

Consultation stage impact assessment

Title: UK Fertiliser Product Regulation Regulatory review

Type of measure: Secondary legislation

Department or agency: DEFRA

IA number: AFC018

RPC reference number: ...

Contact for enquiries: Defra Fertiliser Team

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Summary of proposal

Problem under consideration

1. UK fertiliser legislation comprises a collection of regulations developed over time, primarily focused on market access for traditional mineral/inorganic fertilisers. The existing regulatory system presents challenges for stakeholders; manufacturers find it difficult to understand the regulations to adhere to, importers face difficulties in navigation, and customers and enforcement authorities struggle to discern what standards a product should meet.
2. Existing legislation controls the compositional standards of ammonium nitrate. However, there are no compositional standards for other fertilisers. If these regulatory shortcomings are not addressed, there may be a risk to both public and environmental health, and the associated low consumer confidence may impede innovation and investment in potentially more sustainable products.
3. Government action is required to update legislation for the manufacturing and marketing of fertilisers, bringing a wider range of products into scope and embedding consistent standards into production and marketing rules. Fertiliser policy is a devolved matter in Scotland and Wales, and a transferred matter in Northern Ireland. Operationally, however, policy has been aligned due to the expertise required to format the technical content and to minimise the complexity of standards, which could detrimentally impact the movement and accessibility of fertilisers across the UK.

Policy objectives of the action or intervention and the intended effects

- 1) Cultivate a safe and innovative fertiliser market that protects consumers and the environment while actively encouraging the development and commercialisation of novel and sustainable fertiliser solutions. This regulatory environment should include streamlined processes, clear guidance, and improve market access for innovative and more sustainable fertilisers.
- 2) Establish clear and comprehensive labelling and marketing standards for fertiliser products. This ensures end-users can make informed decisions based on product efficacy, safety (for the user, food chain, and environment), and sustainability considerations.
- 3) Ensure the UK remains attractive to exporters and increase supply resilience by removing regulatory barriers to trade. There will be one set of rules for importers to follow to meet UK standards.
- 4) Promote a vibrant and sustainable fertiliser sector in the UK by ensuring our regulatory framework is flexible enough to accommodate a wider range of products/ supports innovation of more sustainable fertilisers and smooths the route to market for products which are less polluting to the environment or are less resource intensive in their creation.
- 5) Stimulate green growth and meet our international and domestic obligations and strategies in relation to the environment.

Policy options considered

Option 1. Do nothing. Retain EU 2003/2003 Regulation¹ and existing domestic regulations.

Option 2. (Preferred option) Adopt a UK centric version of the fertilising product regulation (FPR)² and repeal EU 2003/2003 Regulation and domestic regulations.

Option 3. Adopt FPR in its complete EU form unchanged, repeal EU 2003/2003 Regulation and update domestic regulation to increase standards.

Option 4. Adopt FPR in its complete EU form unchanged, repeal EU 2003/2003 Regulation and retain domestic regulations unchanged.

Option 5. Deregulate the sector. Repeal existing EU 2003/2003 Regulation and existing domestic regulations.

Option 6. Adopt FPR in its complete EU form unchanged, repeal EU 2003/2003 Regulation and repeal domestic regulations.

4. Option 2 is preferred (create UK specific FPR) as it allows regulations to reflect the needs and requirements of the UK environment. Bringing fragmented pieces of legislation together into a single streamlined piece of legislation that is simpler to implement and comply with.

Summary: Analysis & Evidence

Description and scale of key monetised costs by 'main affected groups'

5. Businesses conforming to the current regulatory framework will incur costs associated with ensuring products comply with updated UK FPR. These will include transition costs (familiarisation, training) and ongoing costs (testing and compliance).

¹ Regulation (EC) No 2003/2003 of the European Parliament and of the Council. <https://www.legislation.gov.uk/eur/2003/2003>

² UK Fertilising Product Regulations focuses on proposals to develop a new regulatory framework for placing fertilising products on the market.

6. Traders/Retailers will also be responsible for ensuring compliance and will incur costs associated with ensuring any product imported complies with the new UK FPR. These will include transition costs (familiarisation) and ongoing costs (compliance costs).
7. HMG will incur ongoing costs to cover the implementation and funding associated with the conformity assessment framework (technical assistance).

Other key non-monetised costs by ‘main affected groups’

8. HMG will incur transition costs (commissioning evidence relating to new standards).
9. There will be a cost to businesses to set up the new system.
10. Without mutual recognition of UK and EU laboratories and standards, imported and exported fertiliser product could be required to go through compliance twice, incurring additional costs.

Description and scale of key monetised benefits by ‘main affected groups’

11. We are unable to provide a quantified estimate of the benefits at this stage because we do not currently have sufficient information to assign a reliable monetary value. We will consult with relevant stakeholders to gather information that will enable us to monetise the potential positive impacts.

Other key non-monetised benefits by ‘main affected groups’

12. For fertiliser producers and traders, a UK FPR:
 - Streamlines the statute book and reduces complexity, making compliance easier and therefore cheaper.
 - Enables market access for a wider range of innovative and more sustainable fertilising product types (organo-mineral blends etc). A simplified risk-based registration procedure will assist more sustainable and innovative fertiliser manufacturers by reducing the time and cost associated with bringing products to market.
 - Creates a route to market for increasing volumes of waste that could be recycled into safe and effective fertilisers reducing the cost of waste disposal.
13. For government/society, a UK FPR:
 - Means that the UK is responsible for standard setting making regulation more flexible. Amendments can be based on UK as well as international evidence where appropriate.
 - Simplifies the enforcement of standards: Low-risk products are more easily placed on the market, whereas high-risk products are subjected to more rigorous checks. This allows for improved environmental safety and consumer confidence in new innovative fertiliser products.

Key assumptions and sensitivities

14. A lack of available evidence means many costs and benefits of this regulation are unmonetised, making the assessment highly subject to change. Additional information will be collected from stakeholders during consultation including through technical workshops. These will bring insight into impacts from the policy. This additional information on potential impacts will help inform monetisation of the policy. Provisional workshop topics include contaminant limits and nutrient content. The consultation will also directly ask respondents about their expectations for the impacts of the proposed

regulation. Prior to the consultation, the range of possible outcomes of the regulation render quantifying and monetising expected impacts impossible. For example, a key benefit of the policy is that it permits new, sustainable products to be brought to market. Absent information about these products and their impacts, monetisation is impossible at this stage.

15. At this stage, setup and annual costs faced by liming manufacturers are partially monetised. Full monetisation of costs for liming manufacturers could substantially increase estimated costs. Additional information will be collected from stakeholders during consultation through technical workshops.
16. There will be substantial change for the sector, and high risk of teething problems while shifting to the new system. Until standards are more fully developed, and the regulation has been finalised, we are unable to quantify benefits at this stage. The regulation's development is expected to continue through 2026.

Introduction

17. This Impact Assessment sets out our assessment of the case for updating legislation governing the manufacturing and marketing of fertilisers in the UK.
18. Fertiliser is defined in the Agriculture Act as any material which, for the purpose of the cultivation of plants or fungi, is intended to supply plants or fungi or their seeds or spores with nutrients or to improve nutritional efficiency.
19. Fertiliser regulation has not kept pace with advances in fertiliser science meaning that there are no specific regulatory requirements for newer fertiliser types.
20. Revised regulation is required to account for new innovative fertilisers which utilise nutrients or organic matter recycled from biological wastes or other organic materials, and to create a single framework for the UK so that overlapping regulations are no longer needed.
21. The aim of the new regulatory landscape will be to promote a vibrant and sustainable fertiliser sector in the UK. It will promote fertiliser innovation and diversity, ensure the protection and enhancement of the environment, and support the implementation of domestic and international environmental commitments and strategies. It will also ensure there is no route to market for products that may pose a hazard to the public.
22. This Impact Assessment concerns the new framework we wish to implement in the UK. Powers in the Agriculture Act 1970³, as amended in the Agricultural Act 2020⁴, allow us to implement this modernised regulatory framework based on UK evidence, UK requirements, with standards set by the UK. Full implementation is complex to deliver, and it will be a few years before it is fully operational.

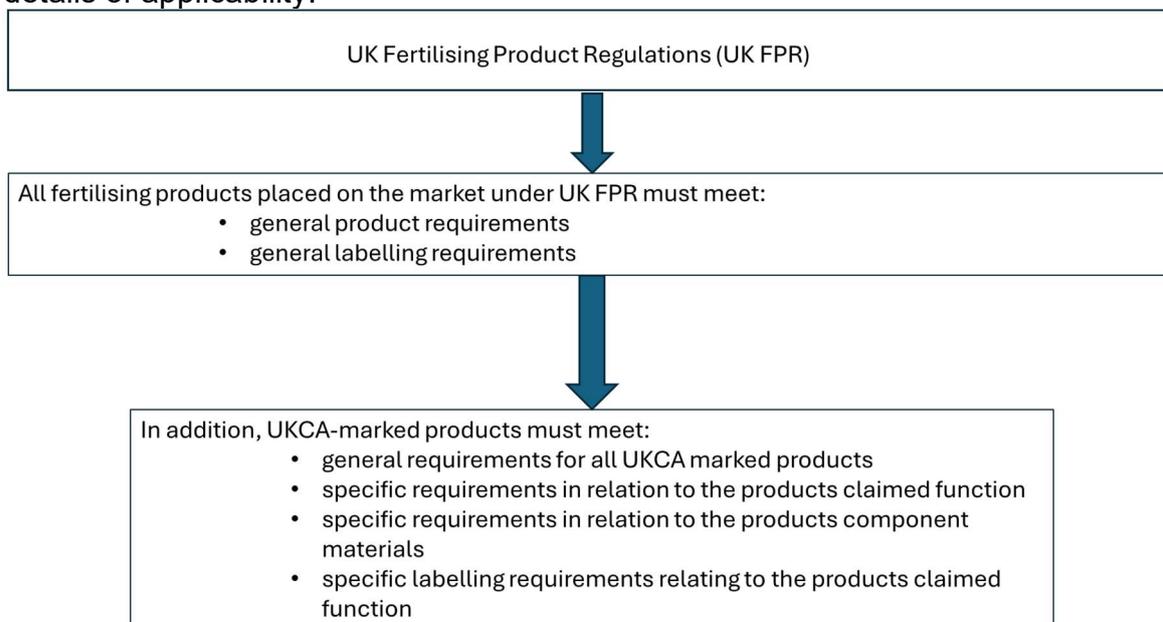
The conformity assessment framework would allow staged implementation of the new regulation for different fertilising products and component materials. The regulation will be implemented in modules that will first bring inorganic fertilisers, liming materials and inhibitors into the new regulations. Further stakeholder engagement will inform the cycle of additional modules added to the regulation that will bring new products and materials into scope of regulation. The design of additional modules and therefore impacts will be informed by stakeholder engagement. This impact assessment covers no monetised costs or benefits of the additional modules given the uncertainty over the content at this stage. Further impacts assessments will include this in the future.

³ Agriculture Act 1970 <https://www.legislation.gov.uk/ukpga/1970/40/contents>

⁴ Agriculture Act 2020. <https://www.legislation.gov.uk/ukpga/2020/21>

Summary of proposed Regulatory Approach for Fertilising Products under UK FPR

23. This impact assessment specifically considers the implementation of the UK Fertilising Products Regulation for UK Conformity Assessed (UKCA) marked inorganic mineral fertilisers, liming materials, and inhibitors. These product types have been prioritised due to the high certainty around their benefits and risks, which is not yet the case for newer or more novel fertilisers. All fertilising products marketed under the UK Fertilising Products Regulation, regardless of their specific function or composition, must meet general product requirements and labelling obligations. See Table 1 for details of applicability.



24. Further research and policy development are required before expanding the conformity assessment framework to other fertilising product types and materials.

