

Technical Subgroup Papers

Public Consultation on the Nutrients Action Programme

2027-2030

	Proposed Measure	Paper	Date
1	4.1.1 – Limit chemical phosphorus fertiliser use on grassland through an additional advisory approach	Options to improve water quality through management of chemical P fertiliser use	16.06.26
2	4.1.2 Reducing Northern Ireland's average phosphorus surplus	Phosphorus (P) surplus proposal	27.03.26
3	4.1.2 Reducing Northern Ireland's average phosphorus surplus	Farm P Balance – Pathways for Farmers	30.03.26
4	4.1.2 Reducing Northern Ireland's average phosphorus surplus	Soil Phosphorus (P) Protocol to demonstrate effective soil P management	26.06.26
5	4.1.2 Reducing Northern Ireland's average phosphorus surplus	P Protocols for Poultry Farms	26.06.26
6	4.1.2 Reducing Northern Ireland's average phosphorus surplus	P Protocols for Pig Farms	26.06.26
7	4.1.3 Dairy cow nutrient excretion values – based on milk yield	Nitrogen Banding/Excretion Values for Dairy Cows and AFBI Technical Presentations	16.03.26
8	4.2.2 & 4.2.3 Tiered move to increased use of LESSE	Low Emission Slurry Spreading Equipment (LESSE) Proposals	07/06/26
9	4.2.6 Limit the use of unprotected granular urea fertilisers	Proposals on Protected Urea	07.06.26
10	4.2.7 Anaerobic Digestate Measures	Anaerobic Digestion and Nutrient Processing Overview	16.12.25
11	4.3.1 Nutrient Stewardship Programme (NSP) a revised Approach to Derogation	Proposed Nutrient Stewardship Programme – a Revised Approach to Derogation	27.03.26
12	4.3.2 Mitigation Measures for late harvested arable crops.	Mitigation measures for late harvested crops	01.06.26
13	4.3.4 Nutrient Efficiency Roadmap for NI Farming	Nutrient Efficiency Roadmap for NI Farming	14.03.26
14	4.7.2 Increased inspections based on risk	NAP Inspections Paper	26.06.26

Proposed Measure 4.1.1 – Limit chemical phosphorus fertiliser use on grassland through an additional advisory approach

Paper 1 - Options to improve water quality through management of chemical P fertiliser use 16 June 2026

Prepared by: DAERA

Rationale:

Monitoring data and evidence shows that in recent years there has been an increase in the number of monitoring sites showing increase of phosphorus across Northern Ireland waters.

The Department has published the Lough Neagh Action Plan and the Environmental Improvement Plan, which both identify phosphorus as a major cause of poor water quality in Northern Ireland. Under both the Department has undertaken to address losses of phosphorus from agriculture and how this nutrient can be better managed.

The objective is to have more sustainable nutrient management on farms with chemical and organic fertilisers only being applied based on soil nutrient status and crop requirements.

The Northern Ireland agricultural sector is operating at a high phosphorus surplus. This surplus is a key driver of agriculture P reaching waterways.

The two sources of phosphorus inputs to the Northern Ireland Agricultural sector are concentrate livestock feeds and chemical phosphorus fertiliser. Significantly reducing chemical phosphorus fertiliser inputs is a relatively straightforward way to reduce the Northern Ireland agricultural phosphorus surplus. Most livestock farms do not need chemical phosphorus fertiliser as phosphorus is coming onto the farm in concentrate livestock feed.

At Northern Ireland level, there is more than enough phosphorus (P) in manure/slurry available to meet crop requirements. Recent modelling of stocks and flows of phosphorus in the catchment area of Lough Neagh (Rothwell et al, 2020), for example, indicates that 123% of P requirements for crops and grass are met from organic manure alone. This emphasises the need for better distribution and efficient use of manure/slurry and a significant reduction in the overall P surplus in the NI agricultural sector.

At present some 40% of agricultural land has excess soil P. Research has shown a direct link between the surplus soil test P in a catchment and SRP concentrations in rivers (Scott et al, 2024). Where soil P is above the agronomic requirement for a crop the P not taken up by the crop is available for loss to water therefore a significant source of diffuse nutrient pollution.

During the next NAP 2026-2029 the Department proposes to work with industry stakeholders to develop and publish a “Roadmap for Nutrient Efficiency on farm”. This will detail the various management practices that farms can adopt to use P and N more efficiently and reduce surplus nutrients. The Roadmap will be a key element of advisory support. Industry endorsement of the Roadmap would help drive uptake of the actions it recommends and ensure consistent messaging for farmers

Option 1

Require an Exemption to Apply Chemical P Fertiliser

Introduce further restrictions on use of chemical fertiliser containing phosphorus on grassland.

Use will be restricted to the following criteria:

- grass reseeding,
- establishment of clover,
- where a farm has deficit of phosphorus that cannot be met by import of organic manures/fertilisers or
- a scientific case to justify use of Chemical P from an agronomist or vet, accepted by the Department.

Soil analysis and a nutrient management plan demonstrating a crop requirement is also required. Note that this is already a requirement under the current 2019 NAP Regulations if using chemical P fertiliser.

An exemption and supporting evidence to allow use under the above criteria must be registered with NIEA. This proposed measure is Action 23 of the Lough Neagh Action Plan.

Proposed Process for registering an exemption:

There will be an online system for registering, with the following information to be submitted:

- Farm Business ID number
- Field number(s) where chemical P is to be applied
- Current Soil analysis for those fields
- Details/evidence of supporting nutrient management plan / online nutrient calculator
- Reason for exemption – tick box to select one of criteria listed above.
- Supporting evidence for criteria at 3rd and 4th bullet above.

- Planned date(s) of P fertiliser application.

NIEA will aim to respond to exemption registrations within 7 days.

Where a reply from NIEA is not received within 7 days, the exemption will be deemed to be registered.

Option 2

Restrict Availability of Lower P Compound Fertilisers

Remove from sale compound fertilisers containing less than 15% P₂O₅.

Low P compound fertiliser are routinely used on grassland as part of a little and often application strategy to maintain P indices. Where this is carried out on fields where P indices are above optimum, surplus P is vulnerable to loss to waterways.

To limit the habitual and unnecessary use of P compound fertiliser without field level nutrient management planning, it is proposed to ban the use of low P compounds through the updated NAP Regulations, which would in turn be assumed to remove them from sale in Northern Ireland.

P fertilisers such as Triple Super Phosphate (0:46:0), Diammonium Phosphate (18:46:0), and compounds such as 17:17:17 or 15:15:15 would remain available for use under the existing 2019 NAP Regulations measure which requires soil analysis and a nutrient management plan demonstrating a crop requirement.

This would allow targeted applications where crop need has been identified.

It is believed that the higher price per tonne for these fertilisers would discourage purchase and use without first identifying crop requirement via a Nutrient Management Plan thereby reducing excess Chemical P applications.

While the price per tonne is high for these fertilisers, the price per unit of P is lower and targeted use should reduce overall usage, reducing on farm costs and improving efficiency.

There is a risk that some farmers would use these higher P fertilisers, without identifying crop requirement via a Nutrient Management Plan, as an alternative to their current habitual use of lower P compound fertilisers. There is also a risk that this could be encouraged by merchants making higher P fertilisers available in smaller quantities than 600kg bags.

There is also a risk that the inaccurate and /or inappropriate use of these high P fertilisers could increase risk to water quality. While the analysis has not been done it is probable that the removal of the lower P fertiliser from use where it is not needed would in balance have positives for water quality.

This option would also reduce administrative burden on farm and for the Department. Regulation at farm level would remain through inspections.

The main implication on farm will involve a separate application of straight P fertiliser where need has been identified.

RECOMMENDED OPTION:

Option 3 – Limiting Phosphorus Fertiliser Product Availability and an advisory approach to deliver Responsible Phosphorus Management (RPM)

Both options above have pros and cons and stakeholder views provided to date suggest that neither is optimum. As such this Option three proposes a hybrid of the two while also taking on board the concerns raised with each of the options above.

There are four main elements to this option:

Limiting Phosphorus Fertiliser Product Availability

This option proposes an industry-led approach to limiting the availability of inorganic fertiliser products containing phosphorus (P), linked to demonstrated agronomic need.

Where soil analysis indicates an Olsen P index of 3 or above, only zero-phosphorus inorganic fertiliser products would be permitted for use. An exception is silage where UK fertiliser standards specify a small requirement for P at Olsen P index 3.

Where soil indices are below Index 3, access to low-phosphorus fertiliser products would be permitted but restricted to a very limited number (maximum of 4) of specified low-P compound products. In order to purchase these low P compounds, the purchaser must confirm they have a soil test and Nutrient Management Plan which demonstrates a crop requirement for P (see below).

The alternative would be the purchase of diammonium phosphate (DAP) or a straight P product or P compound products containing 15% or greater P₂O₅. These could be applied in a targeted manner to meet an identified crop requirement where that requirement cannot reasonably be met through the use of organic manures alone.

The updated NAP Regulations will specify which P Fertiliser products can be used on grassland:

- Specific lower P compound products with P fixed at a maximum of 4% eg 22:4:14. A maximum of 4 products in total - 2 for grazing and 2 for silage.
Note: the actual products/formulations are to be confirmed.
- P compound products containing 15% or more P.
- Straight P products.

Fertiliser Merchants and Point of Sale Actions

By the end of the first year of implementation at the latest, all fertiliser merchants would be required to undertake a basic training event (maximum 1 day) on RPM, water quality and Nutrient Management. This would be provided by CAFRE in partnership with the fertiliser industry and would count towards CPD. Fertiliser merchants must ensure that each retail outlet has at least one member staff who has completed the detailed training and can advise farmers.

Furthermore, detailed technical training will be introduced over time for those selling phosphorus fertiliser products, who wish to enhance their knowledge and expertise. This training will be based on recognised industry standards.

Manufacturers, suppliers and merchants will be expected to take shared responsibility for supporting improved phosphorus management at both industry and farm level. The uptake of the more detailed technical training will be an indicator of industry support that will be reviewed.

At the point of sale, purchasers (farmers) would be asked, by the merchant, to confirm that they have an accredited soil analysis and a Nutrient Management Plan (Fertilisation Plan) that demonstrates a clear crop requirement for phosphorus. This is already a requirement under the 2019 NAP Regulations.

In addition, fertiliser products containing phosphorus would carry mandatory labelling indicating that it is a regulatory offence to apply the product where there is no crop requirement and without a Nutrient Management Plan, due to the risk of harm to aquatic ecosystems. Note that fertiliser representatives will confirm what is possible re labelling, considering legal constraints, for P fertilisers that comply with NI and ROI marketing regulations.

Manufacturers, suppliers and merchants would be expected to exercise appropriate due diligence, reflecting a shared, cross-sectoral responsibility to drive and demonstrate improvements in phosphorus management.

