MEINE ERDE

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Tweede Kamer der Staaten-Generaal
Minister van Binnenlandse Zaken en Koninkrijksrelaties,
Minister van Justitie en Veiligheid,
Staatssecretaris van Volksgezondheid, Welzijn en Sport

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Statement on the Amendment of the Funeral Law in the Netherlands

Dear Members of Parliament,
Ladies and Gentlemen,

In nearly all European countries, a transformation is currently underway in cemetery and funeral culture. This shift reflects societal needs for sustainability, climate protection, and greater autonomy in choosing the right burial option for oneself. Even in the final choices a person makes—the so-called "last footprint"—individual preferences should carry greater weight. Meeting people's changing desires for natural and ecological burials, while maintaining a respectful treatment of the deceased, are not mutually exclusive; rather, they are interdependent. Recognizing and respecting posthumous rights to one's own body in particular upholds the dignity of the deceased.

Natural Organic Reduction (NOR, or Veraarden, in German "Reerdigung",) is a new form of burial that more and more citizens across Europe want as an available option. Within 40 days, the deceased is transformed into soil, which is then buried without a coffin. Over a dozen initiatives in Europe have been founded that promote and advocate for the legalization of this new form of burial in their countries. The German "Stiftung Reerdigung" is networking with these initiatives.

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Demand

As the first provider of the ecological burial form NOR (Veraarden) in Europe, MEINE ERDE (Circulum Vitae GmbH) welcomes the debate and the various civil initiatives around new forms of burial in the Netherlands. Since 2022, NOR (Veraarden) has been offered in the federal state of Schleswig-Holstein, Germany, where it has been met with considerable interest from the public and churches. Two surveys commissioned by the Stiftung Reerdigung support this:

- In a representative nationwide survey in Germany in 2023, 27.4% of the respondents who had already decided on a form of burial stated that they would “most likely choose NOR (Veraarden)” (54.2% for cremation, and 18.4% for traditional burial). Among all respondents, 32.1% had not yet decided on a form of burial.

- In a second nationwide survey in 2024, 56.7% of respondents agreed with the statement that "all states should allow new forms of burial." Additionally, 59.8% of respondents stated they would "probably or very likely choose NOR (Veraarden)" for themselves or their relatives if it were permitted in their state. Further survey results can be found at www.stiftung-reerdigung.de/projekte.

The survey results reflect a societal shift that is now evident in the funeral sector as well. Individually designed memorial services, biodegradable coal urns, electric funeral vehicles, and coffins made of recycled cardboard have already become common. This transformation should not be restricted when it comes to new burial options that require no natural gas or coffins and avoid decomposition issues in cemetery soils, which are increasingly affected by climate changes.

Decomposition problems

Increasingly noticeable climate change effects are impacting cemeteries and their ability to decompose remains. Dr. Michael Albrecht, an expert on cemetery soil from the Association of German Cemetery Managers, estimated in an NDR (Northern German Broadcasting) report from November 2023, that 20 to 40% of German cemeteries now face decomposition issues beyond the resting period. In this context, NOR (Veraarden), which enriches cemetery soils, offers a valuable option, especially for cemeteries with soils and water levels that promote such decomposition issues. The soil generated through NOR (Veraarden) contributes to the biodiversity on cemetery grounds over the long term.

Legislation in Germany and the EU

For these reasons, the state of Schleswig-Holstein has introduced an innovative pilot project with a legal trial clause (new §15a in the Funeral Law). This clause not only influences other German states but also raises interest beyond in other European countries. It ties the approval of new burial forms to careful assessment of all relevant funeral law aspects, from ethics and dignity to health, occupational safety, and environmental protection. Furthermore, NOR (Veraarden) poses no greater risk to people or the environment than traditional earth burials. This trial phase provides a framework for gathering further scientific insights and practical experience.