Table 1 Fertiliser Types, Waste Content, and Applicability under UK FPR

Fertiliser Type	Typically Made from Waste	Eligible under UK FPR	Subject to General Requirements and Labelling
Mineral Fertilisers	No	Yes – UKCA marked	Yes
Inhibitors	No	Yes – UKCA marked	Yes
Liming Materials	No	Yes – UKCA marked	Yes
Biostimulants	Not typically	Yes	Yes

25. The following general requirements would apply to all fertilising products at the first stage:
- The residues of pharmacologically active substances covered by assimilated Regulation (EC) No 470/2009⁵ may only be present in a fertilising product if that substance is either an allowed substance classified under that regulation, or has a

⁵ Regulation (EC) No 470/2009 of the European Parliament and of the Council <https://www.legislation.gov.uk/eur/2009/470/contents>

reference point for action established in accordance with Article 18 of assimilated regulation (EC) No 470/2009 and the substance or its residues are present in the product at a level below that reference point.

- Nutrient values should all be expressed in oxide form, where the elemental form of a nutrient is used then conversion factors will be applied. This will also apply to the conversion of organic carbon and organic matter.

26. In addition, UKCA-marked products must meet:
 - General requirements for all UKCA-marked products
 - Specific requirements based on the product's claimed function
 - Specific requirements based on the product's component materials
 - Specific labelling requirements relating to the product's claimed function
27. This structure allows safety thresholds (e.g., contaminant limits) and quality benchmarks (e.g., nutrient values and efficacy) to be tailored to the product's intended use. Products may fall under one or more Product Function Categories (PFCs) and Component Material Categories (CMCs) and must comply with the requirements of each applicable category.
28. If a product has multiple functions (a "fertilising product blend"), it must satisfy the requirements for each claimed PFC. Where blending introduces risks not adequately addressed by existing standards, additional controls may be introduced.
29. To support a phased and evidence-based implementation, the UK FPR prioritises well-established product types with high certainty around their benefits and risks. These include:

Prioritised Product Function Categories (PFCs)

- PFC 1: Inorganic fertilisers (macronutrient and micronutrient, solid and liquid)
- PFC 2: Liming materials
- PFC 5: Inhibitors (nitrification and urease)
- PFC 7: Fertilising product blends (limited to PFCs 1, 2, 5(A), and 5(C))

Prioritised Component Material Category (CMC)

- CMC 1: Virgin materials and substances
 - Excludes: waste-derived inputs, animal by-products, compost, digestate, and other specified materials

30. Defra, together with the devolved governments, will publish a response to the consultation findings. Additional impact assessments will be produced to assess the regulatory implications for other fertilising products and component materials as the framework evolves.

Strategic case for proposed regulation

Problem under consideration and rationale for intervention

31. Current UK fertiliser legislation regulates market access for predominantly mineral/inorganic fertilisers whose production is often associated with high energy consumption and CO₂ emissions. The drive to reduce emissions has led to the growth in different types of fertilisers claiming to be 'low carbon' or 'low emission', however, these terms are currently undefined without agreed standards or definitions. The lack of definition raises risks that supply chains, industry and farmers cannot be sure of the product credentials and these claims could be misleading to consumers.
32. Fertilisers may contain contaminants, for example, microorganisms, organic contaminants, heavy metals or microplastics⁶, which have the potential to adversely affect human, animal and environmental health including detrimental impacts on soil quality and functions. However, this is not considered in current fertiliser production regulation, there are no environmental protection or safety conditions (except for high nitrogen content ammonium nitrate fertiliser).
33. Inorganic fertiliser provides around half of the total nutrient demand of the UK, with the remainder met through organic materials⁷.
34. The mixture of imports vs domestic production will differ depending on what type of fertiliser is being considered. Currently a significant volume of N, P and K inorganic fertiliser imports come from the EU (see Table 2). To build a more resilient sector the UK needs to use whatever nutrients it has as efficiently as possible, reducing the risk of nutrients being released into the environment and to maintain a diverse range of supplies.

Table 2 Fertiliser product imports from the EU from 2020 to 2024 (source HMRC statistics)

Sum of Net Mass (tonnes)	2020	2021	2022	2023	2024
3102 Nitrogenous fertilisers	1,898,425	1,771,688	2,015,034	1,704,297	1,873,896
3102 Phosphatic fertilisers	79,333	62,637	34,031	49,553	13,282
3104 Potassic fertilisers	218,126	255,526	268,888	199,701	270,075

35. All inputs of nutrients can in principle cause pollution through gaseous losses to air, or nutrient imbalance in soil, leaching and run-off to water. These losses can occur at various stages of manufacture, storage and application of nutrients (particularly nitrogen and phosphorus). This makes reducing losses to the environment while also managing the nutrient requirements of society challenging.

⁶ See for example Nicholson, F.A., Smith, S.R., Alloway, B.J., Carlton-Smith, C., & Chambers, B.J.. 2003. An inventory of heavy metals inputs to agricultural soils in England and Wales. *Science of The Total Environment*, 311(1-3) 205-219. doi:10.1016/S0048-9697(03)00139-6

⁷ BSFP 2022 Annual Report

36. An estimated 58 million tonnes of organic materials⁸ are spread on land (providing 45% of the annual nutrient loading of nitrogen to agricultural soils in the UK)⁹. Organic materials (such as livestock manure and slurry, anaerobic digestate and biosolids) cannot easily be moved due to low dry matter content and a high-water content. Making them easier to handle, transport and more consistent in nutrient composition would enable them to be used more efficiently and reduce losses to the environment.
37. There are significant opportunities for innovation in the fertiliser sector, particularly development of newer types of fertilising products that have potential to improve nutrient use efficiency, or are made from non-conventional materials, such as wastes, which could contribute towards supply resilience and a more circular economy.¹⁰
38. There are, however, limited or no requirements in current fertilisers legislation for these newer products, such as inhibitors, plant biostimulants and slow and controlled release fertilisers, or products emerging from alternative and novel technologies, producing products from a range of biological wastes and organic materials. Although, requirements may exist under other regimes as detailed below.
39. The use of waste materials on agricultural land as a substitute for inorganic fertiliser is regulated by the Environment Agency (EA), Scottish Environment Protection Agency (SEPA) and Natural Resources Wales (NRW) and the Department for the Environment and Rural Affairs (DAERA) in Northern Ireland under waste controls. Waste can be spread on land (land spreading) if one of the following applies:
 - it meets the requirements of an environmental permit¹¹, exemption or other relevant waste regulatory control
 - it has been produced in accordance with a waste quality protocol (or Scotland equivalents)
 - it can be demonstrated that the material has met the conditions in the end of waste test.
40. These requirements do not apply to anaerobic digestate produced from manure and slurry, purpose grown crops and on-farm crop residues where it is used in agriculture, or the use of sewage sludge in agriculture. The use of sewage sludge (biosolids) is currently controlled by The Sludge Use (in Agriculture) Regulations¹². However, the Environment Agency aims to bring the use of sewage sludge and septic tank sludge in agriculture in line with other waste-derived materials and into under waste controls.
41. The limited scope of current fertilisers legislation does not support innovation in the fertilisers sector.
42. There are two main market failures involved: negative externalities and information asymmetry. Regarding negative externalities, there exist negative impacts of fertiliser use that are not internalised in the price paid by the end user, including emissions of nitrous oxide (a potent greenhouse gas) and ammonia, nitrate, and phosphate contamination of water bodies¹³. Since both sources and impacts are diffuse and fertiliser use heterogeneous in nature, it is difficult to address these through a polluter-pays principle. Providing businesses with an agile and straightforward route to market

⁸ RSK ADAS Ltd, 2021. An assessment of the impact of Farming Rules for Water. Project code 91140078. AHDB, 2021. <https://ahdb.org.uk/an-assessment-of-the-impact-of-farming-rules-for-water>

⁹ UK and England soil nutrient balances, 2021 - GOV.UK (www.gov.uk)

¹⁰ RSK ADAS Ltd, 2023. Novel Fertilisers: A rapid evidence synthesis. Prepared for the Department for Environment, Food & Rural Affairs (Defra). Project No. 1021817. <https://www.gov.uk/government/publications>

¹¹ The Environmental Permitting (England and Wales) Regulations 2016 <https://www.legislation.gov.uk/uksi/2016/1154/contents>

¹² The Sludge (Use in Agriculture) Regulations 1989 <https://www.legislation.gov.uk/uksi/1989/1263/made>

¹³ For further detail see Pretty, J.N., Brett, C., Gee, D., Hine, R.E., Mason, C.F., Morison, J.I.L., Raven, H., Rayment, M.D., van der Bijl, G.. 2000. An assessment of the total external costs of UK agriculture. *Agricultural Systems*, 65(2), 113-136. doi:10.1016/S0308-521X(00)00031-7

for newer products which offer potential to improve nutrient use efficiency may contribute towards reducing negative impacts on the environment, depending on the willingness of businesses to introduce these products and demand from end-users. It is also essential to be able to embed environmental protection and safety standards to protect human and environmental health and to give consumer confidence in the end products.

43. Regarding information asymmetry, for example the lack of standards for composition, efficacy and 'green claims' for newer products mean that end users have less information about potential value than do manufacturers. There is currently no legal framework around fertilising products being labelled by producers as, for example, 'low carbon', an issue which has been raised by the Fertiliser Representative for the UK's Agriculture Industries Confederation. Although there is general guidance set by the Competition and Markets Authority (CMA)¹⁴ lack of specific guidance on what constitutes, e.g., 'low carbon' for fertilisers may be limiting the effectiveness. Current regulations are based on outdated lists of products that have not been updated to include new types of fertilisers. For example, there are no requirements in relation to plant growth promoting bacteria used in plant biostimulants. Addressing this imbalance through more rigorous testing and labelling regimes could not only improve information balance but consequently facilitate more informed decision-making by end-users. Legislation for the manufacturing and marketing of fertilisers needs, therefore, to be updated, bringing a wider range of products into scope, and embedding consistent standards into production and marketing rules.
44. In addition to market failures, regulatory inertia may also be limiting innovation in fertiliser products. In particular, uncertainty around the treatment of novel inputs, blended formulations and materials derived from waste can create delays or barriers for manufacturers seeking to bring new products to market. The wider regulatory landscape is also complex, and manufacturers do not always have clarity on which regulations apply to specific products. This lack of transparency can make the route to market unclear, further slowing product development and uptake. This will be further explored at consultation, with enquiry into reducing administrative burdens and the wider potential benefits of the policy on stakeholders. Following this, it will become easier to quantify potential benefits of the policy.
45. As well as being out of date, UK fertiliser legislation is fragmented, and this has been further compounded by our exit from the EU.
46. Whilst the United Kingdom (UK) was in the European Union (EU) fertilisers legislation was partially harmonised, which meant EU regulation (EC) No. 2003/2003¹⁵ relating to fertilisers operated in the UK alongside domestic regulations. Specifically, The Fertilisers Regulations 1991¹⁶ (operable in England, Scotland and Wales) and The Fertilisers Regulations (Northern Ireland) 1992¹⁷. After EU exit, (EC) No 2003/2003¹⁸ became retained EU law and then it was assimilated into UK law (creating the "UK Fertiliser Regime") to ensure the market continued to function and it continues to operate alongside existing domestic legislation.
47. This means that there are two routes to the legal marketing and sale of fertilisers in Great Britain (GB).

¹⁴ CMA Guidance on making environmental claims on goods and services

¹⁵ [Regulation - 2003/2003 - EN - EUR-Lex](#) [EU \(2003\)](#)

¹⁶ [The Fertilisers Regulations 1991](#) Legislation Gov (1991)

¹⁷ [The Fertilisers Regulations \(Northern Ireland\) 1992](#) Legislation Gov (1992)

¹⁸ [Regulation - 2003/2003 - EN - EUR-Lex](#) [EU \(2003\)](#)

48. In Northern Ireland, Regulation (EU) 2019/1009¹⁹ operates alongside the domestic regulations (The Fertilisers Regulations (Northern Ireland) 1992²⁰ and assimilated Regulation (EC) No. 2003/2003 (“UK fertiliser” regime)²¹ as it applies in Northern Ireland). Regulation (EU) 2019/1009 is operable in Northern Ireland under the Windsor Framework. This means that there are three different routes to market for fertilisers in Northern Ireland:
- The Fertilisers Regulations (Northern Ireland) 1992;
 - Assimilated Regulation (EC) No. 2003/2003 as it applies in Northern Ireland with a “UK fertiliser” label; or
 - Regulation (EU) 2019/1009 with an “CE mark”.
49. This makes it complicated for manufacturers to know what rules to follow, confusing for importers, as well as difficult for end-users and enforcement authorities to know what standards a product should meet. Fertiliser policy is a devolved matter in Scotland and Wales, and a transferred matter in Northern Ireland. Operationally, however, policy has been aligned due to the technical content of the regulations, the expertise needed, and format of the regulations.