Responsible Phosphate Management (RPM) Campaign

A range of suitable educational measures to drive systemic change on habitual unnecessary use of Phosphate fertiliser - a Responsible Phosphate Management (RPM) campaign.

This will include roll out of an information campaign with cross sectoral branding and endorsement from fertiliser industry, Farming Unions, environmental NGO's, Meat and Dairy processors. Material will focus on posters, flyers and a short booklet on RPM placed primarily at fertiliser merchants.

It will include assurances from Fertiliser companies that the right Zero P compound products will be freely available across the market at all times. Merchants will play a central role in this option

NGO organisations note the need for a clear message around this criterion to satisfy stakeholder concerns that if voluntary measures do not effect change, further regulation will follow to enforce in future NAP iterations. This option is a chance to show that the industry is committed to reducing unnecessary use of P Fertilisers.

Review after 2 years

A review of this option would be undertaken after a 2 year period of implementation to assess its effectiveness at reducing the use of P chemical fertiliser. Effectiveness would be assessed as a 25% reduction in the annual use of P fertiliser from a 5 year rolling average of 2021-2025.

If success is not realised either option 1 or 2 would then be considered. A fertiliser database is also required and progress with that would be taken into account at the 2 year review. A fertiliser database would support implementation of Option 3 and may well facilitate alternative options, if those were required.

It is accepted training and clear guidance to farmers on the efficient and cost effective use of fertiliser is also essential.

Merchants will play a central role in this option. If this option is progressed a written agreement between the relevant parties committing to the actions will be required.

Proposed Measure 4.1.2 - Reducing Northern Ireland's average phosphorus surplus

Paper 2 - Phosphorus (P) surplus proposal 27 March 2026

The NAP Science Subgroup agreed that surplus phosphorus on farms (mainly through fertiliser and imported feed concentrate as well as suboptimal removal of P) is one of the factors negatively impacting regional water quality. In 2024, annual phosphorus inputs totalled 17.38K tonnes, with more than half remaining as surplus in the system after accounting for production outputs.

Scientific evidence supports the proposal, that to improve water quality, agriculture must reduce this surplus, as well as reducing the soil P in fields with high indices and mitigating over land run off reaching water ways. Current modelling suggests a national phosphorus (P) balance of 7kg P/ha as an interim target—about a 30% reduction in industry P oversupply from current levels.

DAERA has used agricultural returns data to estimate individual farm N and P production and loading. This demonstrated strong links between high nitrogen (N) production and high P loading. Targeting farms producing over 170kg N/ha/year would help identify those at greatest risk of having high P surpluses. Determination using existing farm metrics avoids additional paperwork burden to farmers.

This data identifies around 2,100 high-risk farms, which, while less than 7% of all farms, generate over 50% of output from 20% of total farmland. It is recognised that most of the large-scale pig and poultry operations are already monitored and export most of their manure nutrients through regulated IPPC processes.

The NAP Technical Sub Group (TSG) outlined that achieving the 30% reduction target (c.2600 tonnes P) during the next 4 year NAP period will involve allocating reductions among three main solutions:

- Chemical Fertiliser P sales
- SULS/manure processing and export
- Farming Practice, aligned with nutrient use efficiency

Chemical Fertiliser P sales

Proposed reductions in chemical fertiliser P sales are based on two assumptions: fewer products on the market and increased KT regarding need for P fertiliser application - the Chemical P Fertiliser proposal. Transferring slurry from high-production systems to smallholdings under the 170 N threshold could help, with both approaches potentially reducing annual chemical P fertiliser use by 1000 tonnes.

However, since NI sales records cannot currently track cross-border movement into ROI, anecdotal evidence suggests significant P fertiliser and Urea transfers occur to bypass ROI fertiliser sales regulations.

SULS/manure processing and export

DAERA's SULS SBRI project aims to remove 1,000 tonnes of excess phosphorus per year from NI agriculture by October 2028. This is by removing slurry solids through on farm separation for use as a feedstock for AD and the subsequent development and production of phosphorus rich products for export markets.

There has been significant progress with the initial on farm separation phase with phosphorus rich slurry solids being used as feedstock in AD facilities. There are a number of challenges in developing the further phases of the project to ensure that the excess nutrients removed from farm are further processed into exportable products.

These challenges include issues around ammonia mitigation and subsequent planning approvals. To achieve this 1000-tonne annual target within the timeframe of the SULS project (due to finish October 2028) is unlikely. There is a clear need for holistic solutions to be developed that are cross departmental and cannot be delivered by DAERA alone. To ensure success of excess nutrient removal of the scale that is required, solutions require multi-departmental solutions with significant input from stakeholders from agriculture (primary producers and processors) and other industries (bioeconomy and energy).

Farming Practice

The TSG proposals and consensus recommend, as an initial measure, that one third of the overall reduction in phosphorus (P) surplus may be achieved by requiring farms with nitrogen (N) production levels of 170 kg N or higher to reduce their P balance surplus by 15%, over the period of the next NAP, if their farm P balance calculation exceeds 10. The proposal also includes conducting an annual P balance/budget return under NAP.

The feed industry have proposed that the declaration of P content of concentrate feeds is made a mandatory requirement. This will be a key enabler for farms to assess the scope to reduce dietary P across their feeding regimes, in line with P content of grass and forage offered.

Nutrient Stewardship and Pathways for Farms Exceeding 170 Kg N/Ha/year

For farms with production values exceeding 170 Kg N/Ha, compliance requirements are determined by whether the business operates under Integrated Pollution Prevention and Control (IPPC) standards. If IPPC standards are met, no further action is necessary. If not, a phosphorus (P) balance calculation must be carried out for the holding.

Where the P balance is below 10 kg P/ha, no additional measures are required. However, if the P balance exceeds 10 kg P/ha, the farm must either enter the Nutrient Stewardship Programme (NSP) to allow the farm to continue to operate at

over 170 kg N/ha and follow a reduction pathway to achieve a P balance of 10 kg P/ha or below or reduce their balance by 10% over the next 4 year NAP period.

Nutrient Stewardship Programme (NSP) Route

Nutrient stewardship is proposed as a replacement for derogation and consists of two tiers:

- **Tier 1:** Intended for the 422 existing derogated farms that wish to remain in the scheme. These farms will continue to operate in alignment with current requirement. They are required to submit annual fertilisation accounts/ P balance declarations. The inspection rate for Tier 1 is set at 1%.
- **Tier 2:** Designed for new entrants who choose to join the scheme. This tier offers an alternative compliance pathway for farms that may not immediately meet the P Balance requirement of 10 kg P/ha, providing a reasonable adaptation period to achieve the P balance of 10. Farms in Tier 2 must submit annual returns and follow a 10% reduction plan throughout the NAP review period. The inspection rate for Tier 2 is 2%.

Non-NSP Compliance Choice

Farms unable to meet NSP requirements or opting not to enter the programme are required to submit an annual nutrient budget return. This return will determine their annual P balance. The requirement is to achieve a 15% reduction by the end of the four-year NAP period or a P balance of 10 kg P/ha or below. For these farms, the inspection rate is set at 10%.

Knowledge Transfer and Training Initiatives

The Technical Working Group (TWG) recognises that effective training in both nutrient efficiency and environmental stewardship is essential for achieving meaningful and lasting improvements in farming practices. These areas are considered pivotal in fostering positive change within the sector.

A fundamental requirement for entry into NSP Tier 2 is a commitment to participate in training programmes led by CAFRE. These initiatives focus on developing skills related to nutrient efficiency, circular economic practices, and environmental awareness. By ensuring engagement in these training activities, farms are equipped to meet the evolving demands of sustainable agriculture.

TSG strongly believes that education and securing the active involvement of farmers is the preferred approach, rather than enforcing stricter penalties or increasing inspection frequencies. This strategy is seen as the most productive way to encourage compliance and promote responsible stewardship across the industry.

Pigs and Poultry

Most larger enterprises are subject to IPPC regulations; however, TSG observed that certain pig systems fall below this threshold, along with a significant number of

poultry layer operations. In evaluating viable compliance pathways, it was acknowledged that SULM and SULS technologies are not yet available to provide the required solutions.

TSG emphasised the necessity for a measured regulatory approach for the pig sector not covered by IPPC requirements and identified the need for further discussion on development of off-farm application alternatives.

TSG concurred that the proposed measures should be considered as interim steps within a broader regulatory framework aimed at achieving lower long term phosphorus balance. The group recognised the importance of initiating this process to ensure both compliance and engagement from the sector.

Proposed Measure 4.1.2 - Reducing Northern Ireland's average phosphorus surplus

Paper 3 - Farm P Balance – Pathways for Farmers 30 March 2026

Farm P balance : pathways for farmers

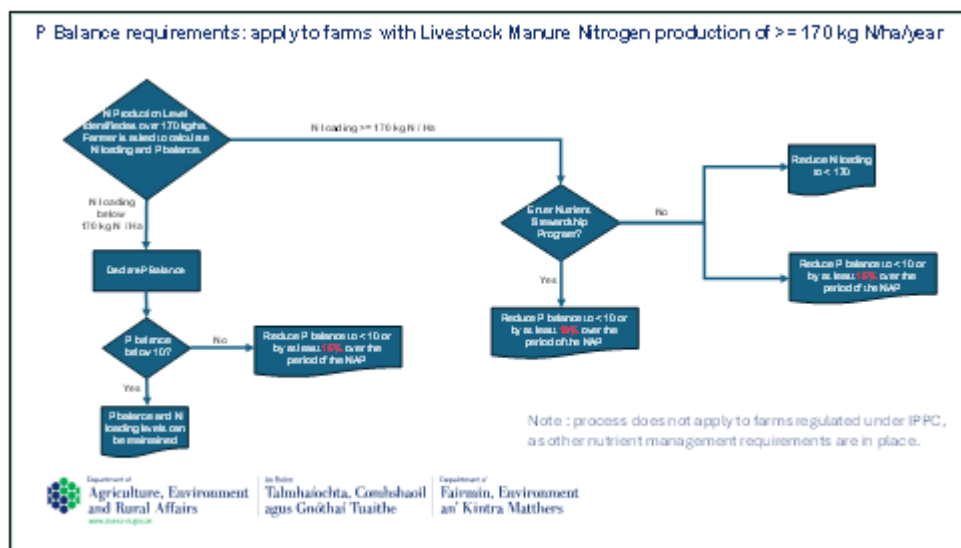
- Once calculated there are 3 options...
 1. below 10kg P ha/yr
 - no reduction required
 2. above 10kg P ha/yr
 - join the Nutrient Stewardship Programme
 - minimum 10% reduction or achieve 10kg P ha/yr
 3. above 10kg P ha/yr
 - minimum 15% reduction or achieve 10kg P ha/yr



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Farms where P Balance will be required

