



Driemaandelijks overzicht van relevante literatuur over windenergie en gezondheid Q4-2025

Periode: Oktober t/m December 2025

Het Expertisepunt Windenergie en Gezondheid houdt voor haar kennisbasis de wetenschappelijke literatuur bij over windenergie en gezondheid. Elke drie maanden wordt een overzicht gemaakt van de nieuwgevonden wetenschappelijke en grijze literatuur.

In dit document vindt u het overzicht van de literatuur gevonden in de hierboven aangegeven periode.

Literatuuropbrengst

Hieronder wordt eerst een overzicht gegeven van de wetenschappelijke artikelen gevonden in diverse literatuurdatabanken. Daarna volgt een (niet-uitputtende) opsomming van overige relevante bronnen, zoals (Nederlandse) onderzoeksrapporten en conferentieverslagen, ook wel grijze literatuur genoemd.

Disclaimer

Deze selectie is tot stand gekomen met behulp van een zoekprofiel (zie bijlage Methode Zoekstrategie) en toepassing van inclusie en exclusiecriteria. Op deze documenten is geen dataextractie toegepast noch is er een algemeen kwaliteitsoordeel aan gegeven.

Literatuur gepubliceerd in wetenschappelijke tijdschriften

Tabel 1 Overzicht van het aantal gevonden studies

Fase	Oktober- December 2025
Aantal artikelen gevonden met zoekstrategieën voordat selectie heeft plaatsgevonden	257
Aanvullende referenties gevonden via andere bronnen (dit betreft niet de grijze literatuur)	0
Aantal referenties na verwijdering van duplicaten	221
Verwijderde referenties omdat ze niet relevant zijn (voldoen niet aan inclusie en exclusie criteria)	206
Aantal relevante artikelen geselecteerd door reviewers	3
Aantal artikelen waarover reviewer 1 en reviewer 2 hebben afgestemd (grensgevallen)	12
Totaal aantal relevante artikelen (na afstemmen)	4

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Overzicht van de relevante studies

1. Titel: *Support for renewable energy: The case of wind power*

Samenvatting (gekopieerd uit artikel): The rise of societal goals like climate change mitigation and energy security calls for rapid capacity growth in renewable electricity sources, yet citizens' support is put to a test when such technologies emit negative local externalities. We estimate the impact of wind turbine deployment on granular measures of revealed preferences for renewable electricity in product and political markets. We address potentially endogenous siting of turbines with an IV design that exploits quasi-experimental variation in profitability induced by subsidies. We find that wind turbines significantly reduce citizens' support locally, but this effect quickly fades with distance from the site. We assess policy instruments for enhancing citizens' support for renewable energy in light of our results. © 2025 The Author(s)

Referentie: Germeshausen, R., Heim, S. & Wagner, U. J. (2025). Support for renewable energy: The case of wind power. *Journal of Public Economics*, 250.

doi:10.1016/j.jpubeco.2025.105468

Link naar bron: <https://doi.org/10.1016/j.jpubeco.2025.105468>

Opmerkingen:

2. Titel: *The Acute Effects of Wind Farm Versus Road Traffic Noise Onset on Electroencephalographically Defined Arousal From Sleep: Findings From an In-Laboratory Randomised Controlled Trial*

