



## ADDITIONAL INFORMATION FOLLOWING VOLKSKRANT ARTICLE 4 JANUARY 2025

Despite several contact moments between the Volkskrant and Lely not all the facts have been (correctly) presented. To assess the operation of Lely Sphere in the right perspective, a number of arguments require further clarification:

1. Independent measurement results
2. Measurement protocol / Ruling Council of State 2022 regarding low-emission floors
3. Operation Lely Sphere
4. Sbv-subsidy schemes
5. Lely Sphere does not address all sustainability challenges
6. Business model for farmers

### 1. Independent measurement results

Lely Sphere is a circular manure-handling system for separating mineral streams and creating value from emissions. The system separates manure and urine and converts nitrogen emissions into valuable fertilisers.

On 8 March 2023, Lely Sphere received a final emission factor of 3 kg NH<sub>3</sub>/animal place/year. The final emission factor was tested based on the [RAV measurement protocol 2013a](#). The measurement protocol was published by Wageningen Livestock Research and the process followed for the approval was closely coordinated with, monitored and assessed by the Rijksdienst voor Ondernemend Nederland (RVO) and the Technische Advies Pool (TAP).

The measurement plans for these measurements were approved by the Technische Advies Pool (TAP) and carried out by TAUW, an external, independent and accredited measurement agency. Four existing, independent, representative and mutually different dairy farms were selected to carry out these measurements, where trials of the new barn system were conducted.

The four dairy barns with a Lely Sphere were measured six times during one year for their emissions, these barns varied in size, ration and farm management. The final emission factor is the average of these 24 measurements. See here for [more information on measurement results](#) and the calculation of the final emission factor for Lely Sphere.

The final emission factor can be found in [Annex V of the Environment Regulation](#) under code HA1.38. The traditional slatted floor is coded HA1.100. The final emission factor is accompanied by a very comprehensive [system description](#), which prescribes obligations to the user (dairy farmer) and the producer (Lely) for making the system function as optimally as possible. This system description can be found under code [OW 2021.08](#).

### 2. Measurement protocol / ruling Council of State 2022 regarding low-emission floors

Based on the studies on low-emission floors, we understand the criticism and doubts about emission-reducing techniques in a broader sense. With Lely Sphere, a housing system that is fundamentally different from low-emission floors, we are using a combination of techniques to contribute to solving the nitrogen challenge through emission reduction, which we see as a broad societal task. To ensure this, we have taken several steps, also based on the aforementioned studies and the various court rulings.

- Each Lely Sphere system comes with a monitoring system that, by logging several parameters, provides assurance about the operation of the system and the ammonia emission reduction principle. This shows, among other things, how much circular fertiliser has been pumped to the storage silo - including the captured ammonia emissions that have therefore not been vaporised via the air.
- To provide more certainty for licensing in addition to the RAV emission factor, we asked WUR to calculate an uncertainty margin according to the method developed by WUR for this purpose at the government's request. This uncertainty margin is included in a 'model Passende Beoordeling', which allows a farmer to apply for a permit based on the expected maximum emissions of the farm instead of the average emissions. So on paper, a farmer will then reduce less than can be expected on average in practice (instead of the other way around). Also, in addition to the



uncertainty margin, agreements are made on use and mandatory maintenance of the system, in order to achieve in practice the results as can be expected based on the certification.

- In March 2023, Lely Sphere received a final RAV emission factor. Because of the ruling of the Council of State in 2022, in addition a very comprehensive system description was developed for the Lely Sphere, in coordination with RVO and TAP. The aim is to enable enforcement and assurance in practice - also in the long(er) term.

### 3. Operation Lely Sphere

Lely Sphere is a circular barn system for separating fertilisers and valorising emissions. The system separates faeces and urine and converts nitrogen emissions into a liquid, circular fertiliser. The Sphere can be used for two purposes: 1) ammonia emission reduction and 2) precision fertilisation. The dairy farmer decides whether to use the Sphere only for emission reduction, or also for precision fertilisation.

Separate storage of urine and faeces is not a requirement for the ammonia emission reduction effect of the Lely Sphere system. The N-Captures extract the air in the cellars and just above the slatted floor, after which the air is washed and converted into a liquid circular fertiliser. Whether or not manure flows are separated does not affect the reduction rate.

For precision fertilisation, we recommend storing manure flows separately. Of course, this depends on the specific farm and the dairy farmer's desire for fertiliser application.

### 4. Sbv-subsidy schemes

On 21 October 2024, the Sbv-subsidy scheme (investment module) was opened under which so-called 'piekbelasters' can apply for subsidies to purchase a Lely Sphere system to reduce ammonia emissions on their farms.

Since the fall of the PAS almost six years ago, there has been a serious lack of future prospects for farmers in the Netherlands. With its innovations, Lely is trying to contribute to bringing back the perspective for farmers. This does not mean that innovation should be the only solution. Fortunately, Remkes' widely supported "staircase of choices" for dairy farmers is starting to take shape. As far as we are concerned, farmers should be given the choice of which step best suits them: innovation, conversion or extensification, relocation or termination - or a combination of these.

It goes without saying that we are pleased that the government, with the Sbv-subsidy scheme, is showing confidence in secured innovation as a contribution to solving the nitrogen problem. In this case, an innovation - the Lely Sphere - that has been subjected to a rigorous authorisation process after a years-long R&D phase, with an independent scientific assessment, and large investments of time and financial resources from us as manufacturer. We therefore also strongly reject the Volkskrant's qualification.

For farmers who do want to innovate, we believe it is important that they have a choice of solutions that best suit their business. We therefore think it is important that other techniques are allowed - and therefore also eligible - as soon as possible. Meanwhile, several alternatives are under development within the Sbv-subsidy scheme (innovation module).

### 5. Lely Sphere does not address all sustainability challenges

From our vision of [sustainable, profitable and enjoyable dairy farming](#), we take an integral look at the challenges facing the sector worldwide. Unfortunately, we do not yet have a solution that solves all the tasks for the farm of the future at once. We think it would be unwise to wait until we do - it would be better to start with the things we can already contribute to, also bearing in mind the challenges ahead of us.

The Lely Sphere has been developed as a circular barn system. That is more than just nitrogen emission reduction. Besides nitrogen, Lely Sphere can also have a positive direct and indirect impact on climate, water and animal welfare. Think less fossil fertiliser, precision fertilisation and a cleaner barn.

To substantiate the expected benefits in terms of climate, water and animal welfare just as well as nitrogen emission reduction, we have started a long-term research project with WUR, among others: the [PPS Reinventing Circular Dairy Farming](#). Lely also has active participation in, among others, the [PPS Low Carbon Dairy](#), we participate in [ReGeNL](#) and we ourselves have two Sbv projects running (innovation module) to investigate emission-reducing barn techniques.



## 6. Business model for farmers

In addition to investment costs, there are operating and maintenance costs associated with the Lely Sphere. However, a large part of the returns depends on whether mineral streams can be used as fertiliser substitute.

Lely Sphere is designed as a circular barn system that allows better use of mineral flows. Because regulations regarding artificial fertiliser substitutes are over 30 years old, farmers cannot yet use these mineral flows as scientifically recommended. This does not affect emissions, but it does affect the farmer and his business model.