- Identify farms which are likely to have high P surplus
- By focusing P Balance to these farms, greatest impact can be achieved from lowest number of farms.
- Farms with higher livestock density have higher N and P production.
- Other farms will contribute to P surplus reduction, primarily by reductions in Chemical P Fertiliser use.
- All derogated farms already operate within a P Balance of 10 kg/P/ha/year



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Correlation between N Band & P Band - 2024

N production (kg N / Ha)	Farms	P production (kg P / Ha)					
		0 - 9.9	10 - 14.9	15 - 19.9	20 - 24.9	25 - 29.9	30+
0 - 49.9	6,610	6,542	61	5	2	0	0
50 - 99.9	6,585	239	3,649	2,582	93	13	9
100 - 129.9	2,244	10	3	254	1,788	152	37
130 - 149.9	1,309	2	1	1	50	1,201	54
150 - 169.9	1,769	3	1	3	6	350	1,406
170+	1,485	2	3	1	0	2	1,477
	20,002						



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Correlation between N Band & P Band - 2024

N Loading (kg N / Ha)	Farms	P Loading (kg P / Ha)					
		0 - 9.9	10 - 14.9	15 - 19.9	20 - 24.9	25 - 29.9	30+
0 - 49.9	6,610	6,542	61	5	2	0	0
50 - 99.9	6,585	239	3,649	2,582	93	13	9
100 - 129.9	2,244	10	3	254	1,788	152	37
130 - 149.9	1,309	2	1	1	50	1,201	54
150 - 169.9	1,769	3	1	3	6	350	1,406
170+	1,485	2	3	1	0	2	1,477
	20,002						



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N Loading vs N Production - 2024

Band (kg N / Ha)	N Loading No. of Farms	N Production No. of Farms
0 - 49.9	6,610	8,520
50 - 99.9	6,585	6,313
100 - 129.9	2,244	1,704
130 - 149.9	1,309	760
150 - 169.9	1,769	595
170+	1,485	2,110

2,110 Farms with N Production $\geq$ 170 kg N/Ha - 2024

N Production (kg N / Ha)	P Production Loading (kg P / Ha) does not include imports/exports					
	0 - 9.9	10 - 14.9	15 - 19.9	20 - 24.9	25 - 29.9	30+
170+	0	0	0	0	0	2,110

All 2,110 farms with N Production $\geq$ 170 kg N/Ha produce more than 30kg P/Ha

2,110 Farms with N Production $\geq$ 170 kg N/Ha - 2024

N Production (kg N / Ha)	P Loading (kg P / Ha) includes imports/exports					
	0 - 9.9	10 - 14.9	15 - 19.9	20 - 24.9	25 - 29.9	30+
170+	23	8	20	46	264	1,749

2,110 Farms with N Production ≥ 170 kg N/Ha - 2024

Total P Produced (kg)	Total P Imported (kg)	Total P Exported (kg)	Net (kg)
6,636,221	14,509	1,594,297	5,056,433

Total P produced, imported and exported at the 2,110 farms

NI Phosphorus Balance - 2024

Inputs		Outputs		P Balance	
Fertiliser	3,426 t	Grass-based livestock, beef, sheep and milk	4,710 t	Inputs	17,382 t
Feed	13,957 t	Pigs, poultry & eggs	3,251 t	Outputs	8,653 t
Total Inputs	17,382 t	Arable	682 t	Balance	8,729 t
		Total Outputs	8,653 t		

P Surplus = 8,729 t

Livestock Feed – average P content = 0.43%

Potential impact of P surplus reduction

- 2024 P Surplus = 8,729 tonnes
- 30% reduction = approx. 7 kg/P/ha National P Balance
 - 30% reduction in P surplus would remove 2619 tonnes
 - 35% reduction in P surplus would remove 3055 tonnes
 - 25% reduction in P surplus would remove 2182 tonnes

Analysis of farm types and sizes that contribute most to the P surplus

- In June 2023 there were 26,131 farms in Northern Ireland - approx 1 million ha of farmed land
- 1,488 farms had 250+ cattle (64% of all dairy cows)
- 60 farms had 2000+ pigs (87% of all pigs)
- 261 farms had 30,000+ birds (71% of all poultry)
- Due to some being mixed enterprises the total number of unique farms involved is 1,768
- These 1,768 farms...
 - account for at least 51% of all output value from NI farms
 - account for only 20% of total land area farmed
 - are responsible for at least 70% of the NI P surplus

Potential impact of P surplus reduction at the 1,768 farms

- The 1,768 farms are responsible for at least 70% of the NI P surplus
- 2024 P Surplus = 8,729 tonnes
- 70% = 6,110 tonnes
 - 10% reduction in P surplus would remove 811 tonnes
 - 15% reduction in P surplus would remove 917 tonnes
 - 20% reduction in P surplus would remove 1,222 tonnes

Compliance with 170kg N limit

- Significant number of farms above 170kg N limit ~ estimated 2550
- Derogated farms ranged between 420-440 for 2019-2024
- Approximately 1500 farms submit slurry export records
- Leaves ~600 non-derogated farms that don't submit slurry exports
 - What is happening on these farms?
 - Potential for non-compliance

Non-Compliance – 170kg N limit

Previous 2018 actions on the 170kg N limit...

- Multiple News Articles including on inspection and compliance
- DAERA mailshot to 1896 farms
- CAFRE Information Leaflet

Result – total derogated farms doubled to over 400



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Slurry/manure exports: “on paper” only.

Quote from a farmer received during the 2025 NAP consultation...

Put an end to the ‘paper acres’ that is currently going on where a dairy farmer pays another non-dairy farmer for acres on paper where the dairy farmer was supposed to spread his slurry, yet the other non-dairy farmer never got any slurry, that amounts to fraud in my eyes.



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Manure export/imports : proposed system

- Export entered into online system / app within 4 days
- Importer must verify by 2 set dates (14th July / 14th January)
- If not verified, then export will not be deemed valid
- System to be extended to all organic nutrients including Anaerobic Digestate and separated slurry solids and liquids.



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Manure export/imports : proposed system

- Revised proposal to reduce admin and simplify for farms exporting lower quantities.
- Reporting timescale of 4 days would be required only for farms exporting volumes above a threshold.
- Threshold of 750 tonnes/m3 per year would remove c 33% of farms from 4 day reporting requirement.
- A robust and verifiable system is essential for an effective NAP.

Manure export/imports : volumes exported

Threshold	Tanker loads	2023 farms (n=1,229)	% of exporters	2024 farms (n=1,499)	% of exporters
≥500 m ³	44 loads	953	77.6%	1,195	79.7%
≥750 m ³	66 loads	809	65.8%	1,030	68.7%
≥1,000 m ³	88 loads	706	57.4%	892	59.5%
≥1,500 m ³	132 loads	512	41.6%	660	44.0%

Manure export/imports : volumes exported

Notes (important):

Cattle slurry only (pig/poultry excluded)

2024 includes derogated farms

2,500-gallon tanker equivalent used throughout

Proposed Measure 4.1.2 - Reducing Northern Ireland's average phosphorus surplus

Paper 4 - Soil Phosphorus (P) Protocol to demonstrate effective soil P management 26 June 2026

Where a farm cannot demonstrate compliance with the applicable P Balance requirement, the farm may follow the terms of the Soil P Protocol as a complementary means of demonstrating effective soil P management. This recognises the close interaction between farm P balance and soil P.

This protocol may apply where a farm is unable to meet the P Balance threshold of 10 kg P/ha/year, or the required percentage reduction where relevant. In such cases, the farm must demonstrate that it is actively managing soil P levels and reducing the environmental risk to waterways.

- Farms must provide clear evidence that area-weighted soil P measurements, expressed as Olsen P (mg/L), are stable or decreasing across the grazing and silage platform.
- Where soil P levels are above optimal agronomic values for intensive grassland systems they should be decreasing. If not showing a decrease, evidence should be provided to show that all reasonable farming practices have been implemented to manage soil P sustainably.
- Areas of land not receiving applications of slurry, manure and/or chemical fertiliser such as rough grazing and other unproductive or ineligible land are excluded from area weighted soil P calculation.
- Soil sampling should be undertaken by an independent operator, and soil analysis must be carried out by a UKAS accredited laboratory, as currently specified in Schedule 5 of the 2019 NAP Regulations. Full details of the sampling method/pattern and fields must be recorded.
- Evidence of the area-weighted soil P calculations, including the individual field soil P measurements, expressed as Olsen P (mg/L), and field areas used to calculate the farm/platform average must be submitted to NIEA in accordance with P Balance reporting timescales.
- Fields with high Soil P Indexes which may pose a risk to water quality should evidence a reduction and not remain static. If not evidencing a soil P reduction, additional evidence should be provided to show that reasonable and practical agronomic practices have been implemented to manage soil P sustainably. Further details will be provided in guidance.
- NIEA may consider alternative scenarios on a case-by-case basis.

- Farms are required to undertake soil testing at least every four years to monitor changes in soil P. However, farms must still calculate an annual P Balance in line with the P Balance requirements.

Proposed Measure 4.1.2 - Reducing Northern Ireland's average phosphorus surplus

Paper 5 - P Protocols for Poultry Farms 26 June 2026

Phosphorus (P) reduction protocol for Poultry farms if $\geq 170\text{kg/ha N}$ on own land and exported slurry

To be used as a complimentary means to Farm P Balance to demonstrate that all efforts have been made to manage P efficiently and that risks to water quality have been minimised so far as possible.

Solution	Evidence	Comments
Optimize P in diets to levels based on research or recommended levels of genetic companies. Figures should always be optimized to specific requirements based on a review by a nutritionist.	Provide feed labels (compound diets) and /or formulations and premix labels (home mixers) for prior to change (12 months of labels) and after change of P level. Provide tonnage of each diet fed. This allows reduction in P to be calculated.	Credit must be given to producers who have been offering low P diets historically – allow them time if they have to adopt an end of pipe/processing solutions for manure/litter.
Optimise FCR – use of FCR Calculator to show it's as good as can be	Output established and action plan in place to improve if/where possible. Calculation based on average FCR from a minimum of three crops to demonstrate.	Poultry industry reps and/or CAFRE technologists to engage with identified producers and support them to improve FCR where applicable or confirm FCR is above average/or in top 25%.
Exploring end of pipe solutions*	Show evidence of visits, information acquired re solutions – provide evidence of deposit paid for equipment/invoicing if at that stage and or evidence of solution provision by supplier chain partner. Evidence of contract/commitment to process or export manure/litter.	This will apply to producers and/or their supply chain partner who have exhausted any gains via dietary interventions. Hence these producers require time and should be given this as credit for what they have already done via the diet.
End of pipe solution in place*	Evidence of monitoring outputs – records of tonnage of manure/litter moved off site, Records of	Solutions may vary with unit and with time. Need input from AFBI to “accredit” solutions as one size may not fit all.

	where manure/litter is spread.	Type of solution needs to be understood and evaluated.
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*Producers will require both capital support and the support of scientists to evaluate different options. Producers cannot be allowed to invest in an end of pipe solution that is found to not fulfil the requirements. This would leave producers still in breach of their P balance having made a large financial investment.