What evidence is there to support the problem statement?

50. Soil nutrient balances²², published annually by Defra, estimate the inputs and offtake of nitrogen and phosphorus on agricultural land. While they do not directly measure nutrient losses to the environment, they provide an indication of potential risk. In 2023, the UK nitrogen use efficiency was 54 percent, meaning that 54 percent of nitrogen inputs were taken up by crops, forage, and residues. The remaining 46 percent represents the nitrogen balance — the surplus that may contribute to environmental losses affecting air and water quality and climate change.
51. Ammonia emissions affect sensitive natural habitats and air quality in urban areas. In the UK, agricultural ammonia emissions largely derive from livestock (manure and urine) but in addition to this, the application of inorganic fertilisers was responsible for 17.8% of UK annual ammonia emissions in 2023²³. Urea-based fertilisers have much higher ammonia emissions than other inorganic nitrogen fertilisers and to address this a voluntary standard controlling the use of fertilisers containing untreated ureic acid has been implemented in England.
52. Nutrients released into the environment from inorganic fertiliser, manure and slurry, and other organic materials added to land can run-off or leach into surface water and groundwater. More than 50% of nitrate pollution and 25% of phosphate in UK waters comes from farming, this can lead to eutrophication in water bodies²⁴ which causes the overgrowth of algae and plants, decreasing oxygen levels and negatively impacting invertebrates and fish.
53. It is estimated that globally, the greenhouse gas emissions related to the production of inorganic fertilisers accounts for around 37% of total life cycle emissions. The other

¹⁹ EU (2019)

²⁰ [The Fertilisers Regulations \(Northern Ireland\) 1992](#) Legislation Gov (1992)

²¹ [Regulation - 2003/2003 - EN - EUR-Lex](#) EU (2003)

²² Department for Environment, Food & Rural Affairs (2024) Soil Nutrient Balances. <https://www.gov.uk/government/collections/soil-nutrient-balances>

²³ Department for Environment, Food & Rural Affairs (2024) Emissions of air pollutants in the UK: ammonia (NH₃). <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-ammonia-nh3>

²⁴ Department for Environment, Food & Rural Affairs (2023) *Environmental Improvement Plan*. <https://www.gov.uk/government/publications/environmental-improvement-plan>

63% of emissions are related to direct and indirect losses after use.²⁵ In the UK, agriculture is the sector responsible for the largest proportion of nitrous oxide (69 %) ²⁶ pollution to air. Nitrous oxide is a powerful greenhouse gas, primarily emitted from soils due to the application of manure and inorganic fertilisers, it is nearly 300 times more potent than carbon dioxide, and it depletes stratospheric ozone.

54. Potentially toxic elements (PTEs), sometimes referred to as heavy metals, naturally occur in many soils and in addition, their soil concentration can increase through manufactured fertiliser and manure applications, liming and atmospheric deposition. Soil contamination with lead (Pb), cadmium (Cd), mercury (Hg) can present a risk to human health from uptake into crops and consequently entry into the food chain, whilst elevated levels of zinc (Zn) and copper (Cu) in soil can result in changes in soil biology.
55. Building on previous UK reviews of contaminants in mineral fertilisers (from 2013 and 2017) and organic fertilisers (in 2018) Defra-funded a review (ADAS:2023 (NM0103))²⁷ of levels of PTEs and other contaminants in commonly used mineral (inorganic) fertiliser (including compound fertilisers, blends and their constituents including: nitrogen, phosphorus, potassium, sulphur), fertilisers derived from ash-based material (including poultry litter ash and meat and bone meal), and organic materials (predominately livestock manures, biosolids, compost and digestate).
56. The review confirmed the findings from previous studies that phosphate rock is the main source of PTE contamination in fertiliser products, with non-P fertiliser products and liming materials containing the lowest PTE concentrations.
57. Cadmium (Cd) is found in all phosphate rocks, and it has received the most research attention due to the potential adverse effects of exposure to cadmium on human health²⁸. Cd concentrations in phosphate rock vary widely between countries and within deposits in the same country.
58. Due to the potential adverse health effects of Cd exposure several countries have limited Cd levels in phosphate fertilisers. European national limit values for cadmium range from 75 mg/kg phosphate dioxide (P₂O₅) in Austria to as low as 22 mg Cd/kg P₂O₅ in Finland. Limits are also in place in the USA, Australia (131 mg/kg), New Zealand (122 mg/kg), Japan (146 mg/kg P₂O₅), South Africa (20 mg/kg) and Kenya (30 mg/kg).
59. In 2019, the EU Fertilising Product Regulations (Regulation (EC) 2019/1009) introduced a limit value of 60 mg/kg although Member States may continue to apply national limit values for cadmium applicable before 14 July 2019 until such as time as the as harmonised limit for cadmium content in phosphate fertilisers in Regulation (EC) 2019/1009 is equal to or lower than the national limit value. The feasibility of reducing the cadmium limit in Regulation (EC) 2019/1009 is under review by the European Commission.
60. To help inform future proposals for UK fertilisers legislation, project NM0103^{Error!} **Bookmark not defined.** produced a national spatial model to calculate balances for selected PTE on agricultural land in Great Britain (GB) under current (average of 2015 to 2019) agricultural practices, and to estimate how future soil PTE concentrations may change in response to different limits on the permitted PTE content of materials applied to

²⁵ Smith, L.G., Kirk, G.J.D., Jones, P.J., Williams, A.G., Clark, M., & Bellarby, J. (2023) Reducing the environmental impact of food systems through dietary change. *Nature Food*, 4, pp. 1002–1010. <https://www.nature.com/articles/s43016-023-00698-w>

²⁶ Department for Environment, Food & Rural Affairs (2024) Emissions of air pollutants in the UK: ammonia (NH₃). GOV.UK. <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-ammonia-nh3>

²⁷ Department for Environment, Food and Rural Affairs (Defra), 2023. Understanding the drivers of fertiliser use and the potential for change. <https://sciencesearch.defra.gov.uk/ProjectDetails?ProjectId=20595>

²⁸ UK Health Security Agency (UKHSA), 2024. Cadmium: general information. GOV.UK. <https://www.gov.uk/government/publications/cadmium-properties-incident-management-and-toxicology/cadmium-general-information>

agricultural land with a focus on Cd. The modelling aimed to understand the impacts of following a similar approach to the EU of adopting contaminant thresholds in UK fertiliser regulations, or the impacts of reduced manufactured fertiliser use by improved accounting for the phosphorus (P) in animal manures.

61. The project developed a baseline for soil surface PTE inputs from atmospheric deposition, manufactured phosphate fertiliser, animal excreta and biosolids, and combined inputs from all sources ranged from 1.4 g ha⁻¹ yr⁻¹ for Cd to 432.7 g ha⁻¹ yr⁻¹ for Zn. These were similar to previous published estimates for England and Wales. Manufactured phosphate fertiliser made the largest contribution (41.9%) to inputs for Cd and the least (2.8%) for Pb, and the baseline generally showed a west-to-east gradient of an increasing surplus for all PTEs, associated with a reduction in PTE leaching losses under decreasing rainfall.
62. The model was run for a baseline scenario for all PTEs (i.e., no restrictions on fertiliser PTE contents), and scenarios where Cd concentration in manufactured phosphate fertiliser reflect limits imposed by Regulation (EU) 2019/1009. The model is able to run predictions for any time period and for any 10 by 10 km grid cell distributed across GB. Predicted total soil PTE concentrations were compared with Soil Screening Values (SSVs)²⁹, which are used as indicator of soil concentrations that may represent an unacceptable risk to soil and environmental health.
63. In the short-term (30 years), the model-predicted changes in soil PTE concentrations averaged only 3% of the Cd soil screening value (SSV) and were less than 1% of the SSV for all other PTEs providing reassurance that there is a low risk of significant change in regional average soil PTE concentrations in the next 30 years (based on current agricultural practices). However, because inputs (and outputs) were spatially averaged across the whole agricultural area within each 10 by 10 km grid cell it is possible the risk has been under-estimated for fields receiving frequent inputs. There is also a very large degree of uncertainty with aspects of the modelling which affect the estimates of PTE losses via crop uptake and leaching.
64. The review indicated that risks to human health and the environment from other PTEs and contaminants (such as organic contaminants and microplastics) are likely to be low when fertilisers and organic materials are applied to agricultural land according to existing practices, regulations and guidance. However, the work highlighted vigilance is required as new contaminants continue to emerge and that monitoring of their concentrations in soil and water may be required, together with further scientific assessment to address evidence gaps on their impacts on human and environmental health.
65. Any UK regulatory requirements with regards to contaminants will be determined by the consultation & call for evidence process and technical workshops if the proposals are followed.
66. In addition, Defra funded project NM0102³⁰ reviewed existing evidence, to determine ways to best enable safe and effective use of plant biostimulants, inhibited fertilisers and controlled release fertilisers (collectively referred to as 'enhanced efficiency fertilisers').
67. Plant biostimulants are claimed to stimulate plants' natural processes and whilst the definition of biostimulant varies there are several common efficacy claim terms. These include the expectation that biostimulants will improve plant nutrient uptake or efficiency, abiotic stress tolerance, and/or quality traits.

²⁹ Environment Agency, 2022. Soil screening values for assessing ecological risk. Available at: <https://www.gov.uk/government/publications/soil-screening-values-for-assessing-ecological-risk>

³⁰ Department for Environment, Food and Rural Affairs (Defra), 2023. Understanding the drivers of fertiliser use and the potential for change – Phase 2. <https://scienceresearch.defra.gov.uk/ProjectDetails?projectId=20585>

68. The review found some evidence that they can benefit crop growth or yield. However, there was less evidence of benefits for improved nutrient uptake and quality, and little evidence of improved nutrient use efficiency and tolerance to abiotic stress, and there were a substantial number of studies in which biostimulants had no beneficial effects, or variable effects depending on factors such as crop species, environment and application practice.
69. There were key knowledge gaps surrounding the safety of plant biostimulants and little evidence that the economic benefits of using biostimulants have been adequately investigated. The review concluded that if the economics and consistent efficacy can be demonstrated, biostimulants would have potential to benefit UK crop production. However, currently it is likely that there is a substantial amount of wasted resource associated with ineffective use of biostimulants, arising from a lack of knowledge about efficacy and best practice in relation to application conditions and timing.
70. To address key research priorities, in Autumn 2023 Defra commissioned a further evidence project³¹ to determine the most appropriate methods to enable the effective and safe use of biostimulant products in the UK.
71. For all enhanced efficiency fertilisers there was limited evidence for impacts on soil biology and in particular the impact of micro-plastics from controlled release fertilisers.

