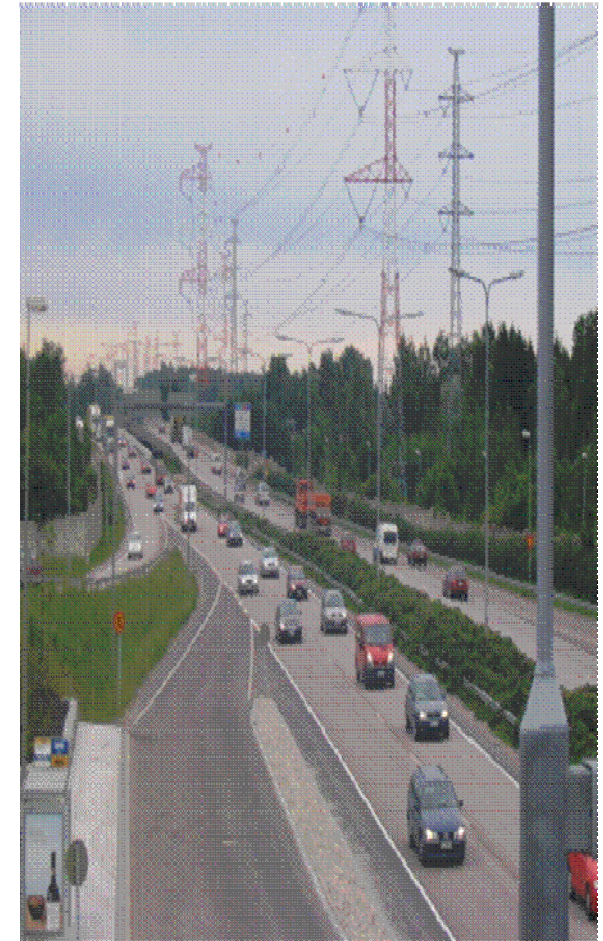
● Legislation and decisions concerning noise (1)

The Environmental Protection Act (86/2000)

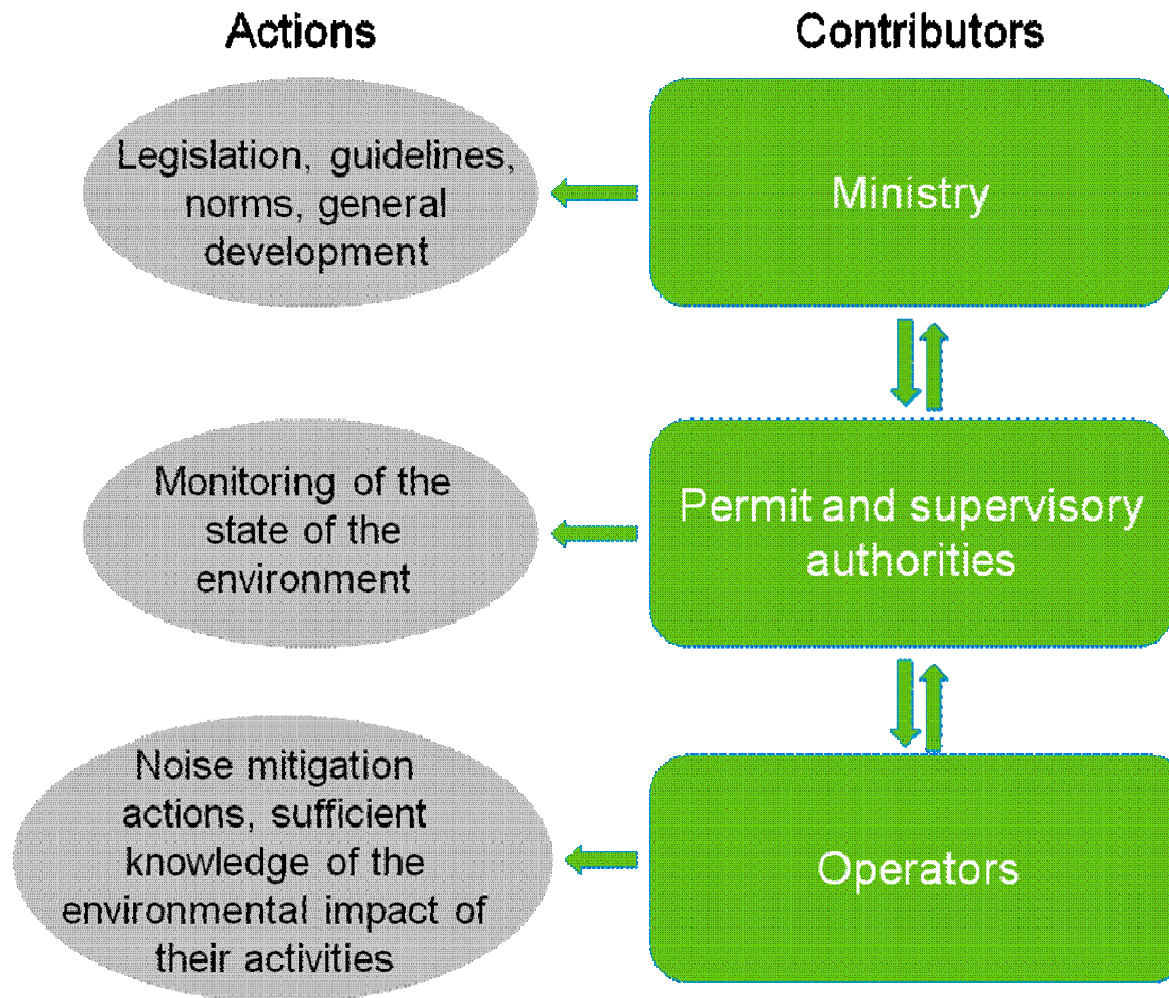
- Noise Abatement Act had been in force since 1988
- The principal piece of legislation on the abatement of environmental noise
- Defines noise as an emission that may cause environmental pollution
- Operators causing environmental pollution have to have sufficient knowledge of the environmental impact of their activities
 - Also applied to road keepers and operators of rail traffic or aviation sites
- General principles
 - Prevention, minimizing harmful impact, caution and care, BAT, BEP and the 'polluter pays' principle
- Basis for transposing the directive on the assessment and management of the environmental noise (Directive on environmental noise 2002/49/EC)