Until today more than 30 NOR processes have been completed. Hundreds of people visited the NOR facilities in Kiel and Mölln (Schleswig-Holstein). Funeral providers, members of the Federal Association of German Undertakers, public authorities, representatives of cemeteries and the church, and scientists from the University of Leipzig were present during openings of the cocoon after 40 days (see photo documentation at the end of the document). Our informational materials explain the steps involved in NOR (Veraarden) in detail, including what happens with the mineral bone components, research results, and laboratory analyses of the new soil.

Inside the Veraarden-Alvarium in Mölln, Schleswig-Holstein, with 4 cocoons.

Inside the Alvarium in Kiel, Schleswig-Holstein, with 3 cocoons.

Due to the positive experience and the example from Schleswig-Holstein, policymakers from other German states are visiting the Alvariums to learn about NOR (Veraarden) and its legal framework. This development is similar to the situation in the USA, where "natural organic reduction (NOR)" has been recognized as a burial form in the first state in 2020, with 12 additional US states following suit.

Throughout Europe, many people are active—both politically and through dedicated organizations, foundations, and initiatives—in advocating for NOR (Veraarden) in their own countries. Many in the Netherlands already want to choose NOR (Veraarden) for themselves, and these people need assurance from policymakers that their final wishes can be fulfilled in their home country and that they can count on NOR (Veraarden) as an available form of burial.

Scientific research

In a peer-reviewed forensic study, researchers from various fields at University of Leipzig analyzed samples from NOR (Veraarden) using morphological, toxicological, molecular-genetic, and soil-science techniques. The results show that the bones are free of organic tissue, and no human soft tissue can be detected in the soil, either macroscopically or microscopically, indicating that the decomposition process is completed. The new soil has a humus-like structure and is hygienically safe. Medications are largely decomposed, and are unlikely to leach into groundwater. The bones exhibit an aging pattern comparable to a 20- to 50-year resting period under ground, matching or even exceeding the resting period for cemeteries in Schleswig-Holstein. This study received a positive vote from the Ethics Committee of the University of Leipzig and underwent peer review before publication in the scientific journal *Rechtsmedizin*.

From a statement of the University of Leipzig to the state parliament of North Rhine-Westphalia:
As of November 18, 2024, the Institute of Forensic Medicine Leipzig scientifically examined 22 transformations. Initial data suggests that the process is effective. In all cases, the bones were free of soft tissue and, after 40 days, exhibited a theoretical bone age (burial period in the ground) of 20 to 50 years. [...] Due to the high temperatures generated during the process (up to 70°C over several days) and the biochemical processes of bacterial decomposition, we do not perceive any health risks in the normal everyday handling of the "new soil".

The research is ongoing. During the current phase, all transformations are being thoroughly analyzed by the research team at the University of Leipzig to subsequently expand the database. The analyses also include the investigation of potentially hazardous substances, with particular focus on heavy metals and salmonella.
Furthermore two cocoons have officially been sealed and after 40 days opened by a notary of the federal state of Schleswig-Holstein. The notary has also witnessed the sampling process performed by scientists of the University of Leipzig.

The growing body of data from MEINE ERDE as well as international NOR providers from the NORA network indicates that there is no risk to human health or the environment. Furthermore, it can be demonstrated that the new soil product can be classified as a long-term organic NPK compound. The present organic compounds ensure the gradual release of nutrients into the surrounding biosphere over an extended period, thereby preventing nitrogen oversaturation in the soil.

While the new soil in Germany is subject to cemetery regulations similar to cremation ashes, the legal framework in the United States permits the distribution of the new soil to family members for unrestricted use. Additionally, in the United States, reforestation projects in

conservation areas are being supported using this nutrient-rich new soil. From a scientific perspective, there are no objections to the distribution of the new soil to family members in the Netherlands. On the contrary, this practice can culturally align well with existing approaches to the handling of cremation ashes.

Research into NOR (Veraarden) in Germany has established a new research field with international significance and will continue to grow. The publications provide transparency for policymakers, religious organizations, the funeral industry, and consumers, allowing for a better comparison of funeral options regarding their environmental impact and fossil resource consumption.

