Vlaanderen
is open ruimte

Evaluation of nitrate reduction policies

Synthesis

2025

VLAAMSE
LAND
MAATSCHAPPIJ

VLM.be

Evaluation of nitrate reduction policies

COLOFON

Contractor:
Technopolis B.V.
Spuistraat 283
1012 VR Amsterdam
Nederland
www.technopolis-group.com

Comissioner:
VLM Central Directorate
Consciencegebouw
Koning Albert II-laan 15 bus 152
120 Brussel
www.vlm.be

Editorial team:
The report “Evaluation of nitrate reduction policies” has been layed out by the following research team:

Sieme Gewald, Consultant Technopolis BV
Micha Arnoldus, Analist Technopolis BV
Bauke van der Veldt, Consultant Technopolis BV
Raphaël Ligtenberg, Analist Technopolis France SARL
Léa Renard, Analist Technopolis France SARL
Bruno Luis Nemec, Consultant Technopolis Deutschland GmbH
Geert van der Veen, Managing Partner Technopolis BV

Cover photo: ©Vlaamse Landmaatschappij, 2020

Date: 22 October 2025
Status/Revision: English translation of ‘Chapter 4 – Synthesis’ from final report

Depot number: D/2025/3241/446

The synthesis below is part of a study that provides an inventory of (government) instruments for nutrient policy and management in five European regions: the Netherlands, Wallonia, Denmark, Brittany and North Rhine-Westphalia; and includes Flanders as a reference region (Figure 1). The study was carried out by Technopolis B.V. on behalf of the Flemish Land Agency (VLM) to provide insight into existing policy instruments in the studied regions and the possibilities of (partially) translating these instruments to the Flemish context.

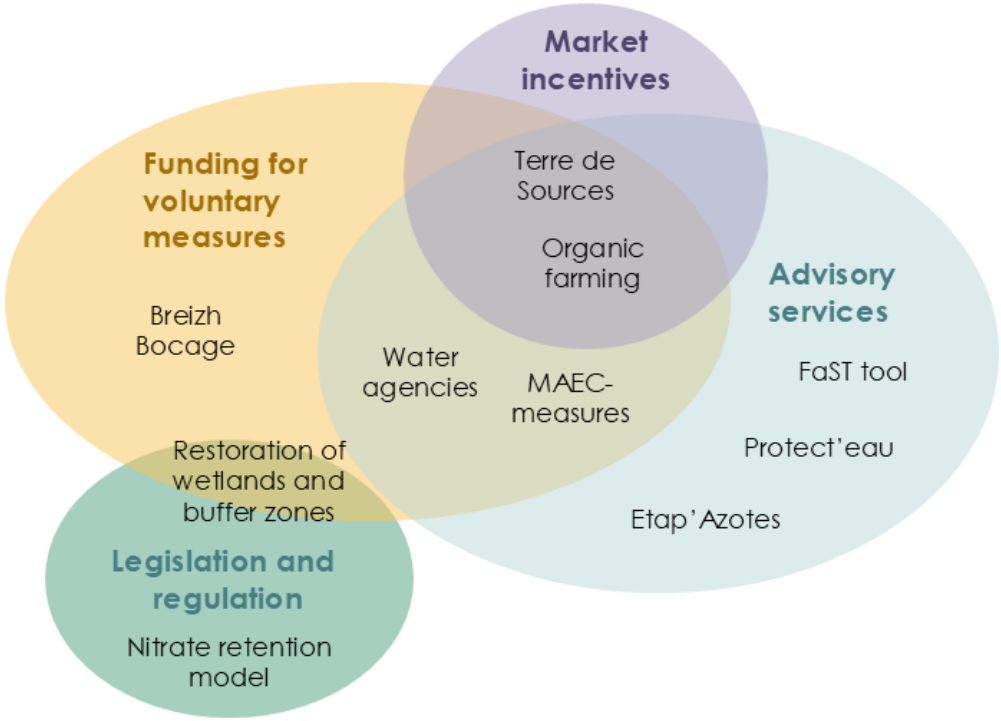
In the first phase of the study, six regional fiches mapped the relevant policy frameworks, actors, instruments and contextual factors in the studied region. During a stakeholder workshop, ten instruments were selected for further research based on their applicability and feasibility in the Flemish context. In the second phase, these ten selected instruments were further studied. For more detailed information, the complete study can be consulted in Dutch.

Figure 1: Overview of the studied European regions

SYNTHESIS

Four different forms of intervention occur in the ten selected instruments: legislation and regulations, market incentives, advisory services, and funding for voluntary measures. Several instruments use a combination of interventions, as shown in Figure 2.

Figure 2: Overview and categorization of the ten selected measures



None of the studied instruments offers a quick road to achieving the nitrate targets set out in the Water Framework Directive (WFD). Only for two out of ten instruments, the parties involved reported a demonstrable effect on nitrate concentrations in surface water: organic farming in Denmark and the cooperation between agricultural cooperatives and water agencies in North Rhine-Westphalia. These are both projects that have been running for more than 25 years. This does not mean that the other instruments are not effective. Most other instruments affect nitrate emissions or the rate at which nitrate moves to surface water. However, this effect is not yet clearly visible in surface water nitrate concentrations because there is a delay caused by the gradual release of nitrate from the soil. Moreover, the new regulatory system based on the nitrate retention model in Denmark is yet to be implemented.

MARKET INCENTIVES

In two of the studied instruments, market incentives play an important role: the small-scale sustainability label Terre des Sources in Brittany and the large-scale promotion of organic farming in Denmark. In both cases, additional demand is created for products from farmers who take voluntary measures to reduce their nitrate emissions. The advantage of market

incentives is that the financing of sustainability measures is not dependent on public funds only. In the case of organic farming in Denmark, a system has been built that is profitable, and organic farmers recover their costs without public funding. Achieving this requires rebuilding the entire foodchain – from farmer to processor and retailer. It depends on cooperation among many actors and on sufficient trust between the links in the chain.

