



## **WHO EMF Project, International Advisory Committee meeting, 11-13 June 2024**

### **Report on EMF Activities in the Netherlands**

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#### **1. New policies and legislation**

With regard to low frequency EMF, there are no legal exposure limits for the general population in the Netherlands. Since 2005 a ministerial recommendation advises local authorities and grid companies to avoid as much as reasonably possible creating new situations with long-term stay of children in areas around overhead high-voltage power lines with an annually averaged magnetic flux density greater than 0.4  $\mu\text{T}$ . This precautional policy was revised in 2023, following advice from the Health Council of the Netherlands and a national consultation procedure. Near overhead power lines (50 kV and higher), the advice remains to avoid as much as reasonably possible new situations in which the annually averaged magnetic flux density is greater than 0.4  $\mu\text{T}$ , by keeping distance between the power line and homes (dwellings and other forms of housing where people stay for long periods (such as nursing homes and institutions for people with disabilities), schools, kindergartens (crèches) and day care centres. In addition, for modifications of overhead power lines and for all other new or modified net components (underground cables, substations) reasonable, proportional measures must be taken to reduce exposure without applying a specific magnetic flux density, e.g. phase optimisation, triangular formation, reducing distance between conductors, avoiding conductors along outer walls, ceilings or fences of substations.

With regard to radiofrequency EMF, until 2024 there were no legal exposure limits for the general population in the Netherlands. Since 2002 a covenant (voluntary agreement) between national government, local authorities and mobile telecom providers sets rules for joint municipal siting plans, site sharing and concordance with local inhabitants and ensures that general public exposure complies with reference levels and basic restrictions in Council recommendation 1999/519/EC and that an effort is made to reduce exposure as much as reasonably possible. In 2024, a new ordinance is due to come into effect in which exposure to radiofrequency EMF (100 kHz–300 GHz) in publicly accessible areas and homes is limited to the basic restrictions for the general public in the 2020 ICNIRP radiofrequency guidelines. In addition, frequency users should ensure that the exposure of the general public is as low as reasonably possible.

For workers (occupational exposure) Directive 2013/35/EU was implemented in 2016. This included a conditional exemption from the exposure limit values for medical use of MRI and the possibility to apply an alternative protection system for the armed forces, but no possibility for temporary exemption from the exposure limit values for specific sectors or activities other than medical MRI or the armed forces.

#### **2. Research activities related to EMF and health**

In 2022 the Health Council of the Netherlands (HCN) published two reports on the relation between extremely low frequency magnetic fields from power lines or

occupational exposure sources and cancer in adults<sup>1</sup> or neurodegenerative diseases<sup>2</sup>. Based on a review and meta-analysis of epidemiological studies, HCN concluded that there is an association between magnetic fields from power lines and leukaemia in children and adults and between occupational exposure and four types of cancer. An association was also found between occupational exposure and amyotrophic lateral sclerosis or Alzheimer's disease. HCN advised continuing the existing precautionary policy to limit public exposure to magnetic fields from the electricity grid and restricting occupational exposure to magnetic fields to as low a level as is reasonably possible. The Electromagnetic Fields Committee of HCN was dissolved in January 2023.

Two outcomes of the international cohort study of mobile phone use and health (COSMOS), in which the Institute for Risk Assessment Sciences of Utrecht University was a participant, were published in early 2024. The first found an increased odds ratio for headache with high duration texting but not with calling, pointing to a lack of a causal link with EMF exposure. The second found no association between cumulative mobile phone use and the risk of developing glioma, meningioma, or acoustic neuroma.

Within EU Horizon Europe, the European Research Cluster on EMF and Health (CLUE-H) includes three consortia with participants from the Netherlands. In ETAIN, Utrecht University and Eindhoven University of Technology contribute to development of an app to quantify personal and population radiofrequency EMF exposure, a communication strategy for citizens and stakeholders and measuring effects of 5G in human skin and eyes. In GOLIAT, The Amsterdam UMC participates in quantifying exposure, neuro-psychological and health impact of 5G EMF. In NextGEM, the Hague University of Applied Sciences, Delft University of Technology, Dutch Authority for Digital Infrastructure and RIVM participate in research on health-relevant knowledge of new scenarios of EMF exposure, tools for evidence based risk assessment and the creation of a Knowledge Hub for EMF and Health for European regulatory authorities and the scientific community.

### 3. New public information activities

The mandate of the 'Kennisplatform EMV' (Knowledge Platform EMF)<sup>3</sup> has been renewed for the period 2024 to 2027. Since 2020 funding is received solely from the national government. In the past years its emphasis has shifted from societal dialogue to interpreting the science on EMF and health and from longer reports to web texts and Q&As. More attention is paid to new developments, such EMF in the energy transition.

RIVM<sup>4</sup> provides information on EMF exposure, risks and policies on its website. In recent years RIVM has developed factsheets on various sources of occupational EMF exposure and on risks for wearers of medical devices. A series of information graphics ('visuals') on basic properties and risks of EMF was also developed to aid professionals in their education of citizens and workers.

The Antennebureau (Antenna Bureau)<sup>5</sup> the information agency of the Dutch Government on antennas and part of the Dutch Authority for Digital Infrastructure, provides public information about antennas, radiofrequency EMF and health and organises courses for municipal civil servants on antennas and EMF. Recent information sources include factsheets and videos about different types of antennas, site sharing and 5G and health.

The Health and Safety Portal (Arboportaal)<sup>6</sup>, maintained by the Ministry of Social Affairs and Employment, has separate sections on EMF and artificial optical radiation in the workplace with references to practical guides and websites of other organizations.

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<sup>1</sup> <https://www.healthcouncil.nl/documents/advisory-reports/2022/06/29/power-lines-and-health-cancer-in-adults>

<sup>2</sup> <https://www.healthcouncil.nl/documents/advisory-reports/2022/06/29/power-lines-and-health-neurodegenerative-diseases>

<sup>3</sup> <https://www.kennisplatform.nl/english> [mostly in Dutch]

<sup>4</sup> <https://www.rivm.nl/en/electromagnetic-fields>

<sup>5</sup> <https://www.antennebureau.nl/> [in Dutch]

<sup>6</sup> <https://www.arboportaal.nl/> [in Dutch]