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- **Legislation and decisions concerning noise (2)**

- Government Decree on Noise Mapping and Action Plans for Noise Abatement Required by the EC (801/2004)
- Government Decree on Noise Emissions Levels from Equipment for Outdoor Use (621/2001)
- Government Decision on the Noise Level Guide Values (993/1992)
- Land Use and Building Act (132/1999)
 - System of land use planning
 - the environmental impact of implementing the plan
 - Objectives of building guidance
 - The Finnish Building Code
- Several other acts concerning at least partly noise



- Background - administrative structure



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- Mitigation of environmental noise

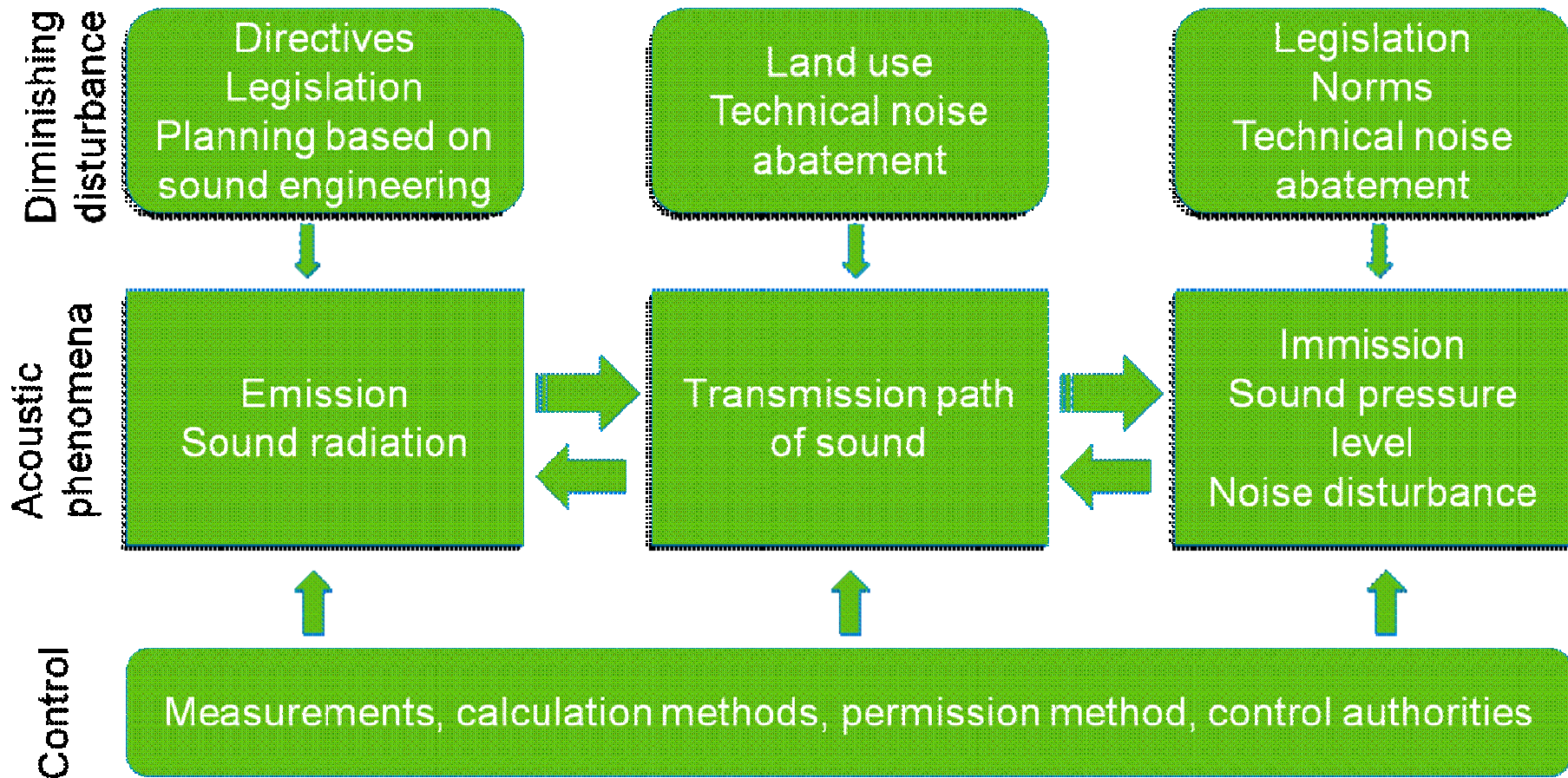
Basic principles in noise abatement (1)