Environmental impact & research

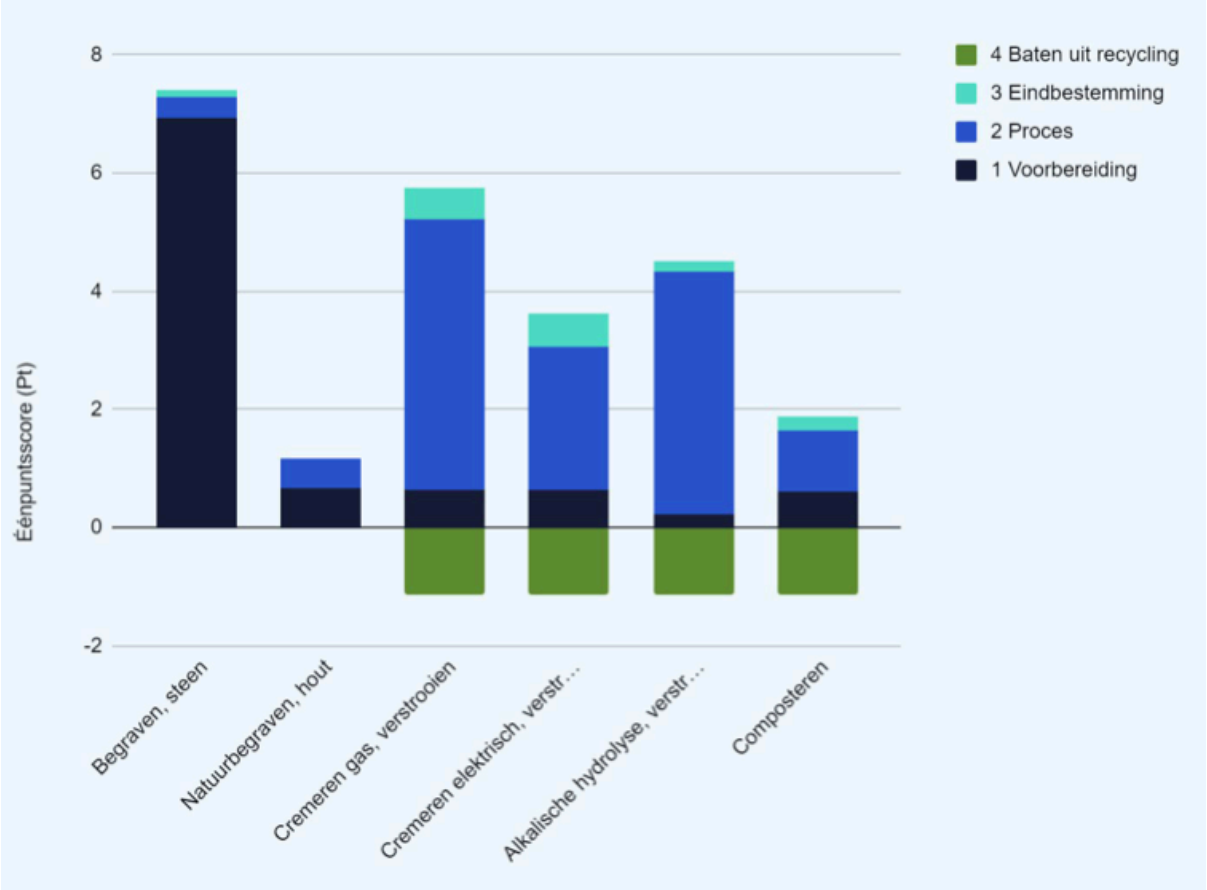
Both conventional burial and cremation methods can have a significant environmental impact. Cremation consumes fossil fuels, such as natural gas, and generates pollutants during the combustion process. These pollutants accumulate in filtration systems, which must then be disposed of as hazardous waste. Traditional in-ground burials often introduce harmful and non-biodegradable materials into the soil through coffins and accessories. The underground decomposition of a body can take several decades, depending on the cemetery's soil composition, and pharmaceuticals in the body can leach into the groundwater during this process.