Beyond sustainability labels, other mechanisms can help reduce the long-term reliance on public funds and shift more costs to the market include pollution taxes that make polluting activities more expensive; levies on products that benefit from cleaner agriculture, such as water utilities using the proceeds to fund measures; and payments for ecosystem services (financed by public authorities, private actors, consumers, utilities, or combinations of these) through which farmers are rewarded for providing public goods such as clean water, biodiversity, or landscape management.

FUNDING FOR VOLUNTARY MEASURES

Funding for voluntary measures at company level is an important part of many of the instruments examined. Two examples of this are the MAEC-measures in Brittanny and the alliances between water agencies and farmer cooperations in North Rhine-Westphalia. Both cases concern the financing of voluntary measures at company level, supplemented by support in the form of advice. These examples show that the costs can be relatively high.

The meausure in North Rhine-Westphalia, it is an example of measures that are first in excess of the statutory requirements eventually become legal obligations that have to be applied independently without subsidy. At that point, funding from alliances with the drinking water companies ends, since the support only applies to measures that are not required by law.

It ishows that it is possible to stimulate frontrunners with substantial subsidies as part of a phased approach. This group of farmers fulfils an exemplary role and can demonstrate the practical feasibility and benefits of the measures. In a second phase, a broader group of farmers can be involved by linking lower subsidies to regulations. In the final phase, when the regulations are fully in force, the subsidy disappears and the responsibility shifts entirely to the farmers themselves.

It is important that this phased approach is communicated transparently from the start. Farmers must know in advance that subsidies are temporary and that the measures will eventually become mandatory. This predictability is crucial for building trust.

ADVISORY SERVICES

Advisory services play an important role in many of the studied instruments. These services are not only about providing technical information, but also about aligning general knowledge and regulations at the company level. Advisory services generally have low costs compared to subsidies or large investments, are easily accessible to farmers and increase levels of trust within the sector.

The likelihood of implementation depends on how advice is delivered. Personal contact and a relationship of trust are important factors. The studied advisory services show that personalised advice relatively often leads to implementation (85-89% reported by Protect'Eau). Personal advice can be supported by a tool such as FaST, provided that technical support and personal guidance are well aligned. The independence of advisory services is also valued: in some regions, advisors are independent, while in others they operate within a government body. Independence is often seen as a prerequisite for building trust within the sector.

AREA-BASED MEASURES

Area-specific measures, such as Breizh Bocage and the restoration of wetlands in Brittany, are effective only where local conditions are suitable. They can improve water quality by increasing the landscape's natural retention capacity, while also providing co-benefits such as enhanced biodiversity, stronger ecosystem services, and greater climate resilience.

Area-based measures rarely provide farmers with direct income, as they often reduce the area of productive land. Consequently, the success of the measures depends on compensation or subsidies. Structural reward mechanisms for ecosystem services are needed to build lasting support, although visible benefits – such as improved biodiversity and water retention – can increase public support. In Brittany, for example, both high nitrate concentrations and the visible algal blooms increase pressure and public backing for such area measures.

LEGISLATION AND REGULATION

The nitrogen retention model in Denmark is the only instrument studied that is grounded in legislation and regulation. It translates national targets into farm-level nitrogen loss limits, taking into account environmental factors such as soil type and farm location. The model is still being implemented, and political decisions on its final form are ongoing.

The model enables a detailed and transparent assessment of trade-offs between emissions, effects, measures, and costs at the system level. However, it also raises significant implementation dilemmas that remain yet unresolved. A key challenge is how to address differences between farms – for example, a farm with low emissions in a highly vulnerable area versus one with higher emissions in a less sensitive area. To build acceptance, it is essential that such decisions are perceived by the sector as fair and transparent.

The use of this type of model relies on a relatively high level of acceptance among citizens and farmers of modelling approaches that approximate reality as closely as possible – something that is generally more established in Denmark than in Flanders.

CONCLUSION

Based on the findings, the researchers conclude that the studied instruments do not offer solutions that will bring the nitrate concentration in surface water below the limites set by the Nitrates Directive in the *short term*. Some measures do have a positive effect in the longer term. The effect of other measures cannot (yet) be properly determined. Successful instruments are distinguished by the way in which cooperation, mutual trust, and long-term continuity are set up. Monitoring, enforcement, and the administrative burden are part of this. But above all, the systematic involvement of stakeholders and the processing of their input in decision-making has a positive effect on the effectiveness of the instruments.

Models can help make it fair and transparent why certain measures are required, provided they are understandable, credible to the sector, and consistent with practical experience. Where such trust is lacking, progress is difficult. In Flanders, the sector at times appears to have limited confidence in modelling approaches.

Integrating nitrate objectives with other environmental goals (e.g. biodiversity, climate adaptation, and water management) can make policy instruments more effective and cost-efficient. A system-wide approach enhances the potential for synergies and broad outcomes while preventing rising costs from the accumulation of separate measures.

Finally, policy should not focus solely on technical or legal instruments but also address key preconditions: trust, ownership, transparency, and a structural revenue model. In Denmark, for example, the close involvement of the agricultural sector in developing nitrogen models and regulations has strengthened trust and transparency. In Brittany, actively stimulating demand for products under the Terre de Sources label links a structural revenue model to voluntary, non-statutory measures. Ownership develops when measures are not imposed externally but are supported and implemented by farmers themselves.


Vlaamse
overheid