UK domestic framework for fertilisers

72. Whilst the United Kingdom (UK) was in the European Union (EU) fertilisers legislation was partially harmonised, which meant EU regulation (EC) No. 2003/2003 relating to fertilisers operated in the UK alongside domestic regulations. Specifically, The Fertilisers Regulations 1991 (operable in England, Scotland and Wales) and The Fertilisers Regulations (Northern Ireland) 1992. After EU exit, (EC) No 2003/2003 became retained EU law and then it was assimilated into UK law (creating the “UK Fertiliser Regime”) to ensure the market continued to function and it continues to operate alongside existing domestic legislation. Domestic fertiliser regulations are implemented and enforced using powers in the Agriculture Act.
73. The Fertiliser Regulations 1991 (GB), and 1992 equivalent (NI), and UK Fertiliser Regime set out prescribed names and descriptions, limits of variation for declared nutrients and provisions for marking and labelling of specific materials. The provisions in each of these regulations are largely similar with slight changes to wording. The materials covered by these regulations are mostly inorganic (mineral) fertilisers and manufacturers can choose which regulation to use. Other products included are: liming materials, and inhibitors (UK Fertiliser Regime only) and specific types of organic fertiliser and soil improvers (OFSI) (The Fertiliser Regulations 1991 and 1992 equivalent only).
74. The current legislative framework for fertilisers is supported or supplemented by various secondary legislation and several pieces of assimilated EU law. Existing regulations include:

UK-wide

- Retained version of Regulation (EC) No. 2003/2003³² as amended by 2019/601³³

³¹ ADAS, 2023. Biostimulants: Defra funded project – Efficacy, Safety and Environmental Impacts of Plant Biostimulants. FarmPEP. <https://farmpep.net/project/biostimulants-defra-funded-project-efficacy-safety-and-environmental-impacts-plant>

³² Regulation (EC) No 2003/2003 of the European Parliament and of the Council, <https://www.legislation.gov.uk/eur/2003/2003>

³³ The Fertilisers and Ammonium Nitrate Material (Amendment) (EU Exit) Regulations 2019. <https://www.legislation.gov.uk/uksi/2019/601/introduction/made>

GB-wide

- Articles 4(3), 14, 20 to 36, 42, 43, 44, 45, 46 and 47 of retained version of Regulation (EU) 2019/1009³⁴
- The Fertilising Products Regulations 2020/887³⁵
- The Fertilisers Regulations 1991/2197³⁶
- The Fertilisers (Sampling and Analysis) Regulations 1996/1342³⁷
- The Ammonium Nitrate Material (High Nitrogen Content) Safety Regulations 2003/1082³⁸

NI

- The Fertilisers Regulations (Northern Ireland) 1992/187³⁹
- Fertilisers (Sampling and Analysis) Regulations (Northern Ireland) 1996/513⁴⁰
- The EC Fertilisers (Northern Ireland) Regulations 2006/503⁴¹
- The EU Fertilising Products Regulations (Northern Ireland) 2020/303⁴²
- Regulation (EU) No. 2019/1009⁴³

Scotland

- The EC Fertilisers (Scotland) Regulations 2006/543⁴⁴

England and Wales

- The EC Fertilisers (England and Wales) Regulations 2006/2486⁴⁵

75. In addition:

- all relevant AN material must also comply with The Ammonium Nitrate Materials (High Nitrogen Content) Safety Regulations 2003 (AN Safety Regulations), operable in Great Britain. These regulations are implemented and enforced using powers in the H & S Act and they provide safety and control measures for relevant material intended to be used as a fertiliser. The regulations substantially duplicate UK Fertiliser regime, however, they differ in exact wording and also place additional requirements on ammonium nitrate imports and persons keeping and supplying AN;
- organic fertiliser and soil improvers (OFSI) (defined as materials of animal origin used to maintain or improve plant nutrition and the physical and chemical properties and biological activities of soils, either separately or together) listed in

³⁴ Regulation (EU) 2019/1009 of the European Parliament and of the Council. <https://www.legislation.gov.uk/eur/2019/1009>

³⁵ The Fertilising Products Regulations 2020. <https://www.legislation.gov.uk/ukksi/2020/887>

³⁶ The Fertilisers Regulations 1991. <https://www.legislation.gov.uk/ukksi/1991/2197>

³⁷ The Fertilisers (Sampling and Analysis) Regulations 1996. <https://www.legislation.gov.uk/ukksi/1996/1342>

³⁸ The Ammonium Nitrate Materials (High Nitrogen Content) Safety Regulations 2003. <https://www.legislation.gov.uk/ukksi/2003/1082>

³⁹ The Fertilisers Regulations (Northern Ireland) 1992. <https://www.legislation.gov.uk/nisr/1992/187>

⁴⁰ Fertilisers (Sampling and Analysis) Regulations (Northern Ireland) 1996. <https://www.legislation.gov.uk/nisr/1996/513>

⁴¹ EC Fertilisers Regulations (Northern Ireland) 2006. <https://www.legislation.gov.uk/nisr/2006/503>

⁴² The EU Fertilising Products Regulations (Northern Ireland) 2020. <https://www.legislation.gov.uk/nisr/2020/303>

⁴³ See footnote 34.

⁴⁴ The EC Fertilisers (Scotland) Regulations 2006. <https://www.legislation.gov.uk/ssi/2006/543>

⁴⁵ The EC Fertilisers (England and Wales) Regulations 2006. <https://www.legislation.gov.uk/ukksi/2006/2486>

Schedule 1 of The Fertiliser Regulations 1991, and 1992 equivalent, must also comply with requirements in assimilated Regulation (EC) 1069/1009⁴⁶, operable in Great Britain. Assimilated Regulation (EC) 1069/1009 and implementing assimilated Regulation (EU) 142/2011⁴⁷ (animal by-product “ABP regulations”) set down controls on the safe use and disposal of animal-by products to safeguard public and animal health, in particular to protect the safety of the food and feed chain. OFSI may include manure, guano, digestive tract content, compost and anaerobic digestion residues.

What legislative issues do we need to resolve?

76. Since 2016 the UK had been working towards modernising its regulatory framework by the negotiation of Regulation 2019/1009 (hereafter FPR) which is now fully operational in the EU as of July 2022 with EU Regulation 2003/2003 now repealed in the EU.⁴⁸ Yet after the UK exited the EU, and due to the Regulation having a staggered application, only certain articles of the EU Regulation were assimilated into UK law. These articles relate to the underpinning Conformity Assessment Framework (CAF) that apply to similar manufactured goods policy areas. The CAF is a tried and tested regulatory framework for new products where there may be a sliding scale of risks depending on the product type and the materials it is made from. The implemented articles allow the UK to develop a CAF for future regulation but hasn't yet established the standards that will comprise the operational framework. Powers in the Agriculture Act 1970, as amended by the Agricultural Act 2020⁴⁹ allow us to complete the modernised regulatory framework but now can ensure that the new framework is based on UK evidence and UK requirements. It is proposed that we streamline the statute book so that:
- a) Existing domestic regulations, which contain inappropriate standards for composition or contaminants, do not provide an alternative route to market for products which are below revised standards in the modernised regulatory framework. The Defra Fertiliser Policy Team are frequently approached by companies seeking advice as to whether their product can be marketed under current UK regulations.
 - b) There is a straightforward route to market for existing and new products. The number of fertiliser products make an individual product registration model burdensome and costly for both business and government. A CAF sets out the standards for product function types and then the onus is on the manufacturer to comply and so is simple for businesses to understand and administer.

Rationale and evidence to justify the level of analysis used in the IA

77. As this IA is conducted alongside the consultation and is pre-implementation, it is not possible to measure from real-world data many of the costs and benefits that may be realised. Where possible, proxy data has been used from similar assessments or sought from industry. It is intended that the consultation will provide an opportunity for interested parties to provide additional evidence to support, amend, or update the data used in this impact assessment.

⁴⁶ [Regulation - 1069/2009 - EN - EUR-Lex](#) EU (2009)

⁴⁷ <https://www.legislation.gov.uk/eur/2011/142/contents> Legislation Gov (2011)

⁴⁸ See footnote 34.

⁴⁹ Agriculture Act 2020. <https://www.legislation.gov.uk/ukpga/2020/21>

78. The high level of statistical aggregation for this sector means it is currently not feasible to estimate impacts for firms differentiated by product type or firm size. We hope that the consultation will provide us with new evidence to estimate impact on firms.
79. It is not possible given the current level of evidence to directly estimate the magnitude of transition cost firms may face and therefore estimates from the new EU FPR have been used as a proxy. While this proxy represents our best estimate of transition costs, differences in legal starting points and policy content may lead to transition costs differing from historical EU values. However, since this is a new approach to UK fertiliser product regulation, the EU proxy is the best available in these circumstances.
80. It is not possible given the current level of evidence to directly estimate the magnitude of annual compliance costs firms will face. Estimates from the EC's impact assessment for the new EU FPR have been used as a proxy. This may underestimate costs as EU suppliers had the option to continue selling some products domestically under national laws, incurring costs only where cross-border trade demanded them. For more complex fertiliser types UK suppliers, selling to a UK single market, will not have this same flexibility. The EC's 2016 impact assessment includes summary of consultation with industry and experts covering the EU, including input relating to the UK, in the course of developing the EU FPR discussed in more detail in Options 3 and 4. The impact assessment examined the likely costs of a range of regulatory and compliance actions in the fertiliser sector. Where available, cost and industry data has been drawn on to provide proxy costings for this impact assessment. As this impact assessment is pre-consultation, we intend to revise cost and sectoral assumptions based on more up-to-date sectoral and expert consultation.
81. The impacts on trade - both for the baseline and for other options - have been estimated based off a range of scenarios and long run trade elasticities in the mineral and chemicals sector.
82. Environmental impacts of all options other than the baseline are likely to be positive due to the proposed options entailing stricter regulation of pollutants and contaminants. An assessment of the range of impacts should help design the regulation. However, we need to explore the potential market response to quantify or monetise potential impacts.
83. Costs are expressed in 2024 prices. Where data have been sourced in other currencies, conversion to sterling is undertaken in December 2022 HMRC monthly estimates. Where relevant, costs are discounted at the 3.5% discount rate specified by the HMT Green Book. The appraisal period is 10 years.
84. Many cost estimates have been drawn from work done in preparation for the EU FPR, also drawing on public sources relating to relevant firms and sectors, industry engagement and similar assessments. We welcome feedback from the consultation process that would help us improve our understanding and assessment.

Key features of EU FPR

85. As the EU FPR came into force on July 2022 with EU Regulation 2003/2003 repealed, the baseline option entails divergence with respect to trade. Such divergence will have implications for trade with the EU. Among these implications are compliance costs and potential reduction in trade volumes, affecting UK producers, traders and consumers.
86. Key features of the EU FPR:
 - a) The EU FPR opens the European Union (EU) single market for fertilising products which previously had not been covered by harmonisation rules, such as organic and organo-mineral fertilisers, soil improvers, inhibitors, plant biostimulants or growing media.

- b) It does not apply to animal by-products, derived products which are subject to the requirements of Regulation (EC) No 1069/2009 or plant protection products covered by the scope of Regulation (EC) No 1107/2009 when made available on the market.
- c) The rules apply to the design, manufacture and placing on the market of EU fertilising products. The regulation does not apply to the use or the method.
- d) It lays down common rules on safety, quality, and labelling requirements for fertilising products.
- e) It introduces limits for toxic contaminants for the first time. This guarantees a high level of soil protection and reduces health and environmental risks, while allowing producers to adapt their manufacturing process to comply with the new limits.
- f) It maintains optional harmonisation, as it does not prevent non-harmonised fertilising products from being made available on the internal market in accordance with national law and the general free-movement rules.
- g) 52 initial articles setting out regulations regarding any product to be placed on the market with a CE conformity logo/mark.
 - Annexes I, II, III and IV detail how fertiliser products gain CE marking.
 - Annex I - Outlines the function of your product. What is it used for?
 - Annex II - Outlines the composition of your product. What is in it?
 - Annex III - Outlines the requirements for labelling of your product.
 - Annex IV - Outlines the 'route to conformity', how it is that you are going to adhere to annexes I, II and III.
- h) Five modules, offering four different routes to conformity. The route taken depends upon what type of product you have and what it is comprised of.

SMART objectives for intervention

Policy objectives

- a) Cultivate a safe and innovative fertiliser market that protects consumers by promoting symmetric information, protects the environment by reducing contaminants, and actively encourages the development and commercialisation of novel and sustainable fertiliser solutions. This regulatory environment should include streamlined processes, clear guidance, and improve market access for innovative and more sustainable fertilisers. Information gathered during the consultation stage will allow us to attach specific targets and timeframes to this and the following objectives. The consultation will also widen our understanding of achievability of these objectives; evidence from the EU FPR is limited as it only came into force in 2022. Suitable metrics for the key objectives can be found in Table 18.
- b) Promote a vibrant and sustainable fertiliser sector in the UK by ensuring our regulatory framework is both flexible enough to accommodate a wider range of products, including products derived from living matter and waste, and stable enough to enable businesses to invest in long-term, innovative strategic outcomes. It should also support innovation of more sustainable fertilisers and smooth the route to market for products which are less polluting to the environment or are less resource intensive in their creation. Organic fertiliser derived from waste can be regulated, such that it will no longer constitute waste and can be granted end-of waste status as defined by the waste Directive 2008/98/EC.