- Environmental impact
 - Actions to noise source
 - Distance to disturbed target
 - Restrictions in utilization
 - Shielding of disturbed target
- Other impacts
 - Impact to trade
 - Costs
 - etc.



- Mitigation of environmental noise

Basic principles in noise abatement (2)



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- Example 1 - Directive on environmental noise 2002/49/EC (END)

Demands

- Strategic noise maps and noise abatement action plans
 - Agglomerations
 - Transport facilities and airports
- Competent authorities designated to survey noise conditions and to draft action plans
- Contrary to usual mapping procedures, the Directive requires
 - the use of common indicators and methods and drafting of action plans for noise abatement
 - Reports and programmes are checked and, if need be revised, every five years

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- END – drafting to Finnish Law

Actions

- Law drafting required to transpose the Directive on environmental noise into Finnish law
- Modifications of the computational models for road and rail transport to meet with the Directive
- Guidelines and background material for temporary computational models

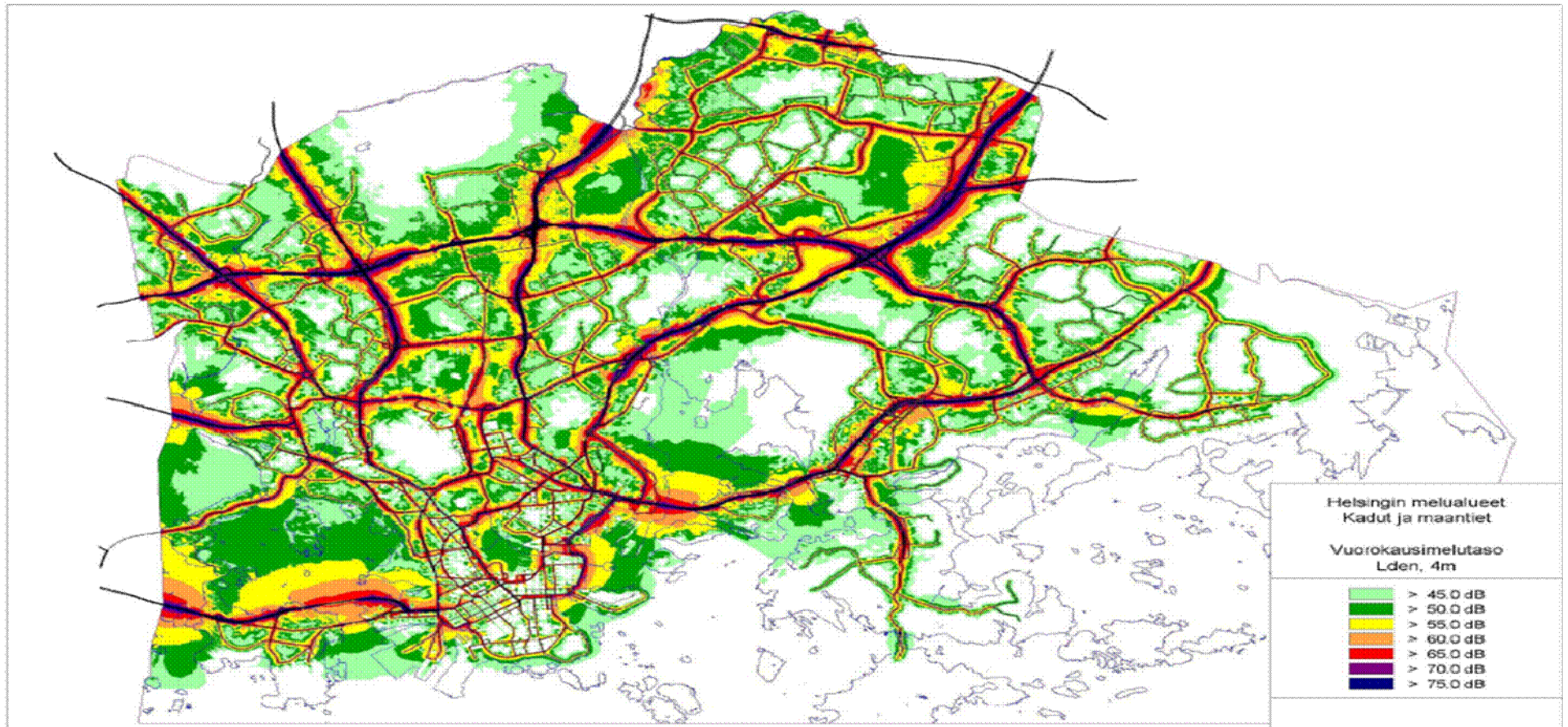


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- END – Stages

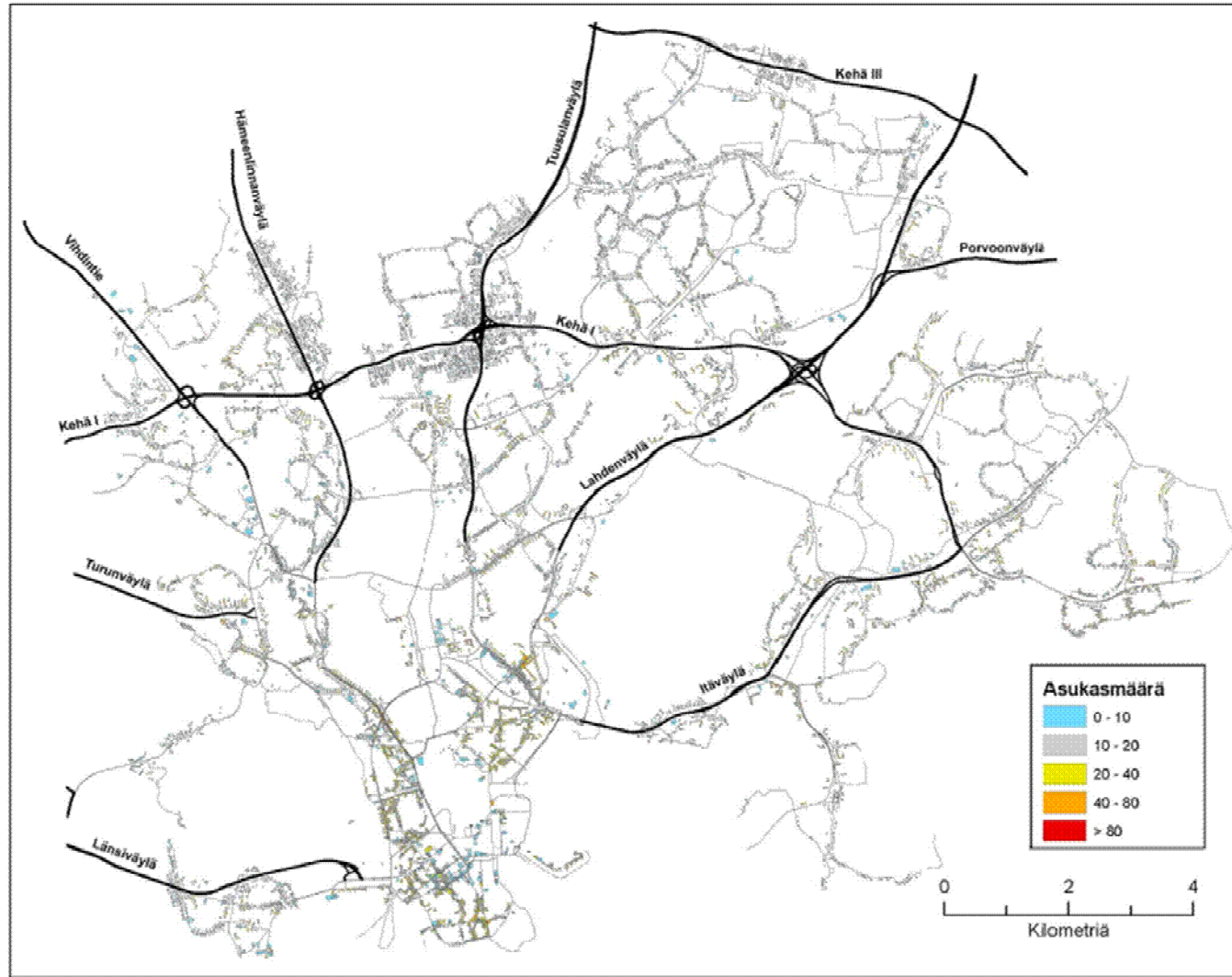
- First stage of mapping
 - Helsinki and its surrounding
 - Some 530 km of public roads
 - Helsinki-Vantaa and Helsinki-Malmi airports
 - Railway Helsinki-Tikkurila
- Second stage of mapping
 - Tampere, Turku, Oulu, Lahti, Jyväskylä
 - Some 1550 km of public roads
 - Railway between Helsinki and Tampere and Kirkkonummi and Huopalahti and Vantaankoski