Interdependencies:

The development of end of pipe/processing solutions for manure/litter depends on demonstrable progress on wider ammonia policy. Such progress is required alongside implementation of the NAP measures, recognising that the NAP's ambition can only be realised where ammonia policy advances in parallel. There are interdependencies between ammonia mitigation and the environmental assessments undertaken as part of the planning process. The governance arrangements for the NAP should include a formal mechanism for assessing ammonia policy progress as part of considerations regarding implementation of the measures.

Proposed Measure 4.1.2 - Reducing Northern Ireland's average phosphorus surplus

Paper 6 - P Protocols for Pig Farms 26 June 2026

Phosphorus reduction proposal for Pig farms if $\geq 170\text{kg/ha N}$ on own land and exported slurry

To be used as a complimentary means to Farm P Balance to demonstrate that all efforts have been made to manage P efficiently and that risks to water quality have been minimised so far as possible.

Solution	Evidence	Comments
Optimize P in diets to levels based on research for growing pigs or recommended levels of genetic companies for breeding animals. Figures should always be optimized to specific requirements based on a review by a nutritionist.	Provide feed labels (compound diets) and /or formulations and premix labels (home mixers) for prior to change (12 months of labels) and after change of P level. Provide tonnage of each diet fed. This allows reduction in P to be calculated.	Credit must be given to producers who have been offering low P diets historically – allow them time if they have to adopt an end of pipe/processing solution for slurry.
Move to precision feeding eg. Separate feeding of boars and gilts, phase feeding etc – this would allow P and N levels to be optimized to the nutritional requirement of the pig at each stage of development.	Provide feed labels (compound diets) and /or formulations and premix labels (home mixers) for prior to change (12 months of labels) and after change of P level. Provide tonnage of each diet fed. This allows reduction in P to be calculated.	Producers will need support with capital expenditure that is required to facilitate precision feeding e.g. extra bins, auger lines.
Use of CAFRE FCR Calculator	Output established and action plan in place to improve if/where possible. Annual calculation to show improvement.	CAFRE technologists to engage with identified producers and support them to improve FCR where applicable or confirm FCR is above average/or in top 25%.
Exploring end of pipe solutions*	Show evidence of visits, information acquired re solutions – provide evidence of deposit paid for equipment/invoicing if at that stage.	This will apply to producers who have exhausted any gains via dietary interventions. Hence these producers require time and should be given this as credit for

	Evidence of contract/commitment to process slurry.	what they have already done via the diet.
End of pipe solution in place*	Evidence of monitoring outputs – records of tonnage of solid moved off site, records of nutrients remaining in separated liquid on farm. Records of where separated liquid is spread.	Solutions may vary with pig unit and with time. Need input from AFBI to “accredit” solutions as one size will not fit all. Type of solution needs to be understood and evaluated.

*Producers will require both capital support and the support of scientists to evaluate different options. Producers cannot be allowed to invest in an end of pipe solution that is found to not fulfil the requirements. This would leave producers still in breach of their P balance having made a large financial investment.

Interdependencies:

The development of end of pipe/processing solutions for slurry depends on demonstrable progress on wider ammonia policy. Such progress is required alongside implementation of the NAP measures, recognising that the NAP's ambition can only be realised where ammonia policy advances in parallel. There are interdependencies between ammonia mitigation and the environmental assessments undertaken as part of the planning process. The governance arrangements for the NAP should include a formal mechanism for assessing ammonia policy progress as part of considerations regarding implementation of the measures.

Proposed Measure 4.1.3 - Dairy cow nutrient excretion values – based on milk yield

Paper 7 - Nitrogen Banding/Excretion values for Dairy Cows and AFBI technical presentations 16 March 2026

Context and Rationale

DAERA is proposing reforms to dairy cow N excretion values under the Nutrients Action Programme (NAP). The aim is to improve accuracy, fairness and environmental integrity by better reflecting actual milk yield and dietary management, while avoiding disproportionate impacts on farms close to regulatory thresholds. Similar banding would be used for Phosphorus (P) excretion values.

Agreement has been reached in principle on the proposed approach detailed below.

Current Alternative Proposal

- The current alternative proposal from SH discussions uses 7 broader bands (6,000–12,500 litres).

Milk yield band (litres)	N excretion per cow (kg/year)	P excretion per cow (kg/year)
< 5000 litres	77	11
5000 - 7000	90	13
7001 – 8000	103	15
8001 – 9000	112	17
9001 – 10,000	121	18
10,001 – 12,000	135	20
>12,000 litres	149	22

Importantly, banding is not the sole mechanism; farmers will have a choice of routes to determine the N excretion value for their herd.

Farmer Options (Four Routes)

Farmers may choose **one of the following**:

1. Milk Yield Banding

Submit milk-yield data and apply the relevant N band value. An online facility will be available for this route.

2. Absolute N Calculation – Yield Based

Submit herd milk-yield data and calculate an individual farm-specific N excretion value, rather than using a standard band. An online facility will be available for this route.

3. Absolute N Calculation – Diet Based

Where dietary formulations which have the potential to reduce N excretion, such as low CP diets are used on farm. Dietary input data will be used to calculate an absolute farm-specific N value using a spreadsheet methodology under development by AFBI. Entries under this option will require independent verification, and a detailed protocol for this will be developed and made available.

4. Default Value

Farms submitting no milk-yield or dietary data will default to an N excretion value equivalent to a >12,000-litre yield.

Milk Yield Data

- Yield should be determined from either the most recent year's average or a rolling average of the most recent three-years.
- Farmers will self-declare their average 12 month (calendar year) or 3 year rolling average milk yield by 31st January each year. When entering the data, the recording system will notify farmers that their submissions will be subject to a minimum 10% verification check. which would require the provision of documentation, likely the milk statement from the milk purchaser, as proof of milk yield. This verification rate would rise to a 25% check rate should a material number of discrepancies be realised from the 10% check level.
- Additionally, DAERA will conduct a regional macro-level assessment of milk production; if this cross-check / evaluation diverges by more than +/- 5 percent from farmer-recorded figures, DAERA will require mandatory verification of milk yield data for all dairy farms. A process review would take place after 1 year.
- Adjustments for pre-sale offtakes, such as milk used for calf rearing are already factored into the calculation methodology.

Absolute N Calculation – Diet based

- Crude protein in the diet is recognised as a critical variable influencing N excretion.
- AFBI modelling on dietary impacts on N excretion is nearing completion and will be shared with the NAP Technical Subgroup when available. This will result in a spreadsheet/model being established for the “Absolute N Calculation – Diet Based option.”
- As noted above, entries under this option will require independent verification. A protocol for this will be developed and made available.

Implementation dates

- In the first year of the new NAP farmers will be required to determine and submit their N banding /excretion value by a specific date during the year (to be determined pending agreement of NAP Regulations).
- This N banding/ excretion value will apply from the start of the second year of the NAP. From the second year, annual milk yield data and associated N banding/excretion value will be confirmed and submitted each year by 31 January of that year.

Comparison with Republic of Ireland (ROI) Approach

The proposed Northern Ireland (NI) approach shares some conceptual similarities with the Republic of Ireland (ROI) system, but there are important differences in design, flexibility and policy intent.

In ROI, dairy cow nitrogen excretion values are determined through a nationally standardised milk-yield banding framework. The system is more prescriptive, with fixed excretion values applied once a farm falls within one of three wide milk-yield bands. While this provides regulatory clarity and consistency, it offers limited scope for individual farm-level adjustment, even where advanced nutritional management or performance data are available.

In NI, the intent is to avoid cliff-edge impacts, particularly for farms close to key regulatory limits, by offering alternative calculation pathways.

By contrast, the emerging NI position is deliberately more flexible and outcome-focused. While milk-yield banding remains a central component, it is only one of four compliance routes. Farms with robust data and specialist input can move beyond standard bands and calculate absolute, farm-specific nitrogen excretion values, either through yield-based calculations or diet-based modelling. This represents a more tailored approach, designed to reflect real on-farm performance gains rather than relying solely on population averages.

The ROI approach provides a useful reference point and demonstrates that milk-yield-linked banding can operate at scale. The NI proposal is positioned as a

more proportionate and adaptive framework, seeking to balance recognition of best practice at farm level with fairness, innovation and environmental protection.

Proposed Measure 4.2.2 Clearer definition of Low Emission Slurry Spreading Equipment & 4.2.3 Tiered move to increased use of LESSE

Paper 8 - Low Emission Slurry Spreading Equipment (LESSE) Proposals 07 June 2026

Background

Northern Ireland agriculture faces a critical challenge: ammonia emissions have increased by 3.7% since 2005, while the UK National Emissions Ceiling Regulations (NECR) 2018 mandate significant reductions by 2030.

Low emission slurry spreading is one of the most effective mitigation measures to reduce ammonia emissions, and in doing so improves nutrient efficiency and sustainability of the agricultural sector. Implementation of low emission slurry spreading techniques for all livestock slurry has been estimated to achieve by itself a 5 to 10% reduction in total ammonia emissions across Northern Ireland agriculture.¹

Mandatory use of LESSE

The 2019 NAP Regulations already require LESSE for:

- All slurry spreading contractors.
- All anaerobic digestate.
- Cattle farms with 200 or more cattle Livestock Units.
- Pig farms with a total annual livestock manure nitrogen production of 20,000 kg or more.
- Derogated farms must use LESSE when spreading slurry from 15 June of each year.

LESSE - Environmental Impact:

- NI contributes 12% of UK ammonia emissions despite only 6% land area and 3% population.
- 97% of NI ammonia emissions originate from agriculture.
- Ammonia deposition damages sensitive habitats and water quality.

Proven Benefits:

- Reduces ammonia emissions by 30–90% (method-dependent)

- Improves nitrogen retention, reducing chemical fertiliser needs
- AFBI research: Grass growth ↑ 18% (trailing hose), 26% (trailing shoe) ¹
- Chemical Fertiliser savings: up to 38 kg N/ha for silage crops¹
- Estimated 5 - 10% reduction in total NI ammonia emissions if implemented for all slurry.

¹ Frost (2007) Occasional publication No. 38, British Grassland Society. Methods of spreading slurry to improve N efficiency on grassland

Proposals for LESSE Introduction

Proposal 1

- To move to 100% use of LESSE compulsory by 1 February 2030 on all farm businesses. This would be implemented in 3 Tiers as outlined in the table below.
- Derogated farms to use LESSE all year from 1 February 2026.
- All pig slurry to be spread using LESSE from 1 February 2027.
- The existing provision where it is not practical to use LESSE due to the slope of fields will remain.

Consideration of support to help farmers invest in LESSE is part of the development work for DAERA's new capital investment scheme to help farm businesses improve their environmental performance.