The NOR process occurs within a closed capsule and is completed safely within 40 days. During this time, temperatures within the capsule exceed 70°C on consecutive days, reliably eliminating pathogens, while microorganisms break down most pharmaceuticals. The resulting soil is nutrient-rich and acts as an effective soil enhancer, benefiting the environment and promoting biodiversity.

A pivotal milestone in assessing the environmental benefits of NOR was the comprehensive Life Cycle Analysis (LCA) commissioned by the funeral company DELA. The LCA was conducted by the independent sustainability agency Hedgehog Company to validate comparative lifecycle results and ensure reliable, credible conclusions. Despite DELA's vested interest in cremation, as it operates numerous crematoria, the LCA highlights the funeral industry's growing interest in NOR as a sustainable burial alternative. As a market leader, DELA demonstrates foresight in exploring innovative funeral methods.

The Hedgehog Company collected extensive data from various industry stakeholders. MEINE ERDE provided information, including details on the production of capsules using recycled materials and cradle-to-cradle processes and process data related to energy consumption during the 40-day transformation period. Additionally, independent experts served as peer reviewers, ensuring the transparency and integrity of the investigation by identifying potential weaknesses or biases.

The peer review panel included Dr. Brenda Mathijssen (University of Groningen) specializing in funeral rituals and associated principles, Dr. Wieger Wamelink (Wageningen University & Research) focusing on environmental impact, and Karolien Peeters (VITO) with expertise in LCA methodology. The results of the analysis were unequivocal: NOR produces less than 30% of the environmental impact compared to traditional burial methods and even new alternatives, such as electric cremation or aquamation (alcalic hydrolisis), meeting the foundational requirements for a viable new burial alternative.



Source: Hedgehog Company; Een Groene Dood symposium; 16.04.2024

The NOR process further demonstrates environmental safety. Tests conducted by independent laboratories, such as AGROLAB in March 2023, confirm that the resulting soil meets stringent quality standards. Heavy metal levels are significantly below permissible thresholds as defined by the German Fertilizer Ordinance (DüMV). For example, mercury levels were measured at 0.044 mg/kg (limit: 1 mg/kg), lead at 11.6 mg/kg (limit: 150 mg/kg), and chromium at 26.9 mg/kg (limit: 100 mg/kg). AGROLAB classified the resulting soil as an "organic NPK fertilizer," designating it as a long-term soil improver suitable for planting alongside cemetery topsoil.

Regular analyses consistently reaffirm the safety and quality of this new soil, and ongoing testing will continue to ensure compliance. Similarly, NOR providers in the United States conduct comparable tests, with parameters aligning closely with those used by MEINE ERDE. In the U.S., several hundred people have already been interred using NOR, and test results have consistently confirmed the soil's suitability for family use. The robust data set in the U.S. has allowed for fewer routine samples, underscoring the reliability of the process.

At this stage, there is no evidence to suggest any future risks associated with the soil produced by NOR, ensuring its safe distribution to families. These findings have also been reviewed by Dr. Mathijssen and Leipzig University.

Ethical statements & religious communities

Religious communities are increasingly engaging with NOR (Veraarden), recognizing the ecological shift in burial culture and seeking specific answers for their congregations on whether and how these changes align with religious doctrine and national funeral laws. Two member churches of the Protestant Church in Germany—the Nordkirche and EKBO— and the Catholic moral theologian Monsignore Prof. Dr. Peter Schallenberg have expressed openness to ecological burial forms such as NOR (Veraarden) in theological and ethical statements.

To address further key questions related to establishing NOR (Veraarden) as a new burial form, Stiftung Reerdigung commissioned Prof. Emeritus Dr. phil. Hartmut Rosenau to provide a theological-ethical opinion. His statement addresses NOR (Veraarden) from a theological-ethical perspective, evaluating its compatibility with concepts of “dignity of the deceased,” “moral sentiment of society,” and “piety.”

