

Environmental justice, environmental hazards and the vulnerable in European society

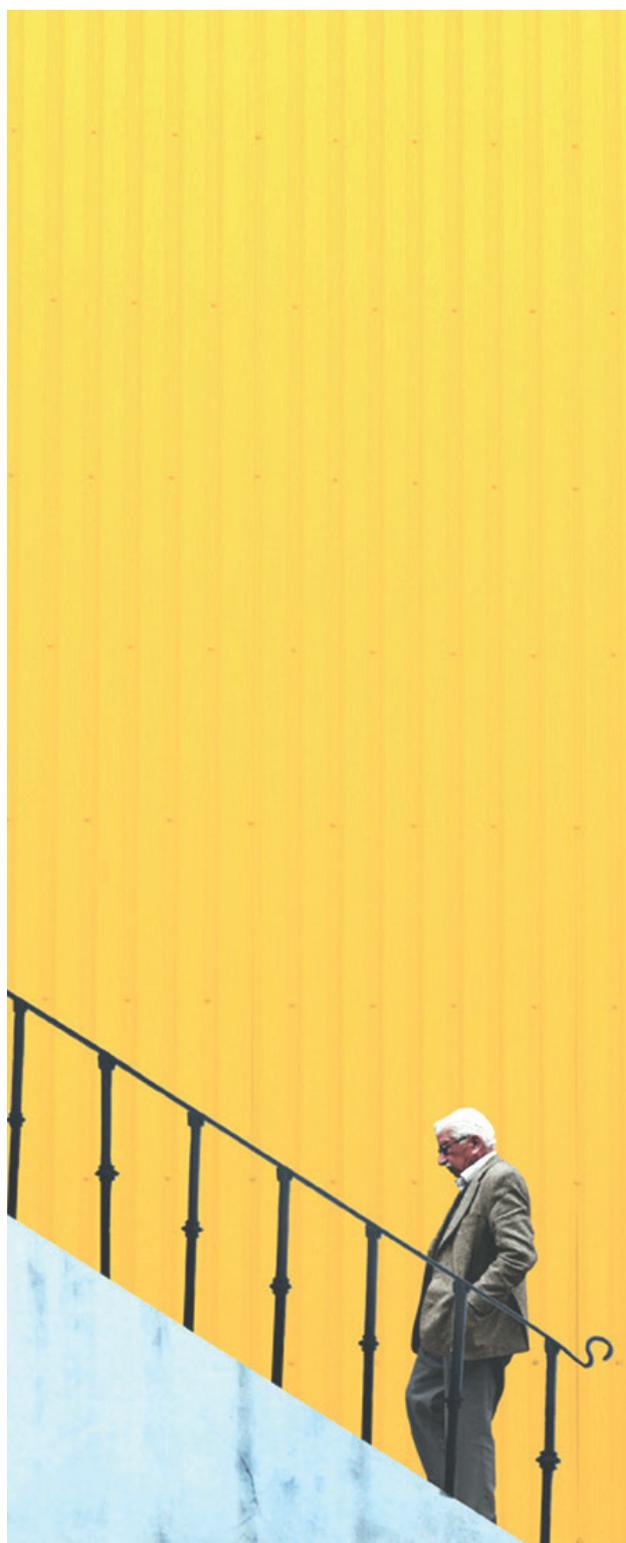
Briefing on a new European Environment Agency (EEA) report: *Unequal exposure and unequal impacts: social vulnerability to air pollution, noise and extreme temperatures in Europe.*

The EEA has been reporting on the state of environment in Europe for 25 years. During this time, our deepening understanding of the characteristics of Europe's environmental challenges and their interdependence with economic and social issues has highlighted the need for more integrated assessments addressing persistent, systemic challenges.

This new EEA assessment shows the connected nature of environmental and social inequalities and aims to contribute to the debate about environmental and social justice in Europe.

Key messages:

- The uneven distribution of the impacts of air pollution, noise and extreme temperatures on the health of Europeans closely reflects the socio-demographic differences within our society.
- There are strong regional differences in social vulnerability and exposure to environmental health hazards across Europe.
- Inequalities in exposure to environmental health hazards and their impacts on European society are only somewhat addressed by current policy and practice.
- The impacts of and exposure to environmental health hazards are likely to continue in the future and thus require increased recognition in policy across governance levels.
- Better alignment of social and environment policies, and improved local action can help to tackle environmental justice issues.



Europeans live well but some are more vulnerable

Compared to other world regions, Europeans enjoy good quality of life. EU policies and legislation, such as the Seventh Environment Action Programme (7th EAP) and the Cohesion Policy, have led to economic growth and improvements in living conditions and environmental standards.

However, socio-economic inequalities continue in Europe at national, regional, neighbourhood and individual levels. The well-being and living standards of some groups, such as the elderly, people living in poverty and those with lower education or with limited employment prospects tend to be lower.

Environmental issues through a social lens

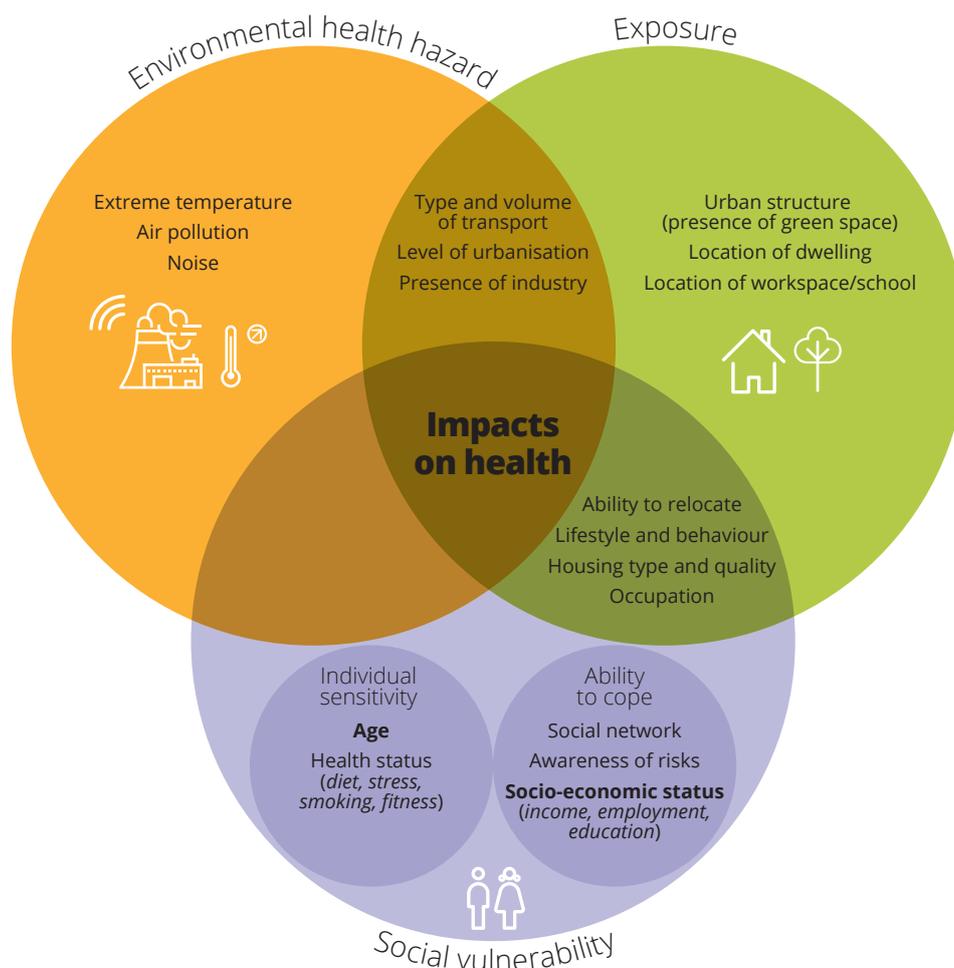
Air pollution, noise and extreme temperatures are amongst the most critical environmental issues due

to the impacts they have on the health of Europeans. The EEA closely monitors these environmental hazards and publishes data via online portals such as the European Air Quality Index ⁽¹⁾, the Noise Observation and Information Service for Europe ⁽²⁾ and the Climate-ADAPT website ⁽³⁾.

This EEA report considers the associations between exposure to air pollution, noise and extreme temperatures and socio-demographic characteristics of the population and asks:

- are disadvantaged members of our society affected disproportionately by the environmental conditions they live in?
- are we doing enough at European, national and local levels to improve the environmental quality for vulnerable people?

Figure 1 Impacts on well-being from a combination of vulnerability and exposure to environmental health hazards



Sources: EEA, based on IPCC (2014b), WHO Europe (2010) and Aalbers et al. (2014). The report addresses the aspects of exposure and vulnerability to a varying extent.

⁽¹⁾ <https://www.eea.europa.eu/themes/air/air-quality-index/index>

⁽²⁾ <http://noise.eea.europa.eu>

⁽³⁾ <https://climate-adapt.eea.europa.eu>

Who are the vulnerable groups and why?

When environmental hazards, exposure and social vulnerability coincide – health impacts can emerge. Vulnerability in this context is understood as the potential to be harmed, if an individual or community becomes exposed to a hazard. The elderly, children and people of low socio-economic status are the most likely to have their health worsened by environmental hazards.

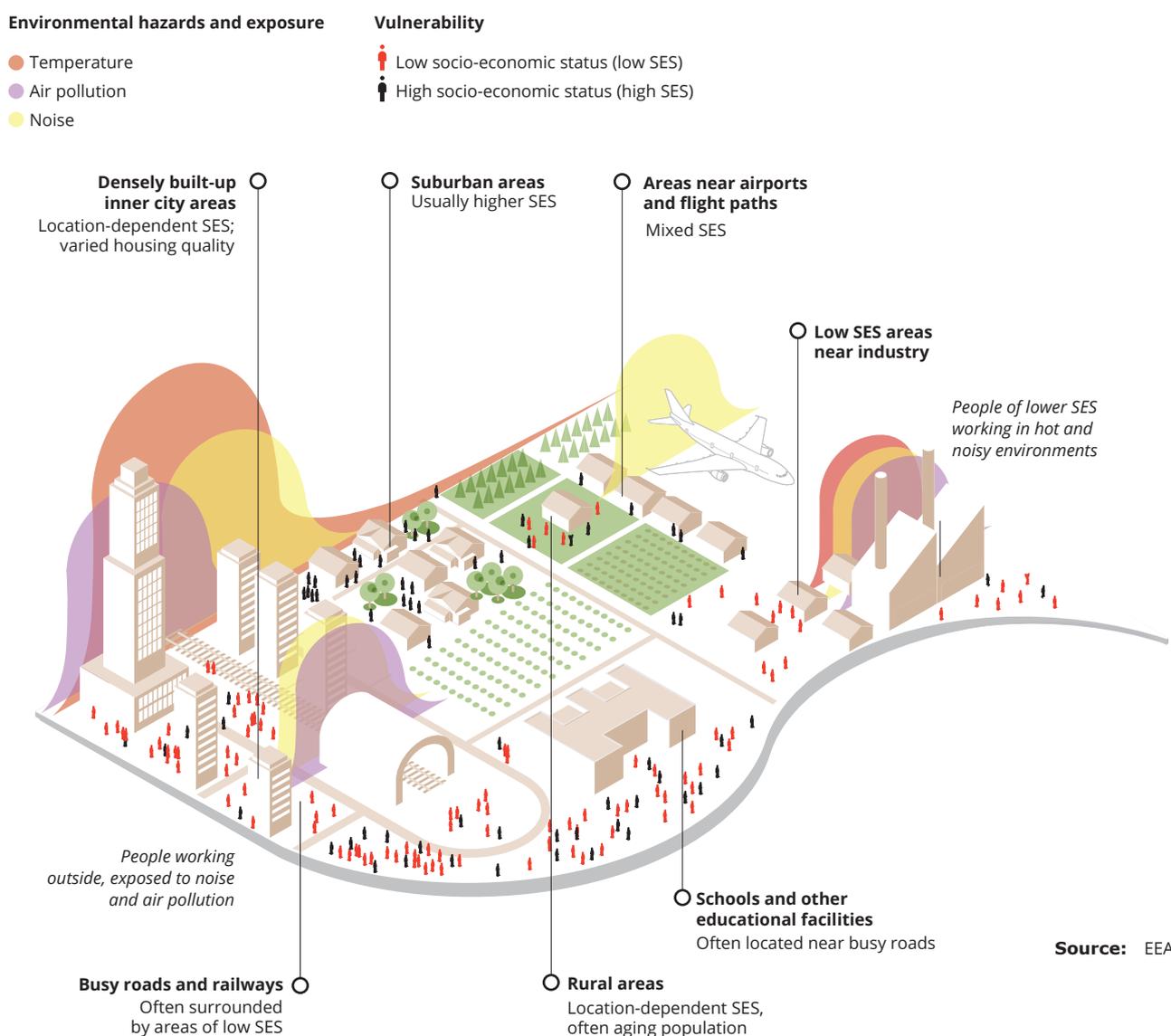
The oldest and the youngest members of our society are more affected by heat and poor air quality; the elderly, due to the prevalence of health conditions they are subject to, and infants and young children because of their still-developing bodies, immunity and thermoregulation, and limited ability to influence their surroundings. Children are also particularly negatively affected by noise.