Proposed phased implementation – Tier	Date	Annual livestock manure Nitrogen Production (kg/ha)
Tier 1	Feb 2027	≥150
Tier 2	Feb 2028	≥100
Tier 3	Feb 2030	All farms

Proposal 2

- To move to all Farm Businesses with more than 50 Livestock Units to use of LESSE compulsory by 1 February 2030 on all farm businesses. This would be implemented in 3 Tiers as outlined in the table below.
- All pig farms with Livestock N production of more than 10,000kgN from pigs to spread using LESSE from 1 February 2029.

- The existing provision where it is not practical to use LESSE due to the slope of fields will remain.

Consideration of support to help farmers invest in LESSE is part of the development work for DAERA's new capital investment scheme to help farm businesses improve their environmental performance.

Proposed phased implementation – Tier	Date	Livestock Unit per Farm
Tier 1	Feb 2028	≥100 LU
Tier 2	Feb 2029	≥75 LU
	Feb 2029	All pig farms over 10,000kg livestock manure N from pigs
Tier 3	Feb 2030	≥50 LU

Conclusion

The NAP Stakeholder Task & Finish Group discussed the proposals and considered that proposal 2 provided a balanced approach to LESSE introduction which provided substantial reductions in Ammonia emissions and could be practically implemented by farm businesses through the three Tiers over period of the NAP programme.

Proposed Measure 4.2.6 - Limit the use of unprotected granular urea fertilisers

Paper 9 - Proposals on Protected Urea 07 June 2026

Context & Rationale

DAERA has proposed to prohibit the spreading of granular¹ Urea fertiliser which has not been treated with an approved Urease inhibitor. The aim is to reduce Nitrogen loss through the volatilisation of Ammonia which can occur when Urea fertiliser is spread, particularly in dry and warming conditions.

Agreement has been reached in principle on the proposed approach detailed below.

Current Alternative Proposal: (GB Model)

The current alternative proposal developed through stakeholder discussions follows the model currently in use elsewhere in the UK. This allows for the spreading of unprotected granular Urea fertiliser from 1st February – 31st March. Where a granular fertiliser containing greater than 1% Urea is used from 1st April – 15th September this must be treated with an approved Urease Inhibitor.

Agreeable to all Stakeholders/DAERA

Use of Urea fertilisers applied as liquid would be permissible from 1st February – 15th September (inclusive). Currently in Northern Ireland, the use of liquid fertilisers is at a very low level, with soil applied liquid fertiliser requiring specialist storage and large volume orders to be feasible. Foliar application of liquid Urea has the potential to lower overall chemical Nitrogen usage, although this requires research to confirm efficacy and emission levels. To allow the potential of this practice to be explored, the purchase of granular Urea for application in solution will be permitted. This will be kept under review.

All chemical fertilisers are prohibited 15th September – 31st January, with the exception of non-grassland crops where a demonstrable need exists.

Controls

Farm businesses using Urea based fertilisers will be required to keep records of:

- Date of purchase
- Quantity purchased
- Fertiliser type (protected/unprotected)
- Date of application
- Rate of application
- Field No./Name where applied
- Urea Fertiliser Stock held

These records to be held on farm, kept updated and available at inspection, including in the current year, if requested.

Rationale:

DAERA must meet two key legal requirements for ammonia (NH₃) emissions:

1. **The National Emissions Ceiling Regulations (NECR)** – sets the target for UK ammonia emissions reductions of 16% by 2030 (from 2005 baseline). Using 2023 inventory data, the reduction is equivalent to 21.5%.

2. **The Habitats Directive** - legislative provisions for the protection of European sites (SACs and SPAs). These regulations require competent authorities, public bodies, and decision-makers to agree to a plan or project only after having ascertained that it will not adversely affect the integrity of European site features.

Ammonia in Northern Ireland

- Significantly, Northern Ireland has 6% of the UK land area and 3% of the population and is responsible for 12% of UK ammonia emissions.
- 97% of ammonia emissions in Northern Ireland come from the agriculture sector.
- 96.5% of Special Areas of Conservation in NI are exceeding the Critical Level of ammonia for damage to sensitive habitats.

In order to meet the legislatively required reduction, agriculture in Northern Ireland must reach a target of 24.17kt of Ammonia Emissions by 2030. In order to reach this target, a suite of mitigation measures is required, **one of which is the use of protected Urea fertiliser**.

Cost Implications:

Protected Urea fertiliser has been quoted by suppliers as being £50/t more expensive than unprotected Urea. On average for 2024 & 2025 that would equate to £878k per year to replace all unprotected Urea sold in NI. That is based on a straight swap with no account taken of reduced N losses from protected Urea.

The DAERA proposal is shown to be cost neutral for the amount of N available to the crop when current UK Inventory Emission figures are applied. Where unprotected Urea will lose on average 11.5% of its N (this is an annual figure which takes account of lower spring losses) vs Protected Urea which will lose on average 3.75% of its N.

The cost calculated for the use of Protected Urea in the GB model (UFU preferred option), indicates a potential saving of £50/t equivalent to the full cost difference of protected Urea. This is based on the assumption that both products having the same low emissions in Spring conditions, spread in ideal conditions. This is contrary to the report from the science sub group, which stated that climate as a predictor of emission was unreliable.

Cost of Available N

Table A

Product	N%	KG N/T	£/T (April '26)	£/KG N	%N loss to Volatilisation	KG N Loss	Plant Available N KG/T	£/KG N (Available)
CAN	27	270	£465.00	£1.72	2.30%	6	264	£1.76
Urea (Uninhibited)	46	460	£560.00	£1.21	11.50%	53	407	£1.38
					4.50%	21	439	£1.28
Urea (Inhibited)	46	460	£610.00	£1.33	5.50%	25	435	£1.40
					3.75%	17	443	£1.38
					4.50%	21	439	£1.39

¹ For the purposes of this paper, “Granular” will refer to all solid Urea fertilisers, whether manufactured as granular, prilled, compound or blends which contain greater than 1% Urea.

Proposed Measure 4.2.7 – Anaerobic Digestate Measures

Paper 10 - Anaerobic Digestion and Nutrient Processing overview 16 December 2025

Anaerobic digestion (AD) is a well-established biological process that breaks down organic matter in the absence of oxygen, producing biogas, a renewable energy source primarily composed of methane and a nutrient-rich digestate. Feedstocks for AD can include agricultural crops and residues, livestock manures, food industry by-products and almost any other organic fractions you can think of.

The technology not only generates renewable energy but can also help manage plant nutrients. When combined with appropriate nutrient processing technologies, it is particularly relevant for agriculture where livestock slurry and manure management are critical challenges. In the Northern Ireland context, AD offers significant potential.

The region's agri-food sector produces large volumes of livestock manure, which, if managed through AD and nutrient processing, could facilitate the managed reduction of nutrient surpluses that contribute to water quality issues, while simultaneously producing biogas for heat and power.

Existing on-farm AD systems are seen as a promising solution to address these dual objectives as they can be "reception facilities" for agri-feedstocks. These are capable of valorisation through energy production (C) and ultimately nutrient processing, valorisation and export (N & P)i.

Remembering that AD only allows for the removal of C, H and O through gas production. All the P and N still remains in the digestate and this must be managed by nutrient processing. Also, the form of these nutrients is more plant available, and in terms of nitrogen has significantly higher ammonia emissions compared with raw slurry. This must also be managed in the process. An infographic on the potential Nutrient Supply Chain is provided in Annex 1 at the end of this paper.

Centralised processing of poultry litter by Anaerobic Digestion has already proven to be a successful model in NI. The Stream BioEnergy AD plant at Tully near Ballymena currently processes 40k tonnes of poultry litter per year and has plans to expand. The plant uses innovative technology to reduce ammonia by nitrogen stripping and is a result of the Sustainable Use of Poultry Litter (SUPL) research initiative in 2012. Further details are provided in Annex 2 at the end of this paper.

Challenges

The exportation of slurry off farms for processing is generally a novel concept for farmers and contractors. As a result, it may take some acceptance of the required technologies, capabilities, aims and on-farm management practices to achieve this.

For example, how will the slurry be exported; whole or separated? How will the slurry be separated; static or mobile separators, screw-presses, centrifuges, what storage facilities might exist on the farm for separated slurry liquid and solids? What will this mean to the overall nutrient balance on farm?

As development and communications proceed, more questions will certainly arise. Aside from on-farm engagement, there are quite a few areas of understanding required at the AD plants too (biorefinery slurry receiving points) such as, how good a feedstock is the imported slurry in terms of biomethane production potential? What treatment technologies and processes are required to valorise the digestate (e.g. ammonia stripping & stabilisation, centrifugation, digestate drying or other thermochemical processes).

Also, what regulations and legislative requirements need to be considered. Also, the cost of these 'end of pipe' interventions could be significant. The affordability will depend on a number of factors which will include the value of the product streams (Methane, Carbon Dioxide and valorised digestate in N, P or C products) as well as public and private investments through grants, loans or incentivisation. Planning requirements and the Revised Operational Protocol for Ammonia also need to be considered.

Nutrient Movements and DAERA Sustainable Utilisation of Livestock Slurry (SULS)

The DAERA SULS projects are demonstrating the feasibility of removing separated slurry and manures off farm, towards central processing facilities (AD plants currently and in the future, large scale Biorefineries).

It is essential to understand a number of variables such as most appropriate separation technologies, practicality of mobile systems, P removal efficacy and efficiencies, value of separated solids and equivalence to other feedstocks – dictating the economic feasibility of processing and a number of downstream processing technologies.

Ultimately the digestate needs to be valorised to a stage where it has a value and thus an export market. This is also designed to be implemented within the DAERA SULS projects. The SULS Initiative is aiding in the understanding of the challenges with these types of slurry nutrient processing solutions.

Energy context in Northern Ireland

The application of AD has significant potential to generate energy in the form of biogas. This biogas can be upgraded to biomethane and used to offset natural gas within the NI gas network. NI currently has approximately 80 AD plants. Recent research undertaken by AFBI and QUB has estimated that a significant amount of biomethane could be created by co-digesting slurry with grass silage feedstock and could help to displace NI's natural gas use (Mehta N et al., 2023ii).

In this modelling, it was assumed that additional grass could be grown in NI compared to current levels and this excess grass would represent the grass silage used as AD feedstock. The level of biomethane production would significantly contribute to the achievement of goals as set out in recent independent advice (Climate Change Committee 2023)ⁱⁱⁱ for around 3.5 TWh of biogas by 2050.

Proposed additional Anaerobic Digestate Measures under NAP 2026-2029.

The NAP is key to facilitating the movement of nutrients from farms to AD plants and vice versa and encouraging the further processing and exportation of excess nutrients outside Northern Ireland. The Department is aware from SULS how a revised NAP can

help facilitate the sustainable management of P via the movement of processed organic nutrients between farms and AD plants. The processing models being developed through SULS offer significant potential to help reduce the P surplus of Northern Ireland Agriculture and therefore improve water quality.