Dr. Rosenau concludes that NOR (Veraarden) preserves the dignity of the deceased as understood in Christian values. The moral sentiment of society is respected, as NOR increasingly aligns with nature-related values. Piety is also maintained, as NOR can be carried out respectfully and in accordance with the wishes of the individual. Dr. Rosenau sees no theological objections to NOR (Veraarden), deeming it compatible with Christian beliefs and values as an alternative burial form alongside traditional earth burials and cremations.

Situation in the Netherlands

MEINE ERDE is actively engaged in close collaboration with partners in the Netherlands and has witnessed significant interest in NOR from both citizens and the funeral industry.

In April 2023, the "Stichting Veraarden" was established in our presence as an interest group advocating for the implementation of NOR. The founding event drew over 100 participants from the funeral industry, fostering a productive and ongoing dialogue. Since then, members of Stichting Veraarden have visited MEINE ERDE's facilities in Germany, where they received extensive information about NOR. Additionally, the Stichting has organized numerous workshops with families and industry professionals over the past months to deepen understanding and promote engagement with this innovative approach.

The active role of DELA with its independent LCA furthermore underlines the interest of the industry in NOR, especially since DELA is also heavily invested in cremation and as such most likely in favor of this burial method. The findings of the LCA highlight not only the forward-thinking potential of NOR as a sustainable solution but also the growing interest it has garnered within the funeral sector. Major industry stakeholders, such as DELA, anticipate that NOR will become an integral part of future funeral methods, ensuring families have diverse and sustainable options in times of mourning. The rising interest in NOR within the Netherlands reflects a broader demand for sustainable burial alternatives and the recognition of NOR’s capacity to integrate seamlessly into the nation’s funeral culture. Far from diminishing traditional practices, NOR enriches them, offering an additional, environmentally friendly option. Notably, the ability for families to use the resulting soil provides a unique source of comfort. Planting a tree or rosebush in the transformed soil perfectly aligns with the desire for a natural burial and the continuation of the life cycle.

Since early 2023, MEINE ERDE has provided access to research data to Dr. B.M.H.P. Mathijssen, Associate Professor of Psychology of Religion and Vice Dean and Director of Education at the University of Groningen. Dr. Mathijssen has been kept informed of ongoing scientific studies and their progress, particularly those examining the safety and environmental compatibility of the soil produced through NOR. Dr. Mathijssen has also consulted with the Institute of Forensic Medicine at Leipzig University. MEINE ERDE is prepared to provide all relevant data to the Dutch government, especially to the Health Council.

In light of these developments, MEINE ERDE offers to engage directly or via Dr. Mathijssen with Mr. Meihuizen or other representatives if requested. We also invite Dutch authorities and government representatives to visit the NOR facilities in Germany to personally observe the high standards upheld across all aspects of operation. Additionally, the Ministry of Justice and Health of Schleswig-Holstein, represented by the Supervising Department Head

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Karlheinz Müller, can provide insight to Dutch authorities into the legislative process in Schleswig-Holstein.

We advocate for Veraarden to be included as a new burial form in the forthcoming revision of the Dutch Funeral Law. We support the endeavor to create a legal foundation that allows the Netherlands to offer alternative, climate-friendly, ecological burial forms.

If you have further questions, please feel free to contact me directly.

Sincerely,

Pablo Metz
Co-Founder, MEINE ERDE

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Photo Documentation of the Opening of a Veraarden-Cocoon and Scientific Examinations on 18.11.2024:

Present at the opening of the cocoon were: relatives of the deceased, the accompanying funeral home, representatives of the professional association (“Berufsgenossenschaft”), church councils and cemeteries, the undertakers’ guild of Baden-Württemberg, the Federal Association of German Funeral Directors (BDB), and the University of Leipzig.

Attendees observing the open cocoon (left). Dr. Marcus Schwarz, head of the research on Veraarden at the University of Leipzig, answering questions (right).

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Attendees examining the soil immediately after the post-processing in the mill (left). New soil wrapped in cloth, prepared to be handed over to the funeral home (right).


Scientific examination of the bones. The examination was permitted due to a body donation authorized by the deceased during their lifetime. The bone marrow cavities are entirely free of soft tissue and trabeculae.