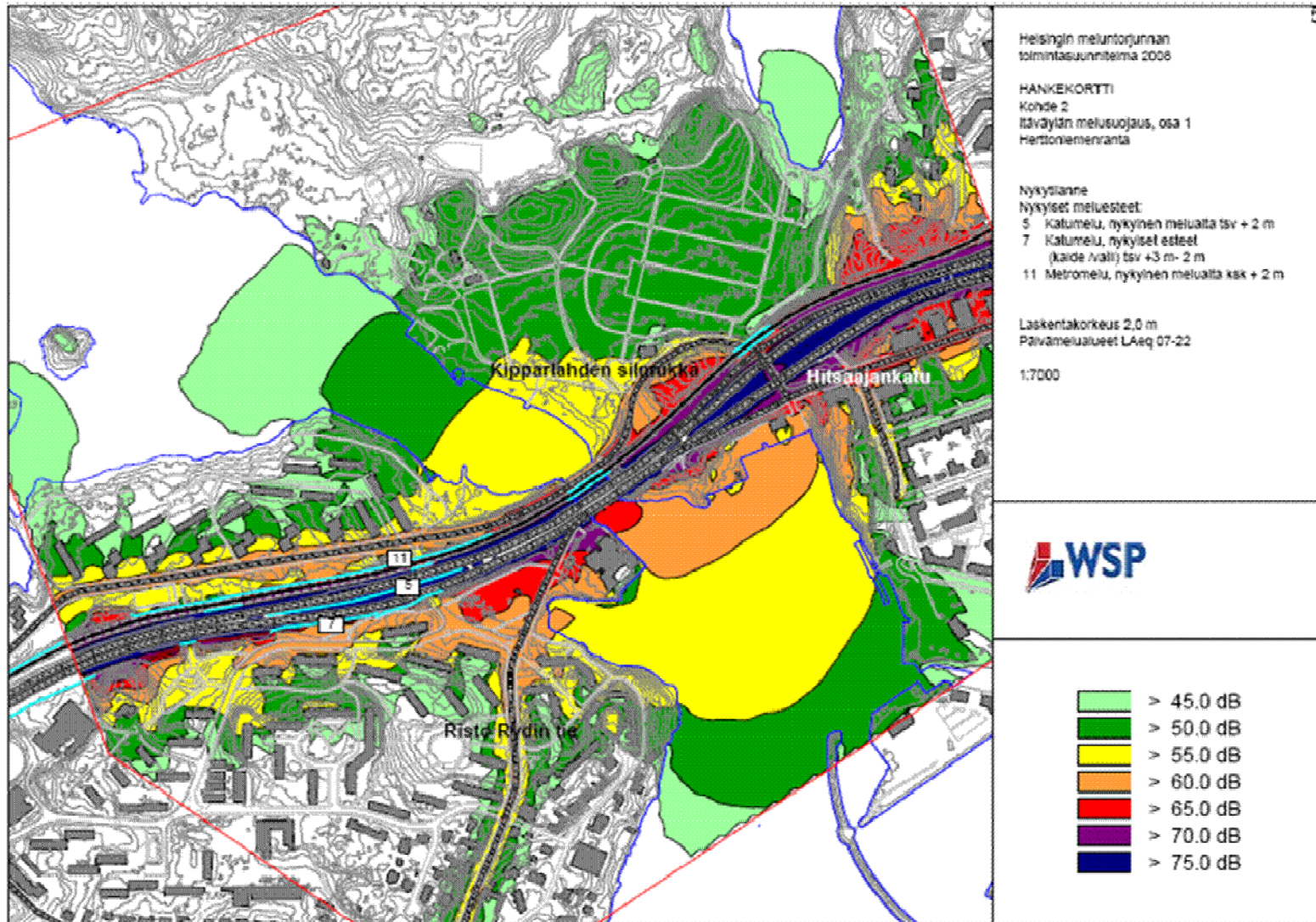
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- Noise map of city of Helsinki – streets and roads