Samenvatting (gekopieerd uit artikel): Wind farm noise (WFN) exposure effects on sleep remain poorly understood. This study compared the probability of electroencephalographically (EEG) defined arousal from established sleep following WFN versus road traffic noise (RTN) onset. Sixty-eight adults were studied in a sleep laboratory on one night with repeated 20-s WFN and RTN exposures. Following ≥ 2 min of established sleep and ≥ 20 -s between noise exposures, pre-recorded WFN or RTN samples were reproduced at sound pressure levels (SPLs) of 30, 40, and 50 dBA in random order. The primary outcome was the probability of EEG-defined arousal events (> 3 s EEG shifts to faster frequencies) following the onset of each noise exposure. Awakening responses (> 15 s EEG frequency shifts) were also evaluated. Noise type, SPL, and sleep stage effects on arousal and awakening response probabilities were evaluated using mixed effects logistic regression analyses. Of 68 participants, 62 (mean $\pm$ SD aged 49 ± 20 years, 35 females) had sufficient replicates of noise exposure data for analysis. Arousal response probabilities were low, particularly in deep sleep, but showed a significant noise type-by-SPL interaction ($\chi^2 = 13$, $p = 0.001$), with marginally but significantly lower WFN compared to RTN arousal probabilities at 40 dBA (mean [95% CI]: 2.1 [1.5, 2.9] vs. 3.2 [2.4, 4.2]%, $p = 0.016$) and 50 dBA (5.0 [4.0, 6.2] vs. 8.6 [6.9, 10.6]%, $p < 0.001$). Awakenings were infrequent ($< 4\%$ at 50 dBA) but showed similar effects. These findings show that acute WFN onset is marginally less sleep disruptive than road traffic noise events of equivalent SPL ≥ 40 dBA.

Referentie: Lechat, B., Micic, G., Scott, H., Dunbar, C., Nguyen, D. P., Hansen, K., Toson, B., Liebich, T., Decup, F., Vakulin, A., Lovato, N., Lack, L., Hansen, C., Bruck, D., Chai-Coetzer, C. L., Mercer, J., Doolan, C., Zajamsek, B. & Catchside, P. (2025). The Acute Effects of Wind Farm Versus Road Traffic Noise Onset on Electroencephalographically Defined Arousal From Sleep: Findings From an In-Laboratory Randomised Controlled Trial. *Journal of Sleep Research*. doi:10.1111/jsr.70227

Link naar bron: <https://doi.org/10.1111/jsr.70227>

Opmerkingen:

3. Titel: *Attitudes Towards the Visual Impact and Community Acceptability of Wind Farms in Australia and Britain: Findings from Three Surveys*

Samenvatting (gekopieerd uit artikel): The paper summarises three studies of the visual impact of wind farms in Australia and Britain and draws findings from them that have applications in the establishment of wind farms and in future policies and research. The paper provides information about the global growth and scale of wind farms and then summarises the literature regarding their visual impact, planning for wind farms, guidelines, and the psychology of attitudes. The characteristics of the three surveys are described and their results are presented, covering the visual impact of wind farms on landscape ratings and the acceptability of wind farms. The threshold of acceptability, the influence of familiarity and of proximity to wind farms on ratings are examined together with the influence of environmental and wind farm factors on ratings. Significant findings from the three surveys are discussed. There are four novel features of this paper: first, it compares the visual impacts of wind farms across several countries using the same methodology; second, it assesses the acceptability of wind farms as perceived by residents in these countries; third, it identifies the enhancement that wind farms can provide in landscapes of low landscape quality; and fourth, it identifies a gap in the attitudes towards wind farms between elected and non-elected members of councils. © 2025 by the author.

Referentie: Lothian, A. (2025). Attitudes Towards the Visual Impact and Community Acceptability of Wind Farms in Australia and Britain: Findings from Three Surveys. *Sustainability (Switzerland)*, 17(19). doi:10.3390/su17198817

Link naar bron: <https://doi.org/10.3390/su17198817>

Opmerkingen:

4. Titel: *Cognitive neuroscience approach to explore the impact of wind turbine noise on various mental functions*

Samenvatting (gekopieerd uit artikel): Despite their alignment with sustainable development principles, wind farms often provoke controversy and misinformation, particularly regarding the noise they produce and their potential impact on human functioning. Concerns have been raised about the possible effects of this noise on irritation levels, psychological well-being, and cognitive functioning. Yet, there is still a lack of controlled, comprehensive studies that could substantiate these concerns. Here, a cognitive neuroscience approach is proposed to experimentally and multifactorial explore wind turbine noise's impact on various mental functions. We used recordings from an actual wind turbine to investigate its effects on the dynamics of brain waves crucial for complex cognitive tasks, as well as on sustained attention and inductive reasoning in healthy adult volunteers. We also tested the subjective evaluation of the stress induced by wind turbine noise and the annoyance it causes. Control conditions included silence and road traffic noise (participants were blind to the nature of acoustic variables). The findings of this pilot study reveal that short-term exposure to wind turbine noise with a sound pressure level corresponding to the real-world situation (i.e., 65 dB SPL) does not adversely affect any of the examined cognitive functions and is not perceived as more stressful or bothersome than road traffic noise. Furthermore, we utilized various psychological scales and found that even tendencies towards rumination or reduced capacity for reflection and ambiguity tolerance did not lead to maladaptive perceptions of wind turbine noise and, therefore, to a state that might indirectly influence mental functioning. Although these results cannot be generalized, they support the concept that the interlinkage between exposure to wind turbine noise and human cognitive functioning is not a cause-and-effect relationship. We discuss the mediating role of socially constructed beliefs about wind farms in this interrelation. We also indicate how important

the use of a cognitive neuroscience approach in future research may be for an objective assessment of the impact of wind farms on human cognition. © The Author(s) 2025.

Referentie: Rosciszewska, A., Buszkiewicz, M., Dobrzynska-Kobylec, G., Klichowska, A., Przybyla, T., Nagy, B. B., Wicher, A. & Klichowski, M. (2025). Cognitive neuroscience approach to explore the impact of wind turbine noise on various mental functions. *Humanities and Social Sciences Communications*, 12(1). doi:10.1057/s41599-025-04645-x

Link naar bron: <https://doi.org/10.1057/s41599-025-04645-x>

Opmerkingen:

Tabel 2 Indeling van de wetenschappelijke literatuur naar type en onderwerp.

Soort onderzoek	<i>Hinder</i>	<i>Slaap</i>	<i>Gezondheid divers</i>	<i>Anders (bijv. co-determinanten)</i>
Tekstmining (bijv. sentiment analyse van (sociale) media artikelen)				
Case study				
Observationeel (bijv. Cross-sectionele, cohort, of case control studies)				Germeshausen (2025), Lothian (2025)
Experimenteel		Lechat(2025)	Rosciszewska (2025)	
Review				
Anders (bijv. theoretisch model, opinie,...)				

Relevante Nederlandse onderzoeksrapporten en overige relevante grijze literatuur

Overzicht van relevante grijze literatuur

1. Titel: GWEC | GLOBAL WIND REPORT 2025

Beschrijving (gekopieerd): 2024 marked yet another record year for wind energy with 117 GW of new installations worldwide. Looking beyond the marginal increase from last year, this report tells the story of an industry increasingly pushing into new regions, the emergence of new wind power strongholds and a technology capitalising on the growing demand for a secure supply of clean electricity in an increasingly volatile world. This year's Global Wind Report focuses attention on the moment wind energy currently finds itself a maturing technology delivering value to governments, economies and people. The report recognises wind energy's broader value proposition, addresses the challenges holding the technology back, and the solutions needed to get back on to an accelerated growth trajectory so the industry can deliver its full potential. Last year's growth brings wind energy's global cumulative capacity to 1,136GW, spread across all continents, with new countries choosing to build wind energy every year. This year's report goes beyond installation data to capture the wave of growth expected from countries that have recently passed legislation, implemented policies and integrated wind energy into long term energy system planning.

Referentie: (GWEC), G. W. E. C. (2025). *GWEC | GLOBAL WIND REPORT 2025*.

Datum van publicatie: 23 April 2025

Link naar bron: <https://26973329.fs1.hubspotusercontent-eu1.net/hubfs/26973329/2.%20Reports/Global%20Wind%20Report/GWEC%20Global%20Wind%20Report%202025.pdf>

Opmerkingen: