



Environmental public policies on Air, Noise and Physical Activity : which effectiveness?

Evaluation and identification of synergistic evidence-based public interventions



Raphaël KERMAÏDIC

PhD student. Chaire RESPECT
(Health Resilience, Prevention, Environment,
Climate, Transition)

Cyrille HARPET (PhD director)
Laurie MARRAULD (PhD co-director)



Réseau doctoral
en santé publique

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1. Context



Noise : 147 B€/yr



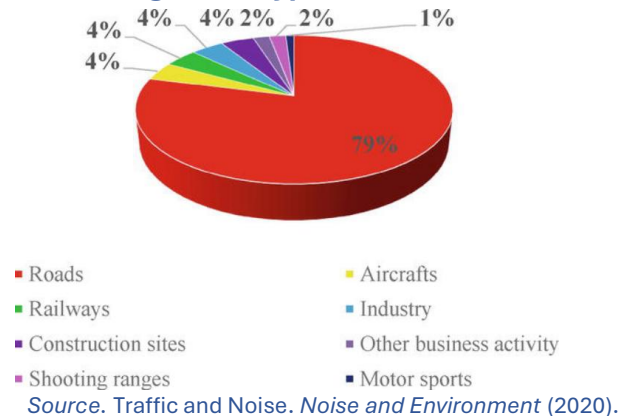
Outdoor Air Pollution : 130 B€/yr



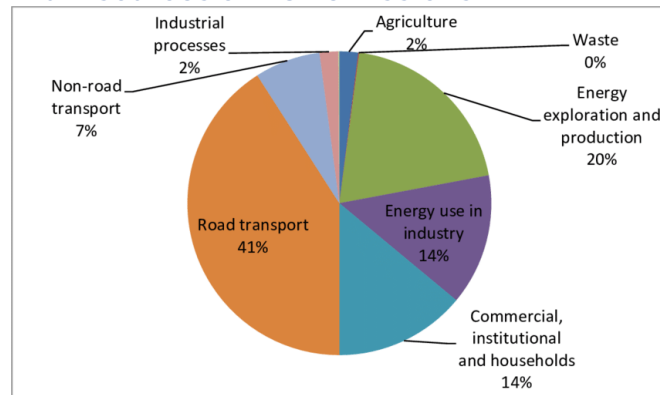
Nutrition and Physical Activity : 167 B€/yr



Distribution of human noise annoyance according to the type of noise source



Main sources of NOx emissions



Source: An overview of the TiO₂-photocatalysis and some applications to the construction industry (2013).

A vertical strip on the left side of the slide showing a detailed view of a classical building's dome and facade, with ornate architectural elements and windows.

2. Objectives

Improve existing environmental policies to reduce environmental economic and health burden

A. Assess the impact and efficiency of existing environmental public policy

B. Identify evidence-based cross sectoral intervention and implementation

A. Assess the impact and efficiency of existing environmental public policy

3. Method



Regulations
&
Public Policies

Europe
National
Regional
Local

Noise
Air pollution
Physical
Inactivity
+
Climate
Change
&
Biodiversity



Relevance
Effectiveness
Efficiency
Impact
Sustainability
Coherence

+
Unintended effects
Equity
Acceptability



Concentration
Emissions
Health outcomes
Socioeconomic
costs
+
Intermediary
objectives

4. Results

Noise

(PPBE (Law on noise 1992, END 2002))



Nutrition and Physical Activity

(Egalim, PNAN (PNNS + PNA), Mobility Plan...)



Overweight/ Obesity

Sedentary lifestyle/
Physical Inactivity



Biodiversity

(SNB 2030)

- **17% of fauna and flora species are now threatened or extinct in France,**
- **Risk of extinction +14% in 10 years.**



Air Pollution

(PREPA, PPA, Plan mobilité...)

Emissions



Climate Change

(SNBC, PNACC, PPE, SRADDET, PCAET)



Concentration

GHG Emissions 1995-2022 : -7%

Carbon budget : exceeded by 3% 2015-2018.



B. Identify evidence-based cross sectoral interventions and implementation

3. Method

Compared studies for the identification of evidence-based synergistic interventions


Ranking Preventive Interventions from Different Policy Domains: What Are the Most Cost-Effective Ways to Improve Public Health?

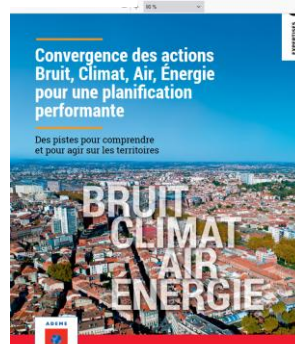
by Nina van der Vliet ^{1,2,*} , Anita W.M. Suijkerbuijk ¹ , Adriana T. de Blaeij ¹ , G. Ardine de Wit ^{1,3} , Paul F. van Gils ¹ , Brigit A.M. Staatsen ¹ , Rob Maas ¹  and Johan J. Polder ^{1,2} 

WHO Environmental Noise Guidelines for the European Region: A Systematic Review of Transport Noise Interventions and Their Impacts on Health

by Alan Lex Brown ^{1,*}  and Irene Van Kamp ²

Improving health through policies that promote active travel: A review of evidence to support integrated health impact assessment

Audrey de Nazelle ^{a b c d} , Mark J. Nieuwenhuijsen ^{a b c} , Josep M. Antó ^{a b c} , Michael Brauer ^d , David Briggs ^a , Charlotte Braun-Fahrlander ^f , Nick Cavill ^g , Ashley R. Cooper ^h , Hélène Desqueyroux ⁱ , Scott Fruijn ^j , Gerard Hoek ^k , Luc Int Panis ^j , Nicole Janssen ^m , Michael Jerrett ⁿ , Michael Joffe ^a , Zorana Jovanovic Andersen ^o , Elise van Kempen ^m , Simon Kingham ^p , Nadine Kubesch ^{a b c} , Kevin M. Leyden ^{q r} , Erik Lebret ^{k m}



4. Results

- **Low Emission Zone (LEZ)/ Ultra LEZ**
- **Speed Reduction on high-speed Lane / in highly populated area**
- **Modal shift/ Separated bicycle lane/ Infrastructures favorable to walking and cycling**
- Study on the implementation of Rennes Metropole LEZ



European
Environment
Agency



Santé
publique
France



BRUITPARIS

5. Limits and Discussion

Limits

Evolutions of indicators can never be exclusively linked to the implementation of a public policy

Environmental and Public policy timescale rarely overlap

Evaluation through objectives completion might miss actual social effects

Interest

Overview of the evolution of environmental health indicators in regards of their associated public policies and regulations

Dialogue

- Environmental complex interaction makes it difficult to properly evaluate public policies : any other way?
- Range of applicability?
- Replicability to other determinants, environmental stakes and policies?

A cluster of several small, colorful geometric shapes (triangles and polygons) in shades of pink, teal, and blue, arranged in a circular pattern.

THANK YOU



QUESTIONS?