- c) To establish clear standards for fertiliser composition and contaminants, ensuring human and environmental health and fostering consumer confidence in the end products.
- d) Establish clear and comprehensive labelling and marketing standards for fertiliser products. This ensures end-users can make informed decisions based on product efficacy, safety (for the user, food chain, and environment), and sustainability considerations.
- e) Ensure the UK remains attractive to exporters and increase supply resilience by removing regulatory barriers to trade. There will be one set of rules for importers to follow to meet UK standards.
- f) Stimulate green growth and meet our international and domestic obligations and strategies in relation to the environment.

Summary of policy intent

- 87. This policy will improve product safety and environmental protection and reduce burdens or barriers to marketing innovative products, thus stimulating green recovery.
- 88. This policy will provide for more robust and streamlined legislation surrounding the manufacturing and marketing of traditional and innovative fertilisers.

Intended outcomes of intervention

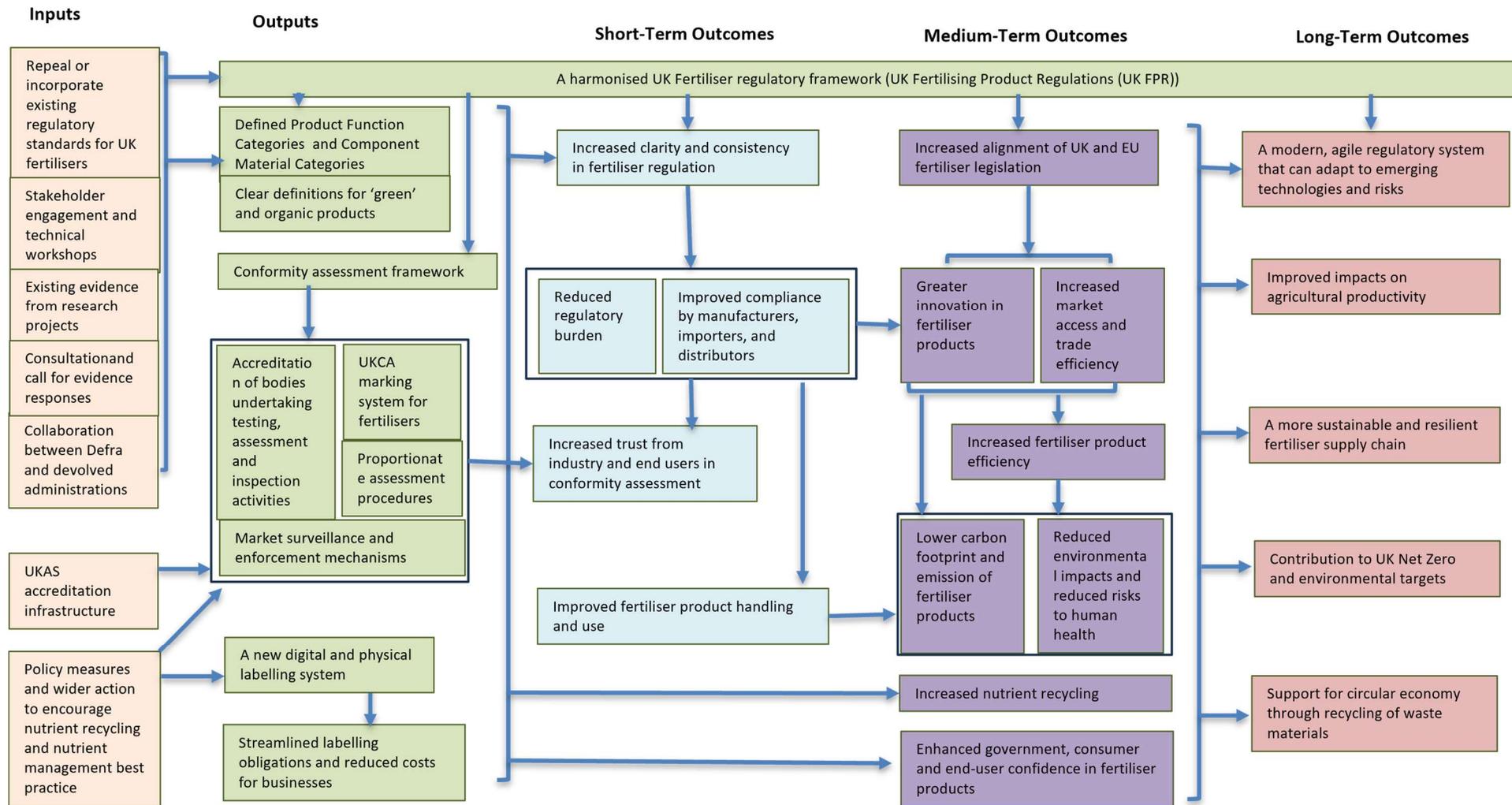
- 89. In the short term, the intervention aims to establish a foundation of safety, clarity, and environmental responsibility within the fertiliser sector. By enhancing end-user safety and boosting consumer confidence in a broader range of fertilising products, the initiative ensures that users can trust the products they apply. Simultaneously, businesses benefit from a clearer and more navigable regulatory framework, making it easier to bring both existing and innovative products to market. The integration of environmental standards into fertiliser legislation underscores a commitment to sustainability, while improved knowledge and confidence in fertiliser use among stakeholders contribute to better agronomic performance. Additionally, maintaining robust regulatory standards helps position the UK as a reliable and attractive trading partner.
- 90. Over the medium term, the intervention is expected to yield tangible improvements in the quality and diversity of fertilising products available to farmers. The market will see a rise in high-quality, compliant products that not only meet regulatory standards but also offer higher agronomic efficiencies, e.g., potentially less nutrient losses to the environment, as described in paragraphs 35 to 37, and increased economic benefit from the fertiliser inputs. There will be a greater adoption of innovative fertilisers that support human health and reduce environmental impact. This includes the development of products that enhance nutrient levels in crops while being less polluting. Furthermore, the fertiliser market will become more diversified, fostering resilience against market shocks and ensuring a stable supply of essential agricultural inputs.
- 91. This intervention supports long-term goal across agriculture, the environment, and the economy. It enhances food security and agricultural productivity by ensuring that farmers have access to effective, sustainable fertilisers, while also improving nutrient use efficiency and reducing input costs. The policy contributes to the UK's net zero ambitions by promoting low-emission fertiliser products and practices and supports innovation in green technologies. It aligns with the 25-Year Environmental Improvement Plan by advancing nutrient management, improving soil health, protecting water quality, and enhancing biodiversity. Furthermore, the intervention

plays a key role in advancing circular economy objectives by encouraging the recycling of waste materials into valuable fertilising products, transforming waste into opportunity and reducing environmental burdens. By supporting rural productivity and reducing regulatory burdens, the policy also contributes to the government's broader goals for sustainable, regionally balanced economic growth.

Description of proposed intervention and explanation of the logical change process whereby this achieves SMART objectives

92. The preferred option is to adopt a UK-centric version of the Fertilising Products Regulation (UK FPR) and repeal the existing EU Regulation 2003/2003 alongside associated domestic regulations. This approach will consolidate fragmented legislation into a single, coherent regulatory framework, introducing clear standards for composition, labelling, and safety across all fertilising products, including newer types such as biostimulants and inhibitors. It will enable phased implementation through a Conformity Assessment Framework (CAF), prioritising low-risk products and allowing future expansion to novel materials. The UK FPR will enable innovation and sustainability by creating a route to market for recycled and waste-derived fertilisers, while improving environmental protection through embedded contaminant thresholds and alignment with UK net zero and circular economy goals. Additionally, it will enhance trade resilience by simplifying import and export requirements and reducing regulatory divergence. This option directly supports the SMART objectives by improving clarity, safety, sustainability, and market access, while fostering innovation and reducing regulatory burdens.
93. Developing a UK FPR that is similar to EU FPR will make it simpler for industry to follow the rules. However, its UK-centric nature allows specific regulatory requirements, such as product requirements, to be adjusted as required to meet UK needs. This flexibility will be beneficial due to uncertainties over the benefits, wider environmental and human health impacts of newer and novel fertilisers, under conditions relevant to UK climate, soils, and management practices, as well as market readiness of alternative and novel technologies for producing fertilisers in the UK context.
94. This proposal builds on existing domestic and EU fertiliser regulations but replaces them with a harmonised UK framework tailored to national needs. It draws on the Conformity Assessment Framework (CAF), a tried-and-tested regulatory model used in other manufactured goods sectors, which allows proportionate, risk-based regulation. The approach also incorporates lessons from the EU FPR, including its modular structure and product categorisation, while avoiding its complexity and lack of UK-specific flexibility. In doing so, the UK FPR modernises fertiliser regulation using proven methods, adapted to the UK context to ensure relevance, agility, and long-term effectiveness.

Theory of Change: UK Fertilisers Regulatory Reform



N.B. This Theory of Change provides a high-level overview of the key inputs, outputs and intended outcomes. While some directional logic is shown through arrows to illustrate the flow of change, it is important to note that the actual relationships and processes are far more complex. This simplified version is presented to aid understanding and offer a starting point for discussion, rather than to capture every nuance of the system.

Option description and impacts

Table 3 Policy options

Option	Description
1	Do nothing. Retain EU 2003/2003 Regulation and existing domestic regulations.
2 (preferred)	Adopt a UK centric version of the FPR and repeal EU 2003/2003 Regulation and domestic regulations.
3	Adopt FPR in its complete EU form unchanged, repeal EU 2003/2003 Regulation and update domestic regulation to increase standards.
4	Adopt FPR in its complete EU form unchanged, repeal EU 2003/2003 Regulation and retain domestic regulations unchanged.
5	Deregulate the sector. Repeal existing EU 2003/2003 Regulation and existing domestic regulations.
6	Adopt FPR in its complete EU form unchanged, repeal EU 2003/2003 Regulation and repeal domestic regulations.

Option 1

95. Do nothing. The baseline is to Retain the EU 2003/2003 Regulation and existing domestic regulations.

Impact

96. The 'do nothing' option is unlikely to adequately achieve policy goals for a range of reasons, including:
- The legislative framework for fertilisers would remain highly fragmented, comprising multiple pieces of legislation, making it confusing for businesses to know which rules to follow.
 - New and innovative fertilising products, with the exception of organic mineral fertilisers, would remain unregulated and would be able to be legitimately marketed in the UK without assessing safety risks or efficacy. As discussed earlier, unregulated fertilisers may contain contaminants, which have the potential to adversely affect human, animal and environmental health. They can also make claims about their efficacy, leading to lack of trust from consumers, undermining the market.
 - The EU is radically updating its fertiliser regulation. If no action is taken in the UK, the EU may be granted a competitive advantage in this sector as the EU FPR allows greater market access for new innovative fertiliser products.
 - Regulatory divergence entailed by doing nothing could introduce non-tariff trade costs on UK exports to EU countries in the form of compliance, testing and accreditation costs above what firms face currently;
 - There would be no regulatory route to market for fertilisers made from the increasing volume of waste produced in UK, compounding current issues for storage and transport that often lead to high risk spreading on land; and
 - Labelling of fertilisers would remain unclear, making market surveillance difficult.

Costs and benefits

97. A full quantitative assessment of the baseline option has not been conducted, as it involves no change in domestic legislation. However, some private costs (trade costs) will be incurred through the divergence from the EU if the domestic status quo is maintained.
98. This IA monetises only the trade costs of UK-EU regulatory divergence both with and without a mutual recognition agreement. Evidence gained from the consultation will allow further monetisation in the future⁵⁰. The trade cost estimate was conducted using a five year truncated mean trade data. This was done to control for the effects of volatile fertiliser prices. If we were to reflect that volatility the out-of-the-ordinary volatility over 2021-22 would bias the magnitude upwards, well away from what a historic mean might justify. Elsewhere, the high/low scenarios reflect extreme maxima and minima, i.e. correlated best and worst cases for different input variables. The underlying model is deterministic so we are unable to provide, e.g. Monte Carlo simulation results. We hope to incorporate uncertainty and variability explicitly into the IA modelling post-consultation by drawing on the feedback from the consultation.

Private costs

99. As the EU FPR came into force on July 2022 with EU Regulation 2003/2003 repealed, the baseline option entails divergence with respect to trade. Such divergence will have implications for trade with the EU. Among these implications are compliance costs and potential reduction in trade volumes, affecting UK producers, traders and consumers.
100. The impact outlined in paragraphs 104 to 118 is included in the baseline. It is estimated here to highlight the costs of doing nothing, and the potential value of divergences from the baseline noted for Options 2 - 4.
101. Regulatory divergence arising from the UK maintaining its existing regulations while the EU introduces the FPR are assumed to make mutual recognition of EU and UK labs and standards less likely, and to introduce additional cost of trade and compliance for both imports and exports. The assumption that divergence makes mutual recognition less likely is based upon the impacts that will be detailed within this impact assessment. The absence of any agreed mutual recognition agreement (MRA) for fertilisers between the EU and UK, either in the form of conformity assessment or automatic recognition means that such regulatory divergence is assumed in the baseline scenario.
102. Divergence in standards as the EU updates its regulations will lead to an increase in compliance, and other non-tariff, trade costs for firms exporting to the EU. Average annual UK exports between 2017 - 2024⁵¹ of fertiliser products to the EU are in the order of £220m.⁵² Firms wishing to engage with the EU export market, of which there are currently estimated to be around 151 companies, will face compliance and transaction costs to gain market access.^{53,54}
103. Imports from the EU between 2017 - 2024 averaged £786m annually.⁵⁵ Under Options 2 and 4, firms importing from the EU, of which there are estimated to be approximately 122,

⁵⁰ For example, the consultation asks for opinions on and information relating to labelling requirements, regulating products made from organic waste, and repealing existing regulations in favour of one UK-wide framework.

⁵¹ At the end of 2021 and during 2022 we saw anomalous fertiliser prices. The anomalous fertiliser prices in 2022 were caused by a global surge in demand, a shortage of natural gas, and logistical disruptions

⁵² Seven-year average in constant 2024 prices. ONS. 2025. *Overseas trade data table - UK Trade Info*. <https://www.uktradeinfo.com/trade-data/ots-custom-table/?id=7d7150b5-57bd-4b92-bdaa-2ee818cf6917>

⁵³ ONS. 2022. *Overseas trade data table - UK Trade Info*. <https://www.uktradeinfo.com/trade-data/ots-custom-table/?id=aa2a4de4-ec2d-4429-8c38-19d813180bb4>

⁵⁴ No firm figure is available for firms trading within the EU. An estimate was arrived at by dividing the value of EU trade by the average value share of imports and exports for firms trading outside the EU, which figure is cited in footnote 53.

⁵⁵ ONS. 2022. *Overseas trade data table - UK Trade Info*.

<https://www.uktradeinfo.com/trade-data/ots-custom-table/?id=aa2a4de4-ec2d-4429-8c38-19d813180bb4>

will face some additional compliance costs to ensure that EU fertilisers produced under the new EU FPR comply with the domestic regulations set out for Options 2 and 4.⁵⁶

104. Under the 'do nothing' option, there is unlikely to be a reduction in trade volume for firms doing business with non-EU countries owing to the permissive nature of the present domestic regulatory regime. However, under Options 2 and 4 a reduction in non-EU trade could come about if the divergence from EU rules raises costs for these trading partners to the degree, they reduce their UK trade. Under options 2 and 4 non-EU trade could cease entirely as non- EU traders potentially decide not to prove compliance with our UK regulations as the market is too small to justify the expense. The EU is a far larger buyer of fertiliser than is the UK, and the EU FRP has created a unified set of standards for fertiliser sold in the EU. While fertiliser production and sale in the UK has hitherto been governed by a light touch regulatory approach, Options 2 and 4 would increase the direct costs of compliance with UK regulation without necessarily allowing products certified in the EU to easily meet UK standards as well. While there is no certainty about this, given the exact nature of Option 2 and 4 regulations is not yet determined, in the event there is divergence this would raise compliance costs relative to Options 1 and 5.
105. The European Union and the United Kingdom agreed on an FTA; however, this still entails costs for export and import firms in both the United Kingdom and the European Union. These include non-tariff measures (NTM), such as technical trade barriers, costs from rules of origin, and border-crossing costs.
106. The OECD estimated that non-tariff trade measures would increase trade costs by 2.3% for minerals (crude fertiliser) and 4.8% for chemicals (manufactured fertiliser) in the event of a UK-EU FTA.⁵⁷ Adjusting for border costs⁵⁸, which will be incurred in Options 1 - 4, this figure is 4.2% for manufactured fertiliser and 2% for crude fertiliser.⁵⁹ The adjusted figures are used as a central estimate for proxying the trade costs from regulatory divergence. A mutual recognition agreement would likely mean that most of the informing standards for our system will be the same as the EU's, with some technical differences. A lower bound of 1.6% for crude and 2.9% for manufactured fertiliser is employed to represent the potential for mutual recognition of conformity assessments. The lower bound is derived by reducing the central estimate by the AVE-reducing effect of mutual recognition of conformity assessments (22% for crude and 31% for manufactured).⁶⁰ For the upper bound, figures of 8.2% for crude and 8.3% for manufactured are used. These are the frequency-weighted average non-tariff measure for GTAP⁶¹ mineral and chemicals sectors, less border costs.⁶²
107. The UK's fertiliser trade can be grouped into crude (SITC 27) and manufactured (SITC 56), each of which have different price elasticities of demand for imports and exports between the UK and its trading partners. Individual long-run price elasticities of import and export demand estimates were not published for fertilisers. Thus, for crude fertiliser, the elasticity of mineral products is applied, while for manufactured fertiliser, the elasticity of

⁵⁶ See note 54. Some of these firms may have business operations importing and exporting both within the EU and without. Each is considered a separate business operation for the purposes of this analysis.

⁵⁷ Arriola, C., Benz, S., Mourougane, A., & van Tongeren, F. 2020. *The trade impact of the UK's exit from the EU Single Market*. OECD. https://www.oecd-ilibrary.org/economics/the-trade-impact-of-the-uk-s-exit-from-the-eu-single-market_682c2995-en

⁵⁸ The OECD estimates for increases in non-tariff measures in goods sectors have been adjusted by removing border cost increases. That represents 0.3% for minerals and 0.6% for chemicals.

⁵⁹ This estimate has been produced primarily for UK exports to the EU and not for imports, symmetrical trade costs are assumed in this analysis. Furthermore, the estimate was produced for all mineral products for manufactured fertiliser and chemicals/related industries.

⁶⁰ CEPII. 2015. NTMs, Preferential Trade Agreements, and Prices: New evidence. Table 6 http://www.cepii.fr/PDF_PUB/wp/2015/wp2015-01.pdf

⁶¹ The Global Trade Analysis Project (GTAP) Version 11 Data Base provides a time series of snapshots of the global economy for each of five reference years: 2004, 2007, 2011, 2014 and 2017. In broad terms, GTAP classifies agriculture, food, resource extraction, manufacturing, and service activities to describe all economic activities in each country. The GTAP Data Base describes the domestic transactions, global bilateral trade patterns, international transport margins and protection matrices that link individual countries and regions. <https://www.gtap.agecon.purdue.edu/databases/v11/index.aspx>

⁶² Original estimate by Cadot, O., Gourdon, J., & van Tongeren, F. 2018. *Estimating ad valorem equivalents of non-tariff measures: Combining price-based and quantity-based approaches*. OECD. <https://doi.org/10.1787/f3cd5bdc-en>

chemical/related industries is used. In addition to capturing fertilisers, the goods categories used as proxy elasticities also capture non-fertilizer products, potentially reducing the precision of trade cost of divergence estimates.

108. The EU elasticities given in Table 4 below were published in October 2013 in BIS research paper No. 144, Long-Run Income Elasticities of Import Demand, in tables 9 and 16, and are the most up-to-date estimates available. The age of the estimates warrants caution in their application, as they will not capture more recent shifts in agricultural policies. Updated disaggregated long-run price elasticity estimates would offer a more accurate reflection of contemporary fertiliser trade dynamics.

Table 4: Import and export price elasticity of demand⁶³

	Fertiliser, crude (SITC 27)	Fertiliser, manufactured (SITC 56)
		EU
Exports to EU	-1.79	-1.28
Imports from EU	-0.03	-0.69
		Non-EU⁶⁴
Exports to Non-EU	-0.57 ⁶⁵	-0.09
Imports from Non - EU	-0.03	-0.93

109. In interpreting Table 4, the elasticities are given as a percentage change in quantity demanded in response to a one percentage increase in the costs price of the traded good. For example, the long run price elasticity of demand for UK exports of manufactured fertiliser to EU countries is estimated to be -1.28. This implies a 10% increase in price leads to a 12.8% decrease in demand for UK exports to the EU.
110. Continuing the example of UK exports to the EU of manufactured fertiliser, the projected trade cost increase of 4.2% implies a decrease in exports of 5.4%. Based on the five-year average annual trade figures, this yields a potential per-trader reduction in exports of roughly £61,032. These are estimated impacts to turnover, not profit, so the economic impact on traders will be smaller in magnitude. Central scenario estimates for all fertiliser types and trading partners, as well as estimated per-firm costs, are given in Table 5 below.

Table 5: Annual estimated trade costs of divergence

		EU		Non-EU	
		Exports	Imports	Exports	Imports
Current trade	Crude	£7.9m	£24.7m	£13.3m	£4.0m
	Manufactured	£211.6m	£758.9m	£143.8m	£403.2m
	Total	£219.5m	£783.6m	£157.1m	£407.2m
Percentage impact	Crude	-3.6%	-0.1%	-1.1%	-0.1%
	Manufactured	-5.4%	-2.9%	-0.3%	-4.2%
Value impact	Crude	-£0.3m	£0.0m	-£0.2m	£0.0m
	Manufactured	-£11.4m	-£22.0m	-£0.5m	-£17.1m

⁶³ Department for Business, Innovation and Skills. 2013. *Long run income elasticities of import demand*. BIS RESEARCH PAPER NO.144. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/252490/bis-13-1262-long-run-income-elasticities-REVISED-1.pdf

⁶⁴ The estimates here correspond to the trade weighted average of main trading partners.

⁶⁵ The trade-weighted average was above zero, which is considered unreliable. In its place an unweighted average was used.

	Total	-£11.7m	-£22.0m	-£0.7m	-£17.1m
Firm-level impact	Firms	191	353	135	183
	Average	-£61,032	-£62,347	-£4,824	-£93,343
Impact assumed in Option(s)		1, 2, 3, 4	2, 3	-	2, 3

111. In Option 1, since there is no change to UK regulations, no change is assumed to import volume and no cost is accrued to importers. For Options 2 - 4, however, the creation of new UK regulation will increase EU import costs above their baseline values.
112. Since Options 2 - 4 involve greater stringency in domestic production regulations, no extra costs are assumed in meeting non-EU import standards.
113. To the extent that Options 2 - 4 reduce regulatory divergence relative to the baseline, they make mutual recognition more likely which in turn would reduce the costs of divergence.