The Department proposed in the 1 May 2025 consultation on NAP 2026-29 that:

1. From 2027 all digestate should be separated to reduce phosphorus content before it can be land spread. Where liquid digestate has a P:N ratio of 1:10 or lower, it can be land spread, in line with regulations covering cattle slurry.
2. Where digestate is not separated, or it has a P:N ratio of greater than 1:10, it must be applied to crop requirement for phosphorus and nitrogen according to a Nutrient Management Plan.
3. If digestate is produced using feedstocks from outside Northern Ireland, it must be applied to crop requirement for phosphorus and nitrogen according to a Nutrient Management Plan, regardless of digestate separation or processing technology.
4. AD plants will be required to record movements of separated slurry solids and slurry from farms and nutrients moved to farms in processed digestate from AD plants.
5. These movements to be recorded and notified.

As a means of reducing the Northern Ireland Farmgate Phosphorus Balance and leading to reduced Soluble Reactive Phosphorus (SRP) levels in rivers and lakes (Jordan et al, 2024), the following measures were proposed the 1 May 2025 consultation on NAP 2026-29, in order to reduce excess phosphorus loading on agricultural land.

1. The NAP currently contains controls on the land spreading of digestate. The updated NAP proposes measures for the regulation of digestate that has been

separated, which recognise its reduced phosphorus content. It also proposes enhanced recording of nutrient movements.

2. This takes into account processing models being developed under the Sustainable Use of Livestock Slurry (SULS) initiative, Action 10 of the Lough Neagh Action Plan.

3. The proposed updated NAP 2026-2029 also contributes to the development of a new regulatory framework for the processing of slurry for nutrient partitioning and biogas production. Action 25 of the Lough Neagh Action Plan. “Engage and fully consult with stakeholders regarding a new regulatory framework for the processing of slurry to reduce land spreading of excess phosphorus, resulting in renewable energy production and recycling/reuse of organic nutrients. Reduce phosphorus loading to land.”

4. The existing NAP measures on AD – specifically the management of digestate - can discourage AD plants from using P rich feedstocks such as separated slurry solids. This is contrary to the objectives of SULS and utilising AD plants combined with nutrient separation technology to help reduce the Northern Ireland Farmgate Phosphorus Balance and improve water quality.

5. Through the proposed updated NAP 2026-2029 the aim is to introduce further measures to:

- Encourage farmers to actively separate or have slurry separated to remove phosphorus from farms, which have an excess of phosphorus, with the separated solids destined for AD feedstock to generate biogas (includes the Farm Phosphorus Balance measure).
- Drive and enable the sustainable management of digestate, including the efficacious separation and removal of phosphorus.
- Accurately record the nutrients removed from farms in separated slurry solids and slurry to AD plants. Thereby, formally providing a legitimate and verifiable route for the movement of nutrients from farms.
- Accurately record the nutrients moved from AD plants in processed digestate to farms where those nutrients are needed.
- Ensure that separated slurry solids are stored appropriately ensuring that regardless of where they are stored, they should always be covered. 5

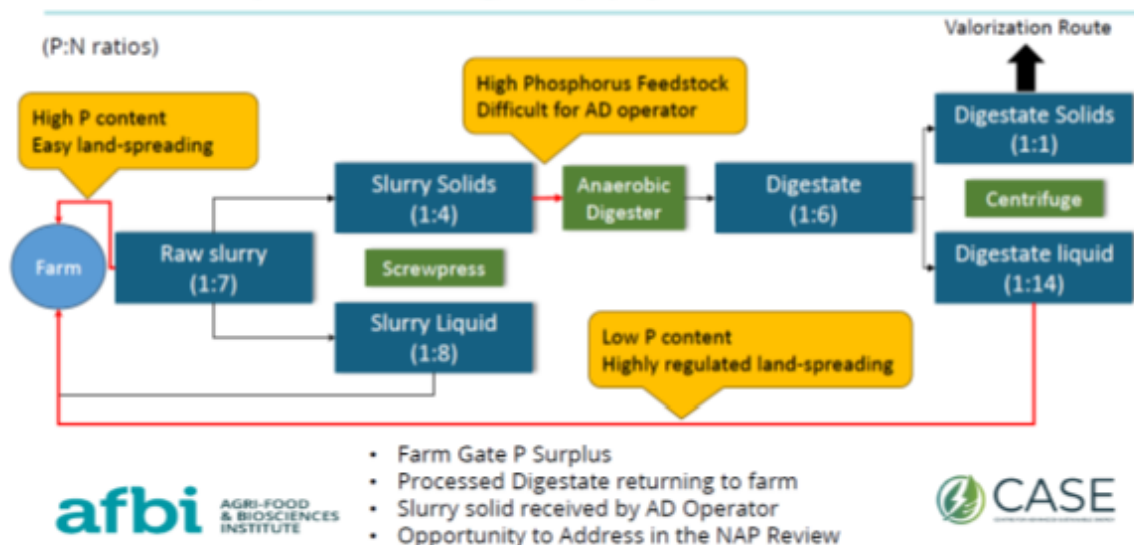
i <https://www.afbini.gov.uk/article/anaerobic-digestion>

ii Mehta., N, Anderson A., Johnston C.R., Rooney D.W. (2023) Evaluating the opportunity for utilising anaerobic digestion and pyrolysis of livestock manure and grass silage to decarbonise gas infrastructure: A Northern Ireland case study, *Renewable Energy*, 196, 343-357, <https://doi.org/10.1016/j.renene.2022.06.115>.

iii Climate Change Committee (2023). Advice report: The path to a Net Zero Northern Ireland. <https://www.theccc.org.uk/publication/advice-report-the-path-to-a-net-zero-northern-ireland/>

Annex 1

Nutrient processing Supply Chain



Annex 2

Stream BioEnergy (SBE) Anaerobic Digestion / Biogas Plant

Based near Ballymena, Northern Ireland the SBE Plant is a unique biogas facility that generates renewable energy from poultry litter as the sole feedstock. It currently generates 3MW of renewable electricity from 40,000 tonnes of poultry litter each year, enough to power approximately 4,000 homes.

While some other biogas plants utilise a limited proportion of poultry litter as a feedstock, the SBE Plant is the first facility in the world to operate exclusively on this feedstock source, at this scale. This is achieved by the addition of innovative nitrogen stripping technology to the process which extracts ammonia.

The plant is helping address the challenge of managing poultry litter in Northern Ireland in a more environmentally friendly and sustainable manner. It is diverting phosphorus away from agricultural land where surpluses are causing an adverse impact on water quality. In addition, the innovative combination of anaerobic digestion and nitrogen stripping technology is also helping to reduce ammonia emissions from agriculture. As part of the process the company also supplies fibre high in phosphorus to a major compost producer in Northern Ireland who is using it to displace peat in its products.

They also produce a liquid digestate with nitrogen and potassium for use on grassland and a concentrated ammonium sulphate solution for crops. SBE have plans to expand the plant to accept up to 5 times more poultry litter, which will cater for the entire poultry litter output in Northern Ireland.

This Phase 2 has planning permission and would produce enough electricity to power 30,000 homes or displace 5% of the natural gas imported to heat Northern Ireland homes and businesses. It is hoped the first part of Phase 2 of the plant will be operational in 2028. When Phase 2 is fully completed the SBE plant will be one of the largest biogas plants in Europe.

Other companies are seeking to use anaerobic digestion to produce biomethane and even hydrogen from agricultural slurry and crops to produce energy and biomethane to inject into the Northern Ireland gas network and fuel heavy goods vehicles. This will displace natural gas and diesel and reduce carbon emissions while increasing air and water quality.



Photo: The SBE AD plant at Tully, near Ballymena.

Proposed Measure 4.3.1 Nutrient Stewardship Programme - a revised approach to Derogation

Paper 11 - Proposed Nutrient Stewardship Programme - a revised approach to Derogation 27 March 2026

Current Derogation Eligibility & Conditions

To operate under derogation at present, farms must apply annually to NIEA and demonstrate that they meet the following criteria:

1. **Grassland area:** $\geq 80\%$ of agricultural area available for manure application must be grassland.
- **Grazing livestock present:** Cattle, sheep, deer, goats or horses. Annual nutrient planning: **Fertilisation Plan** prepared by **1 March** each year and kept updated.
- **Fertilisation Account** submitted online the following year to NIEA.
- **Nitrogen loading control:** $\leq 250 \text{ kg N/ha/year}$ from grazing livestock manure, including both applied manure and the N deposited by grazing animals. The derogation does not apply to pig or poultry manure.
- **Soil analysis:** At least every **4 years** for each homogeneous area; ≥ 1 sample per 4 ha.
- **Phosphorus balance:** Surplus $\leq 10 \text{ kg P/ha/year}$.
- Slurry spreading rules: At least **50% of slurry** applied **on or before 15 June**.
- Use **Low Emission Slurry Spreading Equipment (LESSE)** for any slurry applications **after 15 June**.
- **Cultivation timing controls:** No livestock manure spread in **September–October** ahead of grass cultivation; temporary grass typically **ploughed in spring** and followed by a **high N demand crop**.
- **Exclusion of leguminous crops and limits on clover.** Clover in grassland at less than 50% clover and leguminous crops under sown with grass are allowed.

Note that, where a cattle farm is mixed with pigs and/or poultry; the ruminant/grassland enterprises are ringfenced, albeit import/export of manure from pig/poultry enterprises are accounted for.

These requirements apply in addition to all the other requirements of the NAP Regulations.

Current Revisions Overview

Proposed revisions – overview Current Derogation Requirements	Retain	Amend
Grassland area: $\geq 80\%$ of agricultural area available for manure application must be grassland.		✓
Grazing livestock present: Cattle, sheep, deer, goats or horses.	✓	
Annual nutrient planning: • Fertilisation Plan prepared by 1 March each year and kept updated. • Fertilisation Account submitted online the following year to NIEA.	✓	
Nitrogen loading control: ≤ 250 kg N/ha/year from grazing livestock manure, including both applied manure and the N deposited by grazing animals. The derogation does not apply to pig or poultry manure.	✓	
Soil analysis: At least every 4 years for each homogeneous area; ≥ 1 sample per 4 ha.	✓	
Phosphorus balance: Surplus ≤ 10 kg P/ha/year.	✓	✓
Slurry spreading rules: • At least 50% of slurry applied on or before 15 June. • Use Low Emission Slurry Spreading Equipment (LESSE) for any slurry applications after 15 June.	✓	
Cultivation timing controls: No livestock manure spread in September–October ahead of grass cultivation; temporary grass typically ploughed in spring and followed by a high N demand crop.	✓	
Limits on clover and leguminous crops		✓
Annual application		✓
Title – “Derogation”		✓

Rationale for proposed revisions

Title – “Derogation”

The term “Derogation” does not fully reflect all the additional nutrient management requirements and safeguards within it. It supports grass based dairy farming and high nutrient efficiency levels.