Socio-economic status is an important determinant of health. People with lower levels of educational attainment, lower incomes or manual jobs tend to have poorer diets and suffer from stress, which makes them more sensitive to environmental health hazards. These social groups also tend to be more exposed to environmental hazards, as they live, work and go to school in places with worse air quality and higher levels of noise. Cheaper houses, occupied by lower income groups, are frequently more difficult to keep warm in winter and cool in summer. Those working outdoors in urban environments are more affected by noise, air pollution and high temperatures than higher-income, better educated office workers.

Patterns of social and environmental inequality across Europe

The report identifies large-scale patterns of vulnerability and exposure to environmental hazards

Figure 2 Exposure of vulnerable groups to air pollution, noise and extreme temperatures



across Europe. For example, sub-national regions in southern and south-eastern Europe, with lower average socio-economic status and higher proportions of elderly people, experience greater exposure to ground-level ozone and high air temperatures. Regions that are both relatively poorer and more polluted in terms of particulate matter (PM) are located mainly in eastern and south-eastern Europe.

In contrast, wealthier sub-national regions tend to have higher average levels of nitrogen dioxide (NO₂), mostly because of the concentration of traffic and industrial activities in these locations. However, studies at finer spatial scales reviewed in the report indicate that poorer communities tend to experience higher local levels of NO₂, also within the wealthier regions.

Global and EU policy: recognition of vulnerability to environmental hazards

Multiple international strategies — such as the United Nations Sustainable Development Goals, the Paris Agreement, Sendai Framework for Disaster Risk Reduction and WHO health strategies — recognise the need for policy and action to focus on the protection of the most vulnerable groups in society against environmental health hazards.

The key European policies — the 7th EAP, the EU Strategy on adaptation to climate change, and the air quality and noise directives — mention the need to protect vulnerable groups from pollution and extreme temperatures. However, the policy framework does not explicitly include actions targeting vulnerable groups. The focus is on ensuring a good-quality environment for all, rather than addressing inequalities.

Responding to environmental inequalities

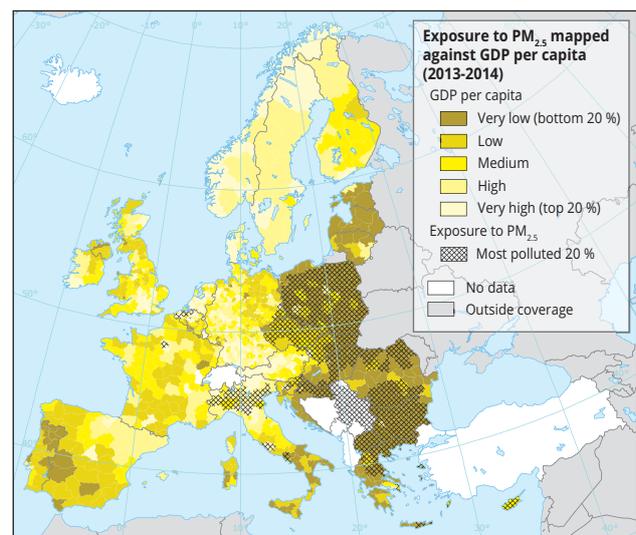
Reflecting the EU policy, local-level responses limiting exposure to air pollution and noise tend to be targeted at the whole population and thus benefit disadvantaged groups to varying extents. In order to address the inequalities, more emphasis is needed in environmental, social and economic policies on

addressing the unequal exposure to hazards and unequal vulnerabilities of different groups.

Enhancing the coherence between EU policies in terms of human health, climate change and air pollution agendas in the EU policy framework may help to address the inequalities in environmental impacts.

Some of the inequalities in vulnerability and exposure to the environmental health hazards considered in this EEA report are likely to continue in the future. To be able to revise, develop and operationalise effective policies and actions addressing those inequalities we need to know who the vulnerable groups are; where they live; how they are affected and what is already being done. Therefore, improving the reporting of both socio-economic and environmental data across Europe is crucial, as well as facilitating exchange of experiences between various actors and locations is needed.

Map 1 Spatial distribution of exposure to PM_{2.5} and GDP per capita across NUTS 3 regions (2013-2014)



Note: Exposure is expressed as population-weighted concentrations; mapped for NUTS 3 regions.

Source: Based on ETC/ACM (2018a).

The European Environment Agency (EEA) is an agency of the European Union. The EEA aims to support sustainable development and to help achieve significant and measurable improvement in Europe's environment, through the provision of timely, targeted, relevant and reliable information to policymaking agents and the public. For more information, visit: eea.europa.eu.

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