Potential impact of mutual recognition of conformity assessment

114. The impact outlined above in paragraphs 99 - 113 is the additional cost of trade and compliance for both imports and exports included in the baseline. The estimates set out below in paragraphs 115 - 117 consider the impact mutual recognition of conformity assessment would have on the costs of trade divergence included in the baseline.
115. A mutual recognition agreement for conformity assessments would deliver mutual acceptance of conformity assessments performed by the UK's conformity assessment bodies as evidence of compliance with the EU's regulatory requirements, and vice versa.
116. The research institute Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) estimated that mutual recognition of conformity assessments could reduce NTM cost increases by -22% for mineral and -31% for chemicals commodities⁶⁶. When applied to the OECD NTM cost increase estimates set out in paragraph 106 NTM costs are reduced to 1.6% for crude and 2.9% for manufactured fertiliser.
117. Continuing the example of UK exports to the EU of manufactured fertiliser, the reduced projected trade cost increase of 2.9% implies a decrease in exports of 3.7%. Based on the five-year average annual trade figures in Table 5, this yields a potential per-trader reduction in exports of roughly £42,245. This represents a potential £18,787 reduction in the trade cost of divergence relative to the baseline for UK exporters. Full details of the reduction in estimated trade costs of divergence are given in Table 6. At this stage no such mutual agreement is recognised, and any such contingent benefits are not counted in this IA.

Table 6 Estimated trade costs of divergence with a mutual recognition agreement.

		EU	
		Exports	Imports
Percentage impact	Crude	-2.8%	-0.05%
	Manufactured	-3.7%	-2.0%
Value impact	Crude	-£0.2m	-£0.01m
	Manufactured	-£7.8m	-£15.2m
	Total	-£8.1m	-£15.2m

⁶⁶ CEPII. 2015. NTMs, Preferential Trade Agreements, and Prices: New evidence. Table 6 http://www.cepii.fr/PDF_PUB/wp/2015/wp2015-01.pdf

Firm-level impact	Firms	191	353
	Average	-£42,245	-£43,023
Value impact reduction due to MRA	Total	£3.6m	£6.8m
	Firms	£18,787	£19,324
Impact assumed in Option(s)		1, 2, 3, 4	2, 3

118. Any increase in import costs may shift some domestic demand to domestically produced fertilising products as additional trade costs make them relatively more competitive due to a change in relative prices. Assuming a constant domestic demand for fertiliser in the short to medium term, and assuming domestic and foreign fertiliser is homogeneous, wholesalers (and farmers) will switch to buying domestic fertiliser. The majority by weight of manufactured fertiliser applied in the UK is 'straight', i.e., single nutrient fertilisers like ammonium nitrate and urea. These are readily substitutable with imported products, though in some cases (like urea) not produced domestically. Application rates of several mineral fertilisers (straight and compound nitrogen, phosphorus, sulphur and potash) have been relatively stable over the period 2008-2024.⁶⁷ Substitutability of products with high transportation costs (e.g., manure) or greater product differentiation (e.g., biostimulants) can be assumed to be far lower. Without any published evidence on domestic supply elasticities, it is not possible at this stage to quantify potential impacts on domestic prices.

Social costs

119. Negative environmental impacts associated with existing regulations, outlined above as part of the baseline, are assumed to continue.
120. Available evidence on production emissions of EU and UK fertilisers does not show substantial differences.⁶⁸ To the extent that any shift to demand for domestic fertiliser leads to increased domestic production there would be a concomitant increase in territorial emissions from production. However, there is unlikely to be a substantial impact on consumption emissions.

Option 2 (preferred option)

121. The preferred option is to repeal and replace the below regulations with a new harmonised regulatory framework for placing fertilising products on the market in the UK (UK Fertilising Product Regulations (UK FPR)).
- Assimilated Regulation (EC) No. 2003/2003 as amended by 2019/601
 - The EC Fertilisers (Scotland) Regulations 2006/543, and
 - The EC Fertilisers (England and Wales) Regulations 2006/2486
 - The Fertilisers Regulations 1991/2197
 - The Fertilisers (Sampling and Analysis) Regulations 1996/1342
 - The Fertilising Product Regulations 2020/887
 - The Ammonium Nitrate Material (High Nitrogen Content) Safety Regulations 2003/1082 (elements only related to relevant AN intended to be used as a fertiliser)
 - The Fertilisers (Sampling and Analysis) Regulations (Northern Ireland) 1991/540
 - The Fertilisers Regulations (Northern Ireland) 1992/187

⁶⁷ Defra. 2024. British survey of fertiliser practice dataset. Figure A2.7 Quantities of major nutrients used, United Kingdom 2000 – 2024 <https://www.gov.uk/government/statistical-data-sets/british-survey-of-fertiliser-practice-dataset>

⁶⁸ Wood, S., & Cowie, A. 2004. *A review of greenhouse gas emissions factors for fertiliser production*. EA Bioenergy Task 38. http://www.sciencetheearth.com/uploads/2/4/6/5/24658156/2004_wood_a_review_of_greenhouse_gas_emission_factors.pdf

- The Fertilisers (Sampling and Analysis) Regulations (Northern Ireland) 1996/513
- The EC Fertilisers Regulations (Northern Ireland) 2006/503

Impact

122. Under Option 2, the UK would be responsible for standard setting, which can be based on UK – and, where appropriate, international – evidence. Option 2 also simplifies the enforcement of standards by streamlining the route to market for low–risk products but enables high–risk products to go through more complex checks by UK approved bodies managed by United Kingdom Accreditation Service (UKAS). Option 2 also provides for improved environmental safety and consumer confidence in fertiliser products (particularly innovative new products and products recycled from waste). Currently, fertilising products sold in the UK require no registration or authorisation, meaning claims of efficacy are covered only by general consumer regulations. Option 2 would allow the UK to set clearer standards regarding fertiliser content and efficacy, as well as labelling of the same.
123. Moving to a new system will entail substantial change for the sector, with high risk of teething problems. There will be a cost to businesses to set up the new system and ongoing costs to comply with new regulation.
124. Compliance to the new regulation will be 'self–certifying' for a considerable amount of the industry (c.90 – 95%), with the products beneath maintaining the same in content/compliance to existing regulation.
125. The UK is a net importer of fertilisers. Importers will have to comply if additional/higher standards are set for the new UK regime. Mutual recognition of UK and EU labs and standards may be less likely than under Option 3 and 4, which involve adoption of the EU FPR, but still more likely than under Option 1, though this is highly uncertain. Mutual recognition of the overall CAF systems would probably be negotiable.
126. There will be a cost to government for commissioning evidence and setting standards, as well as ongoing administrative costs.

Costs

Set–up costs (transition costs)

Costs to manufacturers

127. Businesses engaged in the manufacture of fertilisers will be expected to familiarise themselves with the new UK FPR.⁶⁹ Familiarisation costs have been estimated on the basis of the likely length of a UK FPR statute (based on the length of the 1991 UK statute). Mean hourly wages are estimated by using the Annual Survey of Hours and Earnings (ASHE) figure for employees of firms in the “legal activities” sector.⁷⁰ It is assumed at least two people per firm read through the document three times each to gain familiarity. A non–wage cost uplift of 1.22x is applied to give the final estimate, which is £573 per firm.
128. For estimating compliance costs under a UK Fertilising Products Regulation (FPR), we assume the average number of existing products per firm as follows: mineral fertilisers – 5, liming materials – 2, inhibitors – 2, and biostimulants – 3.5. These figures are based on publicly available product listings and market reports. Larger firms offer upwards of 10–20 mineral fertiliser products, while smaller firms typically offer fewer. Liming materials tend to be more standardised, and inhibitors are often limited to one or two formulations. Biostimulants show greater diversity due to innovation and varied active ingredients.

⁶⁹ Costs for familiarisation with EU FPR borne by those engaged in the manufacture of fertiliser for export to the EU, or in the export of fertiliser to the EU, are included in the baseline.

⁷⁰ ONS. 2022. *Earnings and hours worked, industry by four-digit SIC: ASHE Table 16.5a hourly pay - gross 2022.*

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/industry4digitsic2007ashtable16>

These assumptions provide a reasonable basis for estimating regulatory impact across the sector. Full details of costings for paragraphs 127–140 are given in Table 7.

129. For existing mineral fertilisers which are lower risk, conformity can be assessed by any party that is interested in the outcome of the assessment, for example, the products can be self-certified by the manufacturer.
130. The enforcement and market surveillance of inorganic mineral fertilisers, liming materials and inhibitors (consisting of raw and virgin materials only) regulated under UK FPR is proposed to be the responsibility of the relevant local authority or county council in England, Wales and Scotland, and DAERA in Northern Ireland. Current regulations already put statutory obligations on these bodies to enforce fertiliser legislation so there should be no significant additional burdens on these bodies. Advice, training, and guidance would need to be provided to enforcement authorities in relation to UK FPR for any changes from the current expectations. Costs associated with these have not been estimated but are expected to be small relative to the private costs faced by businesses.
131. Total transition costs for mineral fertiliser manufacturers are estimated at £21m (£281,133 per firm).
132. Producers of liming materials, of which there are estimated to be up to 30 operating in the UK, will face familiarisation costs with new regulations.⁷¹ These are estimated to total approximately £17,189.
133. Producers of liming materials will also face transition costs in ensuring their facilities are prepared for new regulations. Compliance with the quality standard would require some liming materials to have further processing, again increasing producer costs. No estimate is currently available for these costs as the form of the standards is not finalised. More evidence will be sought from stakeholders during consultation.
134. Total transition costs for liming materials manufacturers are estimated at £3.4m (£112,797 per firm).
135. Manufacturers of biostimulants would need to familiarise themselves with the UK FPR. The number of biostimulants manufacturers in the UK is estimated to be around 14, with each having approximately 3–4 products on market.⁷² Familiarisation costs are reckoned in the same manner as in paragraph 127, yielding a total of £7,448.
136. Biostimulants currently on the market are unregulated and would need to be brought into line with new regulations. The EC estimates the upper bound cost for research and analysis needed for biostimulants to be REACH compliant (i.e., compliant with EU Regulation 1907/2006 on Registration, Evaluation, Authorisation and Restriction of Chemicals) at €130,000 in 2016 prices⁷³, while the cost for research for regular fertilising products is given as €50,000.⁷⁴ These are used as upper and lower bounds. It is anticipated that under a UK FPR biostimulants will face less burdensome regulation to get to market. The midpoint between the two estimates is used as a proxy for the cost of provide evidence to register a new biostimulants, giving a year 1 cost of £3.6m (£303,005 per firm), the legal incidence of which will fall on manufacturers.
137. Total transition costs (familiarisation and compliance) for biostimulants manufacturers are estimated at £3.6m (£303,578 per firm).
138. Inhibitors currently on the market are largely unregulated and would need to be brought into line with new requirements under a UK Fertilising Products Regulation (FPR). While specific cost estimates for compliance are not available for inhibitors, we assume a similar

⁷¹ Number estimated from ALA 2021, [Lime producers, https://aglime.org.uk/suppliers/index.php](https://aglime.org.uk/suppliers/index.php).

⁷² This estimate is based on the relative size of the mineral (86.5%) and biostimulant and non-traditional fertiliser market (13.5%) in the EU (then including the UK) and the number of mineral fertiliser manufacturers. The proportion of mineral fertilizer market share p (86.5%) is accounted for by approximately n_f 75 firms. The estimated number of biostimulant manufacturers is given by $n_b = \frac{n_f(1-p)}{p} \cong 12$. The European Commission separately estimates there to be roughly 200 biostimulant manufacturers in the EU (then including the UK), of which the majority of production was concentrated in continental Europe.

⁷³ In 2024 prices converted to GBP this is equivalent to £145,891

⁷⁴ EC. 2016. Impact assessment accompanying the document Proposal for a Regulation of the European Parliament and of the Council laying down rules on the making available on the market of CE marked fertilising products and amending Regulations (EC) No 1069/2009 and (EC) No 1107/2009. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=SWD:2016:065:FIN>, hereafter EU IA pp 134, 146.

regulatory burden to mineral fertilisers and liming materials, given the technical nature of the products and the need for evidence to support efficacy and safety. Based on available data, the cost of familiarisation with new regulation is estimated at £573 per firm, and the total sector familiarisation cost is £2,865 across five firms.

139. Total transition costs (familiarisation and compliance) for inhibitors manufacturers are estimated at £563,984 (£112,797 per firm).