The title “Nutrient Stewardship Programme” is proposed, reflecting the benefits it can deliver and that farms within the programme require good management, efficient nutrient planning skills and detailed record keeping.

Tier 1 & Tier 2

It is proposed that Farm Businesses currently in Derogation and new applicants meeting all the criteria would be assigned Tier 1 status, reflecting the higher level of nutrient management being practiced.

Those applying for the Nutrient Stewardship Programme with the aim on improving their nutrient management but not currently meeting all criteria in full would be assigned Tier 2 status while on a pathway to achieve Tier 1 standards. Advisory support would be available to aid conversion to Tier 1 status.

- **Grassland area: $\geq 80\%$**

This limit may prevent a small number of farms from entering the derogation and may also prevent others already in the derogation from growing more arable crops. Producing more cereal on farm is likely to reduce import of concentrate feed and therefore the farm's P Balance.

Also, arable crops benefit biodiversity. Therefore, it is proposed to reduce the minimum grassland area requirement to 70%.

There are potential risks to water quality associated with maize and other late harvested crops, particularly sediment and particulate P loss. These risks would be mitigated by the inclusion of requirements for buffers strips next to waterways and appropriate land management. The details of these safeguards to mitigate risks are to be developed and finalised by the NAP Technical Subgroup.

- **Phosphorus balance: Surplus ≤ 10 kg P/ha/year.**

Feedback indicates that the P Balance is a significant barrier to many farms applying to operate under the derogation. It is proposed to retain the Surplus ≤ 10 kg P/ha/year for existing Derogated farms.

For new applicants to Tier 2, it is proposed they can enter the derogation with a P Balance above 10 kg P/ha/year with a commitment to reduce the farm P Balance by a minimum of 10% over 4 years or to 10 kg P/ha/year. This would result in lower P surpluses on those farms and improved nutrient management compared to them staying outside the Derogation.

Farms in Tier 2 that do not achieve a P Balance of 10 kg/P/ha/year or lower after 4 years would remain in Tier 2 until they do so.

In addition, the absolute limit of 10 kg P/ha/year does not have a tolerance. Consequently, it does not reflect the variations in weather, grass yield etc. that occur year to year.

Therefore, to account for these realities of farming it is proposed that compliance with the P Balance limit would be based on a 3 year rolling average. This should not reduce environmental protection while providing some flexibility and practicality around factors which are outside a farmer's control.

It has also been proposed that compliance with a lowering P balance could be demonstrated through soil testing showing stable or reducing soil P levels over a specified period. This would be confirmation that P is being efficiently managed on the farm.

This would need to be measured using the mg/L reading, as the P index is too broad for accurate assessment. Soil tests would be procured by the farm business which would include samples collected by an approved 3rd party, analysed by an accredited laboratory, with ownership of data to be retained by the farm business.

A full protocol for this soil P alternative will be developed and finalised by the NAP Technical Subgroup.

- **Limits on clover and leguminous crops**

The current restrictions on leguminous crops and limits on clover are designed to reduce the risk of elevated nitrate levels in groundwaters. This is a widespread issue in some other European countries with free draining, sandy and/or shallow soils. Hence, it has been included as a "standard" requirement in the derogation conditions set by the EU Commission.

However, the vast majority of farmed grassland soils in NI are classified as medium to heavy Loam due to their clay content, and good organic matter content due to livestock farming leading to good Cation Exchanges Capacities (CEC). This means these soils have a good ability to retain nutrients and generally drain more slowly than light soils leading to generally lower nitrate levels in groundwaters.

Current restrictions on leguminous crops are largely irrelevant in NI. Increased clover and legume cultivation has the potential to reduce inputs of chemical N fertiliser and decrease imported feed requirements on derogated farms, while at the same time increasing crop biodiversity potential. These restrictions conflict with DAERA's policy of supporting locally grown protein crops as a substitute for imported feed.

Potential risks of elevated nitrate levels in groundwaters could be addressed by appropriate restrictions in specific areas with free draining, sandy and or shallow soils, should analysis indicate that to be necessary. AFBI have already conducted an analysis

of potential risks. This will be considered by the NAP Technical Subgroup and if appropriate, safeguards to mitigate risks will be developed and finalised.

- **Annual application**

The vast majority of farms currently operating under the derogation have been doing so for many years. There are generally only a very small number of “leavers” and “new entrants” from year to year. The annual application process therefore creates an administrative burden for both farmers and the Department, which could be reduced with minimal impact.

Therefore, it is proposed that derogation applications for those eligible for Tier 1 would be for a 4 year period, matching the duration of each NAP. This would reduce administrative burdens and provide longer term certainty. Such certainty has been highlighted as a barrier preventing some farms from applying to operate under the derogation.

Farms would still be required to submit annual fertilisation accounts to NIEA and prepare and update Nutrient Management Plans each year. Therefore, that existing level of administrative control and verification would be maintained.

Successful applicants part way through a 4 year period of each NAP would have their Nutrient Stewardship Programme membership approved to the end of that NAP period rather than a full 4 years from application year.

Applicants eligible for entry to Tier 2 would apply on an annual basis to allow a review of progress made.

- **Inspection Regime**

Farm businesses in Tier 1, having demonstrated that they meet all the criteria at application would be subject to a 1% inspection rate, reflecting their demonstration of a higher level of Nutrient Management.

Farm Businesses in Tier 2, while in conversion to Tier 1 would be subject to a 2% inspection rate.

Farm Businesses outside of the Nutrient Stewardship Programme, which are over 170Kg N/Ha livestock manure nitrogen production would be subject to a 10% inspection rate. If found to be non-compliant with the 170 Kg/N/Ha livestock manure loading limit, farms would be subject to a penalty under Farm Sustainability Standards.

All farm businesses in Tier 1 and Tier 2 will submit an annual Fertilisation Accounts as under the current scheme. These would be subject to a 100% administrative check.

Note: inspection rates to be agreed with NIEA.

- **Training and Knowledge Transfer**

Specific training for Nutrient Stewardship Programme participants will be developed. It will focus on Nutrient Management Planning and efficiency, including the use of online tools/calculators. Completion of this training will be a requirement for Tier 2 participants and optional for Tier 1 participants. Extension of this training to other topics related to water quality will be considered as the programme develops.

- **Review**

Implementation of the Nutrient Stewardship Programme should be reviewed by the appropriate NAP oversight/governance group that is to be established. This review would initially take place after 2 years and would consider uptake rates, inspection data and overall effectiveness. A further review would take place as part of the overall NAP 4 yearly review process.

Proposed Measure 4.3.2 - Mitigation Measures for late harvested arable crops

Paper 12 - Mitigation Measures for late harvested arable crops 1st June 2026

This paper summarises a proposed approach to reducing risk of impact from late harvested crops, including maize, on water quality under the Nutrients Action Programme (NAP).

The proposal reflects the Technical Subgroup's view that any measure implemented should apply to all farms growing such crops. Measures should focus on those fields posing a risk to waterways through assessment of slope and runoff pathways.

In particular, maize cultivation can create a risk of runoff, erosion and sediment movement to waterways, particularly on sloping land or where there is direct hydrological connectivity to a river, stream or drain. Late harvesting limits options for establishing cover crops and a greater likelihood of rainfall into autumn increases the potential for soil erosion and runoff.

The Subgroup discussed whether additional mitigation measures should be specified for such fields and agreed that any approach should be practical, proportionate and focused on higher-risk situations.

- Maize mitigation measures should be taken forward through NAP and apply to all farms growing maize. Other late harvested crops, such as potatoes and vegetables, were discussed and may need to be included.
- Measures should be proportionate to the risk posed to waterbodies, particularly relating to soil erosion, so the slope of fields, runoff pathways and location of watercourses need to be considered.
- Acceptable mitigation measures should include simple, practical controls capable of interrupting runoff pathways, retaining water to infiltrate and allowing sediment and nutrient to settle out.
- Options to be implemented at crop establishment include buffering of watercourses where there is risk from slope of surface water entering the waterway in adverse conditions by, for example:
 - Ploughing an upturned outside single furrow parallel with the waterway at 3 metres from the waterway.
 - Inclusion of a grass filtration buffer of appropriate width between the crop and the waterway.
 - Opening plough furrows running parallel to watercourses, preventing direct runoff into drains and stream.
- Existing NAP requirements and Farm Sustainability Standards have been reviewed to determine whether the identified risks are already sufficiently covered.

- The current NAP and FSS have requirements for post-harvest measures, they have no requirements for action at planting stage.
- Therefore, a specific provision on implementation of mitigation measures at planting stage is necessary, supported by additional guidance.

This approach reflects the discussion at the Subgroup meeting, where members agreed that a targeted, risk-based model is preferable to a blanket requirement. It also reflects the view that simple and visible in-field measures are more likely to be practical and enforceable.

It further recognises that some relevant controls may already exist within current NAP provisions and Farm Sustainability Standards. Details are included below.

NAP Regulations (reg 25) Extract:

“After harvesting a crop other than grass the controller shall ensure that from the date of harvesting to 15th January in the following year, one of the following conditions is met on the land at any time—

(a)the stubble of the harvested crop remains in the land;

(b)the land is sown with a crop which will take up nitrogen from the soil; or

(c)where soil or weather conditions prevent a subsequent crop from being sown, appropriate measures are put in place to limit soil erosion.”

NAP Guidance: (9.2.2) [20.21.177 Nutrients Action Programme 2019-2022 Guidance Booklet Final V3.PDF](#) - Extract:

“Appropriate measures would include chisel ploughing or, where soils are waterlogged, leaving crop residues undisturbed but minimising the potential for soil erosion by, for example, installing sediment traps in vulnerable locations or by creating a barrier of roughly cultivated soil between a slope and a vulnerable watercourse. A barrier of roughly cultivated soil can be created by ploughing three or four furrows between the slope and the vulnerable watercourse. This will trap any sediment and nutrient laden water before it reaches a watercourse. Alternatively, a rough grass headland may be left which would serve a similar purpose.”

DAERA has developed appropriate wording on a specific provision in the NAP Regulations on implementation of mitigation measures at planting stage, as follows

NAP Regulations – proposed additional wording:

Existing Regulation 26 - Crop management

26. (1) Where grass leys are grown in rotation with arable crops the first crop shall be sown as soon as possible after the grass has been ploughed.

Proposed additional text:

(2) Where late harvested crops such as maize, potatoes and other root crops are grown, the controller shall put in place appropriate measures to minimise the potential for soil erosion, nutrient and sediment loss to watercourses.

Associated guidance will include clear examples of the types of fields to which measures would apply and practical examples of acceptable mitigation actions and when they should be implemented.

Current NAP Guidance includes “for example, installing sediment traps in vulnerable locations or by creating a barrier of roughly cultivated soil between a slope and a vulnerable watercourse”.