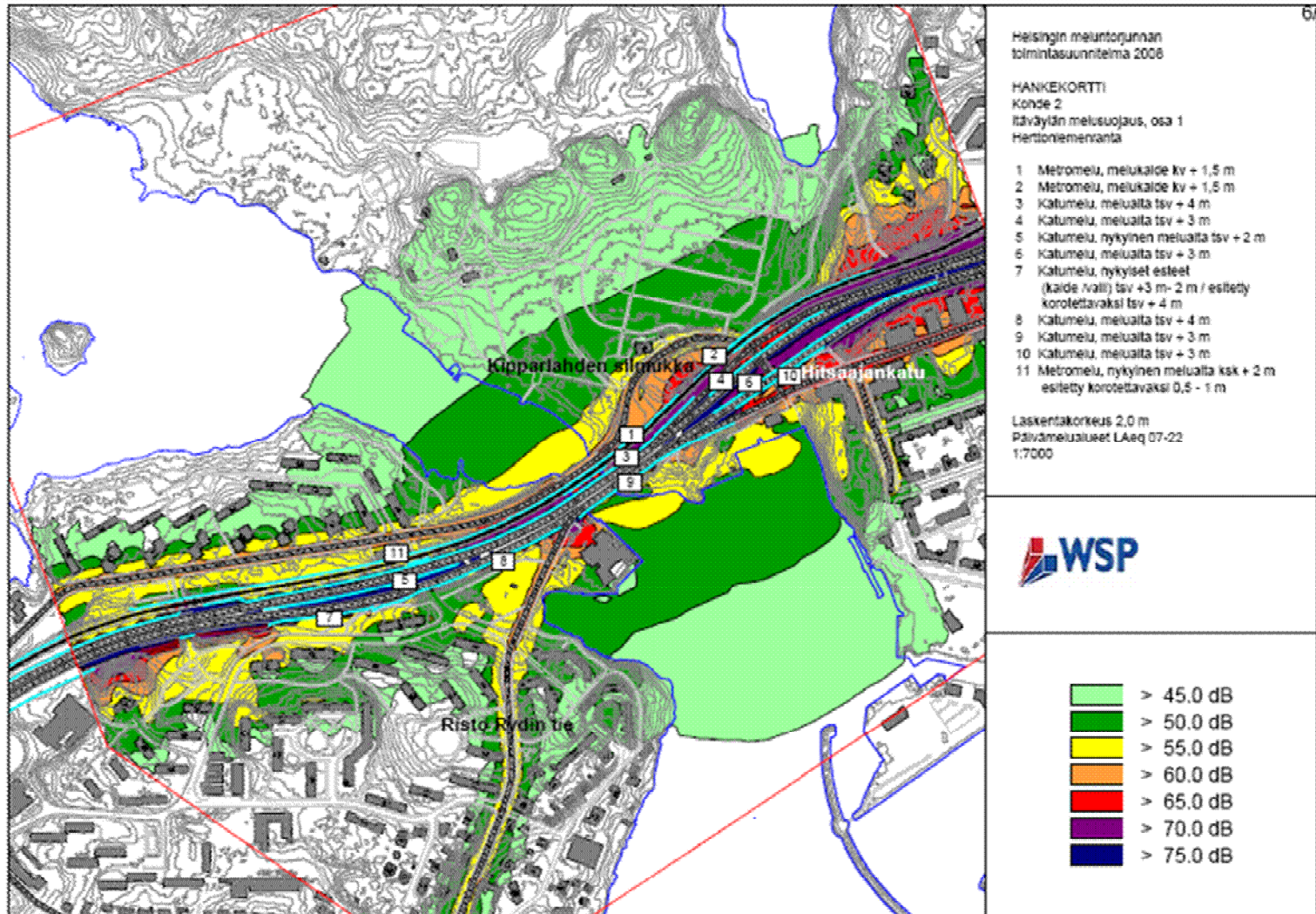
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- Building facades with 55 dB SPL (Lden)



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- Project card – before noise abatement



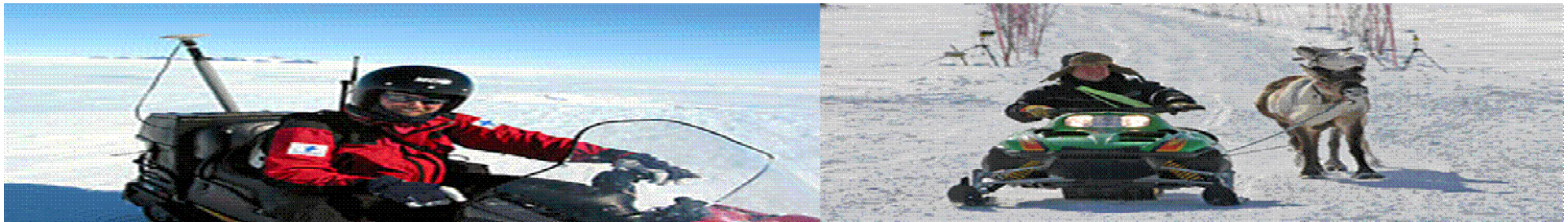
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- Project card – after noise abatement



● Example 2 - snowmobiles

Noise disturbance

- significant detrimental impact of snowmobiling is noise
- may cause disturbances to other people enjoying the recreational use of nature as well as permanent and holiday housing
- the most problematic places are routes that travel close to built-up areas
- Professional exploitation
 - Life saving; doctors, veterinarians
 - Trade; reindeer herders, loggers, scientists
- Recreation
 - Fishing, hunting



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- **Snowmobiles – legislation**

Utilization of equipment and noise limit values

- the Act on Off-Road Vehicles (1710/1995), a motorised vehicle may not be used to traverse, stopped or parked in the terrain without permission from the landowner or leaseholder
- The decree (1251/2002) concerning off-road vehicles restrictions for snowmobile noise
- Decision of the Council of State (VNp 993/1992) concerning allowed noise levels



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- **Snowmobiles – noise emission**

Registration

- In 2009 there were 117 051 registered snowmobiles in Finland
 - Finland is the only country in Europe which has data of actual registrations and measured noise values according to test method SAE J 192 (full-throttle acceleration test)
- In 2008 3872 and in 2009 3610 snowmobiles were registered



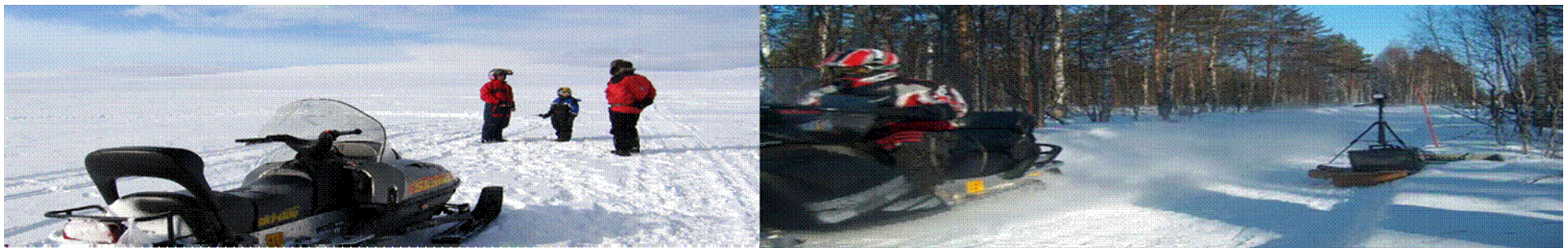
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- ## Snowmobiles – route network

- Well defined snowmobile routes exist to
 - avoid noise disturbances
 - restrictions to spoil soil (exhaust emission)
- The total length of the network is approximately 7,300 kilometers
 - Traffic guidance and control (speed limits for example)
 - Noise maps for land use purposes