Farm Sustainability Standards (FSS):

FSS – broadly follows and replicates the provisions included in the NAP Regulations as a basic / baseline requirements for soil erosion prevention.

Regulations relating to FSS state the following [The Farm Sustainability Standards Regulations \(Northern Ireland\) 2025](#); Schedule 2 – to protect soil as a resource by preventing soil erosion by ensuring minimum soil cover and through maintaining soil carbon stocks :

“Farmers must ensure that after harvesting, from the date of harvesting to 15 January in the following year, one of the following conditions is met on the land at any time:

the stubble of the harvested crop remains in the land; or

the land is sown with a crop which will reduce the risk of soil erosion; or

where soil or weather conditions prevent a subsequent crop from being sown, appropriate measures are put in place to limit soil erosion.

DAERA shall vary or suspend any of the requirements set out above where in its opinion–

(a) the farmer has prepared the land as a seedbed but is unable to sow the crop within 10 days because to do so would cause the land to be excessively trampled and/or rutted.

(b) an area is affected by extreme weather conditions which make it impracticable to comply.

Where DAERA has varied or suspended any of these requirements it shall publish directions to the farmers in the area concerned stating, with reasons, the details and duration of the variation or suspension, and the farmers shall comply with the requirements as varied in the directions.

These requirements do not apply in relation to any land between the date of harvesting and 15th January where—

(a) the land is used for a ploughing match and the farmer has received prior written permission from DAERA; or

(b) the land is ploughed as part of practice for a ploughing match.

Farmers must ensure that arable land is not cultivated within 1m of the edge of a watercourse (excludes sheughs).

Farmers must prevent land from being excessively trampled, poached, or rutted. Farmers must ensure supplementary feeding/watering sites and sacrifice areas are rotated and managed to prevent excessive trampling, poaching or vehicle rutting to minimise soil erosion and must not cause runoff to waterways. Sacrifice areas must have at least 90% grass/crop coverage by the end of the following spring.

Farmers must ensure there are no significant areas of bare soil (no visible remains of grass/vegetation), deep bare soil trenches/ruts caused by vehicle tracks. (min. threshold applies).

Farmers must limit the erosion of the banks of water courses (excluding sheughs), from overgrazing or heavy poaching by livestock. Farmers must limit poaching adjacent to watercourses.

These requirements do not apply :

(a) to land where they conflict with the commitments under management agreements entered into by the farmer in relation to any Area of Special Scientific Interest, Special Protection Area or Special Area of Conservation;

(b) to land which is located within 5 metres of a gateway or laneway and is not a semi-natural habitat;

(c) where overgrazing is a necessary consequence of measures taken to ensure animal welfare during periods of extreme weather conditions.

(d) poaching of soil is a necessary consequence of:

(i) mechanical operations that are required to improve the drainage of the waterlogged soil;

(ii) works that are required to ensure animal or human welfare ;

(iii) of harvesting a crop of fresh vegetables or fruit to meet contractual deadlines or where such produce would deteriorate if not harvested urgently.

DAERA shall vary or suspend any of these requirements in relation to an area and for a period of not more than two months, where in its opinion—

(a)an area is affected by extreme weather conditions; and

(b)those weather conditions justify the variation or suspension of these requirements, taking into consideration the economic impact of the weather conditions and the environmental effects of any variation or suspension of the requirements.

Where DAERA has varied or suspended any requirements, it shall publish directions to the farmers in the area concerned stating, with reasons, the details and duration of the variation or suspension, and the farmers shall comply with the requirement as varied in the directions.

Farmers must ensure that supplementary feeding sites (includes sacrifice areas) are located more than 20m from waterways, or 50m from boreholes or wells, or 250m from boreholes used for a public water supply.

Farmers must ensure that livestock drinking points are located at least 10m from waterways, where there is a significant risk of water pollution caused by soil erosion

These requirements shall not apply where the supplementary feeding site is necessary to ensure animal welfare during periods of extreme weather conditions”

Proposed Measure 4.3.4 - Nutrient Efficiency Roadmap for NI farming

Paper 13 - Nutrient Efficiency Roadmap for NI farming 14 March 2026

Context:

- P use efficiency in NI is approximately 51%. This is considered around average in comparison to some intensive livestock regions of Europe such as Spain (76%) and Germany (62%). Opportunities exist to also improve nitrogen use efficiency.
- Significant opportunity exists to improve the nutrient use efficiency of P and N on NI farms. Harnessing this opportunity will increase farm profitability and environmental stewardship, in terms of improved water and air quality. Improvements in air and water quality will in turn lead, in time, to improvements in biodiversity in both aquatic and terrestrial systems.
- This paper sets out a proposed overarching mission, the scope and some key principles that should be embedded in the design and implementation of a nutrient efficiency roadmap for NI farming.
- The key purpose of this paper is to attain collective responsibility from the NAP Stakeholder Group to commission and support the development and delivery of a Nutrient Efficiency Roadmap for NI farming.

Overarching Mission: To enhance food security, farm profitability and environmental outcomes by increasing nutrient security through the efficient use of N and P on NI farms.

Membership: Membership should ensure inclusion and diversity of all actors with a vested interest in the outcomes of the roadmap and with the agency to deliver on the actions and activities identified. The NAP Stakeholder Group represents a good model to build from with other organisations, such as NI Water, local councils being considered for inclusion.

This overarching group would likely commission smaller Task and Finish Groups as required. Chairperson to be nominated by the NAP SH Group. DAERA would support secretariate.

It is essential the roadmap is co-designed, co-owned, co-ordinated and co delivered between the signatory parties participating in it.

Scope: The roadmap would focus on Nitrogen and Phosphorus as a priority, while recognising that other key nutrients such as K and S as well as the pH of soils must also be optimum to maximise productivity and minimise losses. Any activities within the roadmap should also not have a justified detrimental impact on GHG emissions or the ability of farms to capture carbon. It would focus on 'pre farm gate' activities as a priority but include post farm gate interventions should they be deemed to have a material impact on nutrient use efficiency within the NI farming system.

The priority outcome for the roadmap should be to:

Identify 'on farm' interventions which can be adopted now and a pathway to their increased adoption on farm to drive better nutrient management and efficiency on a greater number of NI farms.

Collective ownership by all those with the ability to drive change and the delivery of this pathway should be agreed, alongside the roles and responsibilities of those entrusted with the delivery of the pathway.

To achieve the above the roadmap should:

- 1) Map all current activities being delivered across government, eNGO's, NGO's, industry etc. Mapping should identify complementarity and where efficiencies can be made with regards to resources across stakeholders.
- 2) Review previous initiatives and strategies such as SALMS to identify where actions and impact are yet to be fulfilled.
- 3) Work within legal frameworks already in place and be cognisant of key strategies/plans which set targets for the environment and economy such as the Environmental Improvement Plan (EIP) Green Growth Strategy, Sustainable Agriculture Programme.
- 4) Review other roadmap models such as the GHG implementation partnership and the UK Dairy Roadmap
- 5) Taking the learnings from 1, 2, 3 and 4 above, take forward actions, as far as possible, to realise efficiencies with regard to roadmap development and delivery and address missed opportunities that drive 'betterment'.
- 6) Set goals of what success looks like and respective timelines, which may be considered in revisions of strategies and plans noted in 3 above.
- 7) Propose approaches to enhance the co-ordination between education, advisory, KE and research aligned with the goals should be identified and delivered so far as possible.
- 8) Scope and take learnings from other countries
- 9) Include soil health as a central focus

10) Identify, promote and support activities to address gaps in knowledge and research.

11) Embed a communications strategy in the roadmap. At its core the education and KE to inform farmers is central. However, the strategy should also consider communications to wider agri stakeholders as well as wider society to demonstrate the activities being undertaken and especially successes. This would include showcasing case studies and demonstrating to other farmers and society positive outcomes. A forum interacting with society could be considered.

12) Enable a smooth transition into NAP 2030

13) Be 'signed up to' by the membership to 'lock in' commitment

Next Steps:

The NAP SH Group to consider and comment on this proposed approach.

NAP SH Group to agree on how to advance the establishment of this initiative e.g. should a chair be appointed now to take forward its establishment or should DAERA (for example) facilitate discussions with key stakeholders to identify the governance and set up.

Resourcing the development and overseeing the deployment of the Roadmap is also an important point of consideration for the SH Group.

References:

Chowdhury, R.B. and Zhang X. (2017). Phosphorus use efficiency in agricultural systems: A comprehensive assessment through the review of national scale substance flow analysis. *Ecological Indicators* :121
<https://doi.org/10.1016/j.ecolind.2020.107172>

Proposed Measure 4.7.2 Increased inspections based on risk

Paper 14 - NAP Inspections 26 June 2026

The inspection regime for NAP has been discussed at both the Technical Subgroup and the SHTFG. This paper summaries key points and recommendations.

Guidance, awareness raising, education/KT and advisory support should be the primary mechanisms to ensure implementation of NAP measures at farm level.

However, it is recognized that an effective, targeted, focused and fair inspection and enforcement regime also has an important role to play.

Recommendations

A more effective inspection regime is required, with a greater focus/selection based on risk. High levels of livestock manure production should be the primary risk indicator.

Therefore, farms with an annual livestock manure production level of 170 kg Nitrogen/ha/year or above, which are not participating in the Nutrient Stewardship Programme (NSP), should have a 10% inspection rate.

Farms in Tier 2 of NSP should have a 5 % inspection rate and farms in Tier 1 should have a 1% inspection rate.

There should be a greater visible presence of Inspectors “on the ground”, with a focus on particular issues/measures. These include slurry spreading in advance of or during heavy rain, mandatory use of LESSE for certain farms and all digestate, and follow up/verification of manure exports/imports.

The current NAP “full inspection” covering all FFS requirements / control points should be reviewed and revised. Inspections should be streamlined to focus on key measures including Nitrogen Loading, Phosphorus Fertiliser requirements, slurry storage, farmyard management and checks for points sources of water pollution and record keeping.

DAERA and NIEA should consider how such streamlined NAP inspections would sit in relation to the FSS regime. FSS inspections require all control points to be assessed and therefore streamlined NAP inspections may need to be separate and in addition to the FSS regime rather than integrated with it.

It is also important that farms not claiming the Farm Sustainability Payment that have opted to sit outside the FSS regime are inspected on a risk basis. The NAP Regulations apply to all farms irrespective of whether they are availing of support schemes.

Less time consuming, streamlined inspections will enable many more inspections to be carried out. However, the current overall planned inspection rate of 1% is

insufficient. Therefore, in addition to streamlining inspections, NIEA should be resourced appropriately so that the overall inspection rate is significantly more than 1%.

Progress with a revised inspection regime should be monitored and reviewed by the NAP Governance body after 2 years of the new NAP. Metrics/ data to be set at outset of the new NAP.