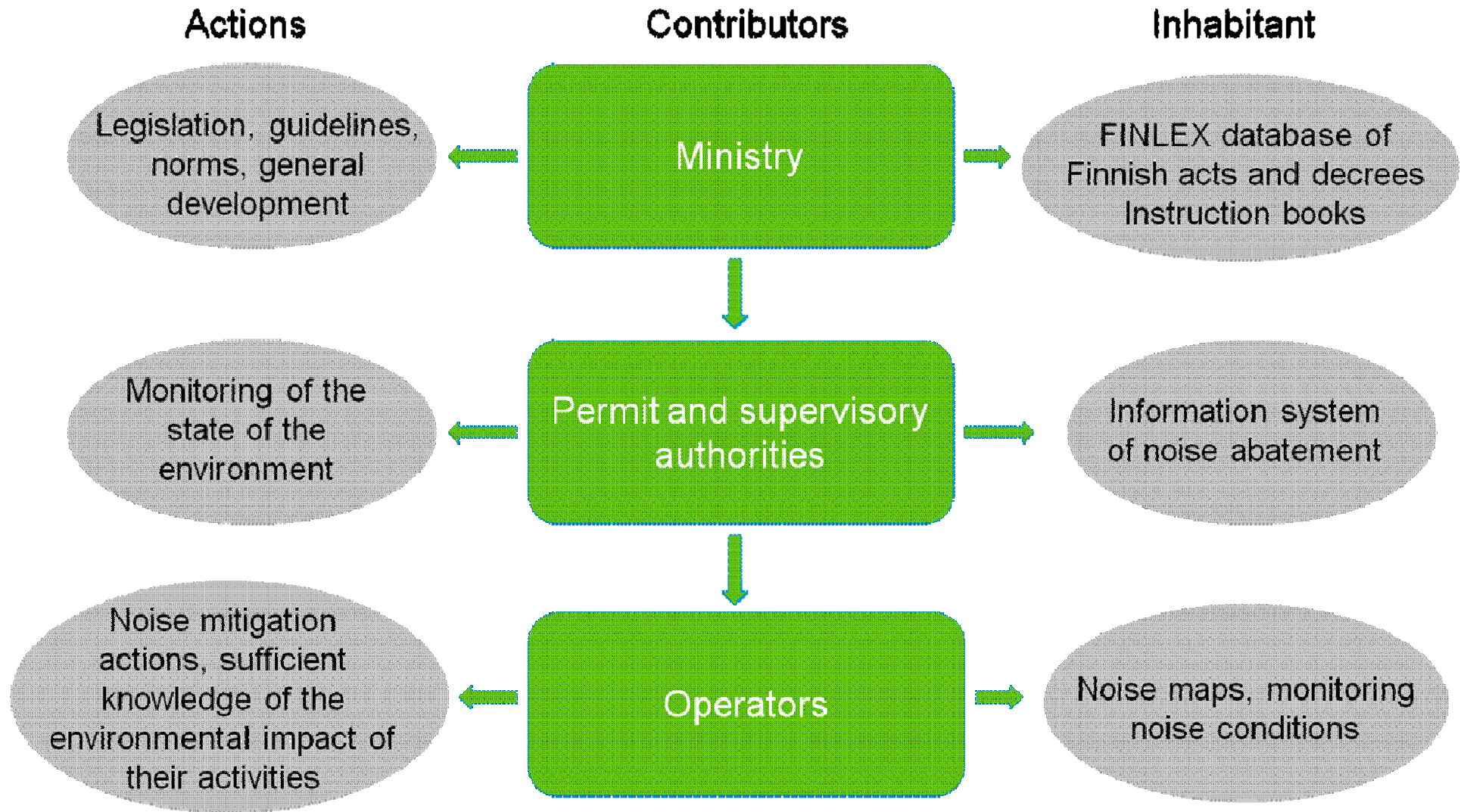


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- ## Snowmobiles – studies

- Several studies carried out concerning the noise emission and noise areas of snowmobiles
- Studies cover
 - Design criteria for snowmobile routes
 - Impacts on land use and community
 - Impacts on people and societies
 - Environmental impacts
 - Impacts on trade
 - Impact of varying speeds, driving styles and traffic numbers to noise
- Influence to Directive 2000/14/EC (The Outdoor Equipment Noise Directive)



- Information to inhabitants - actors



● Information to inhabitants – different media

- WWW-sites of authorities
 - Instruction books
 - General information
- Information system (database) for noise abatement
 - Prepared by environmental authorities
 - Serve as a collection point for nation-wide information on the noise caused by various sources, noise areas, exposure to noise and noise reports
- Social media
 - Facebook etc.
 - Not yet exploited fully

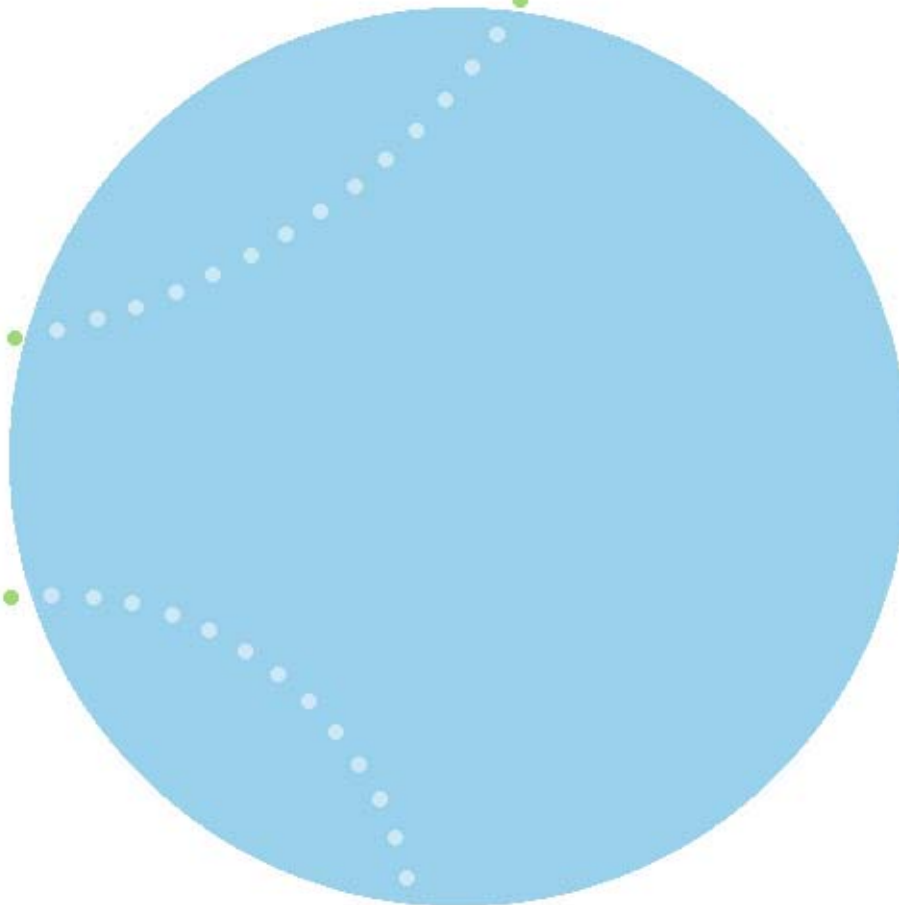
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- ## Conclusions

- Environmental noise issue is one of the most important environmental problems in Europe
- Reduction of noise impacts is a challenging task
- Important to influence to the noise abatement at different levels
 - registration, route network, traffic guidelines and control etc.
- Global and local actions and their dependence
- Acoustic quality of environment may often be more important to inhabitants than the noise level alone





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Additional information
<http://www.environment.fi/>

Ari Saarinen / The Environmental Noise Conference
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