140. Total transition costs for manufacturers are estimated at £28.7m

Table 7: Set-up costs for manufacturers

Cost	Mineral fertiliser	Liming	Inhibitors	Biostimulants
A: Number of firms	75	30	5	12
B: Firms facing additional plant compliance costs	-	-	-	-
Familiarisation				
C: Time to read new UK regulation (h) ⁷⁵	3h 06m	3h 06m	3h 06m	3h 06m
D: Times read	6	6	6	6
E: Mean hourly wage for legal activities (£/h)	25.39	25.39	25.39	25.39
F: Non-wage uplift	1.22	1.22	1.22	1.22
G: Subtotal per firm (£) (CDEF)	573	573	573	573
H: Sector subtotal(AG)	42,972	17,189	2,865	7,448
Compliance				
I: Existing products per firm requiring regulation	5	2	2	3
J: Cost of technical dossier (£)	56,112	56,112	56,112	101,002
K: Additional plant compliance costs	0	0	0	0
L: Subtotal per firm (£) (IJ) + K(B/A)	280,560	112,224	112,224	303,005
M: Sector subtotal £m (AL)	21,041,987	3,366,718	561,120	3,636,055
N: Total per firm (£) (G + L)	281,133	112,797	112,797	303,578
O: Sector total (£) (AM)	21,084,959	3,383,907	563,984	3,642,931
Grand total (ΣAM)	28.7m			

Familiarisation costs for traders

141. Businesses engaged in the importation of fertilisers will be required to familiarise themselves with the new UK FPR, as any imported products (either from within the EU or from the rest of the world) will need to comply with the new UK standards. Businesses

⁷⁵ Time to read new UK regulation in decimal hours is 3.1.

engaged in export of fertilising products will need to be familiar with the new UK FPR in order to be aware of the standard to which their exported products are produced.

142. Businesses engaged in EU-bound exports will also have to familiarise themselves with the new EU FPR, but such costs are not additional to the baseline.
143. Traders' familiarisation costs are calculated in the same manner as from paragraph 127. Full details are given in Table 8.

Table 8: Set-up costs for traders

Cost/value	UK importers	UK exporters
A: Number of firms	536	326
Familiarisation		
B: Time to read new UK regulation (h)	3h 06m	3h 06m
C: Times read	6	6
D: Hourly wage for legal activities (£/h)	25.39	25.39
E: Non-wage uplift	1.2	1.2
F: Total per firm (£) (BCDE)	573	573
G: Sector total (£) (AF)	307,041	186,882
Grand total (£m) (ΣAF)	0.5m	

144. The producer supply elasticity is uncertain. To the extent that price elasticity of demand is lower, the cost of bringing imported products into compliance with the UK FPR may fall on consumers.
145. It is assumed based on prior industry information that purchase contracts for import or export of fertiliser are agreed on an annual basis, and so traders will be able to ensure they contract for compliant produce with minimal switching cost.
146. The total year 1 transition cost for traders is estimated at £0.5m (£573 per firm), as estimated in Table 8.

Costs to government

147. The cost to government of establishing of evidence and commissioning standards is currently unknown. Work has been commissioned to provide some evidence to inform the regulation; the consultation will also include a 'call for evidence' which is likely to result in further commissioning. As we plan to implement new regulation in a phased way this will not stop us implementing the first phase of regulation.

Ongoing costs (annual costs)

Costs to manufacturers

148. Manufacturers will face additional costs in ensuring any new products comply with the new UK FPR. A range of fertiliser products will be able to be regulated by means of a simpler CAF. Although some outlays will be involved, the degree of streamlining of regulation means it is estimated that this will not impose additional costs on businesses to the baseline. Detailed costings are outlined in Table 9.
149. For higher risk products, a more in-depth assessment will be necessary. The EC estimates the upper bound cost of a fertiliser technical dossier submitted for analysis by the Fertiliser Working Group at £ 56,112.⁷⁶ Assuming 30 new mineral fertiliser products are assessed each year by this means, and another 5 existing products re-assessed, an annual compliance cost of £2m to the industry is estimated, or approximately £26,186 per manufacturer per year, with actual amounts proportional to the manufacturer's size and introduction of new product.⁷⁷

⁷⁶ EUR 50,000 in 2016 prices, converted to 2024 GBP. See EU IA p 118.

⁷⁷ The figure of 4 - 6 assessments of previously assessed fertilising material is based on the UK figures from the EU impact assessment, Table 15. The estimate for new registrations is based off the French figure (30) from the EU impact assessment, Table 22. France is used as a proxy due to its similar sized economy and cross section of agricultural production.

150. To estimate annual compliance costs for liming materials, inhibitors, and biostimulants, we assume that two new liming products, one inhibitor, and five biostimulants will be assessed each year, with no products reassessed in Year 1. This reflects how new regulations are typically implemented, with early efforts focused on registering new products. Reassessment is only expected if a product changes, new scientific evidence becomes available, or the rules are updated. Since fertilising products usually have long shelf lives and stable formulations, reassessment is not expected to occur frequently.
151. Manufacturers of liming materials, of which there are estimated to be up to 30 operating in the UK, will face estimated annual compliance costs with new regulations. These are estimated to total approximately £112,224 (£3,741 per firm).
152. Manufacturers of inhibitors form a smaller part of the UK market. There are estimated to be up to 5 operating in the UK, that will face estimated annual compliance costs with new regulations. These are estimated to total approximately £56,112 (£11,222 per firm).
153. Manufacturers of biostimulants, of which there are estimated to be up to 12 operating in the UK, will face estimated annual compliance costs with new regulations. Assuming biostimulants manufacturers introduce 4 – 6 new products annually, and that the same assessment costs apply as in paragraph 127, annual compliance costs for biostimulants manufacturers are estimated to be in the order of £0.5m (£42,084 per firm).⁷⁸
154. Total annual costs to manufacturers are estimated at £2.6m

Table 9: Annual costs to manufacturers

Cost	Mineral fertiliser	Liming	Inhibitors	Biostimulants
A: Number of firms	75	30	5	12
B: Firms facing additional compliance costs	-	-	-	-
C: Number of firms needing EoW permits	-	-	-	-
Compliance				
D: New products assessed per firm per year	30	2	1	5
E: Existing products reassessed per firm per year	5	-	-	-
F: Total products assessed per firm per year	35	2	1	5
G: Cost of technical dossier (£)	56,112	56,112	56,112	101,002
H: Additional digestate treatment costs (£)	-	-	-	-
I: EoW permitting costs (£)	-	-	-	-
J: Subtotal per firm (£m) G+ BH/A + CI/A	26,186	3,741	11,222	42,084
K: Sector total (£) (AJ)	1,963,919	112,224	56,112	505,008
Grand total (£m) (ΣK)	2.6m			

⁷⁸ The estimate for new biostimulants is based on the number of UK mineral products needing reassessment each year (see footnote 77), taking into account the biostimulant sector's smaller size.

Costs to traders

155. Profit before taxation on average across the 75–fertiliser manufacturing sector is estimated by calculating profit as a proportion of average turnover from 17 fertiliser manufacturers⁷⁹ accounts from 2012 to 2024. The average profit as a proportion of turnover among these firms was 6.7%, which was applied to ONS turnover data that classifies the 75 fertiliser manufacturers according to turnover sizebands⁸⁰. The lower estimate was calculated using the minimum value in each of these sizebands, while the upper estimate was calculated using the maximum value of each size band. The average turnover from the manufacturer with the highest average turnover was used as the maximum value for the band because the final sizeband (50m+) had no maximum value. Profits for the most profitable fertiliser manufacturer in 2024 were £84.5m before taxation.
156. In addition to the baseline costs of trade divergence, there is anticipated to be an increase in import costs faced by domestic firms for both EU and non–EU products, which must comply with the UK FPR. These additional costs are reckoned as in Table 5, and summarised below in Table 10. For EU importers the total impact on turnover is estimated to be £22m per year (£62,347 per firm) and for non–EU importers the impact on turnover is estimated to be £17.1m per year (£93,343 per firm). Assuming the average rate of profit in fertiliser manufacturing firms, 6.7%, this equates to a net cost of £1.5m for EU importers (£4,191 per firm) and £1.1m for non–EU importers (£6,275 per firm).

Table 10: Selected costs to importers

	Importers from EU	Importers from non–EU countries
A: Number of firms	353	183
Impacts		
B: Current trade (£m)	783.6m	407.2m
C: Total impact on turnover	22.0m	17.1m
D: Estimated turnover per firm (B/A) (£m)	2.2m	2.2m
E: Estimated impact on turnover (£)	62,347	93,343
F: Rate of profit in manufacturing	6.72%	6.72%
G: Net cost per firm (£) (EF)	4,191	6,275
H: Total cost (£) (AG)	1,479,513	1,147,599
Grand total (£m) (ΣH)	2.6m	

157. To the extent that a UK FPR leads to closer regulatory alignment than the baseline, it is expected that this increases the potential for mutual recognition. Mutual recognition would decrease trade costs between the UK and EU. As reckoned in Table 6, mutual recognition is estimated to reduce the estimated impact on turnover for importers from the EU to £43,023. This represents an estimated total cost to EU importers of £1m (£2,892 per firm),

⁷⁹ Companies House Located in England, Northern Ireland, Scotland, Wales with Primary codes only 2015 - Manufacture of fertilisers and nitrogen compounds <https://find-and-update.company-information.service.gov.uk/>

⁸⁰ "ONS. 2025. UK business: Activity, size and location - 2025, Table 9 - Number of VAT and/or PAYE based enterprises by Standard Industrial Classification (SIC) class and turnover sizebands. <https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation>"

a total reduction of £458,559. However, as no mutual recognition is agreed, any such contingent benefits are not counted in this IA.

Costs to government

158. No change in staffing requirement relative to the baseline is expected for the Notifying Authority, local authorities, or arms-length bodies. The cost of additional staffing for technical and scientific support to the Notifying Authority is estimated at £41,000 per annum⁸¹. This estimate assumes one extra full time equivalent (FTE) staff member based on the advice of the notifying authority.

Number of affected businesses

159. In this analysis, the burden of compliance regulation regarding manufacture is assumed to fall on the manufacturer first, as manufacturers must seek accreditation to sell their product, and then on importers/exporters wherever fertiliser is traded.

160. Recent data from the ONS estimates the number of UK-based fertiliser manufacturers at 75.^{82,83}

161. No firm number of fertiliser traders – i.e., importers and exporters – is available. However, the ONS gives the number of wholesalers of agricultural machinery; equipment and supplies at between 1,500 and 1,760.⁸⁴ This range is likely greater than the true number of traders since not all agricultural wholesalers will be engaged in import and export of fertiliser. HMRC trade data separately estimates the number of firms exporting *outside* the EU at 57, the number of firms importing from outside the EU at 108.⁸⁵ While some are engaged in both import and export, in this IA each is treated as a separate business operation.

162. No estimate is available of the number of firms importing from or exporting to the EU. Assuming firms trading with the EU are similar in turnover to those trading outside the EU, the number of firms trading with the EU could be estimated to be around 353 importers and 191 exporters.⁸⁶ These figures should be considered upper bound estimates, as: firms trading with the EU are likely be larger due to proximity, economies of scale and lower trade costs; some firms that trade outside the EU may also trade with the EU. Although this means that summing the EU traders and non-EU traders may overestimate the true number, for the purposes of this analysis it is expedient to treat the two operations as separate business units.

163. The estimated number of manufacturers and traders of fertilising products in the UK is summarised in Table 11 below.

Table 11: Number of firms (ONS)

Business type	Number
Manufacturers, of which:	122
<i>Mineral fertilisers</i>	75
<i>Liming producers</i>	30
<i>Inhibitors</i>	5

⁸¹ Costs have been inflated to 2024 price levels based on 2021 data.

⁸² ONS. 2025. *UK business: Activity, size and location - 2025*.

<https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation>

⁸³ Precise figures are not available due to rounding and data suppression.

⁸⁴ ONS. 2025. *UK business: Activity, size and location - 2025*.

<https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation>

⁸⁵ HMRC. 2024. *Trader search*. <https://www.uktradeinfo.com/umbraco/api/search/download/traders?q=31&t=commodity-code&traders=All&year=2021&filename=31%20trader%20search%20results.csv>

⁸⁶ ONS. 2021. Overseas trade data table - UK Trade Info. <https://www.uktradeinfo.com/trade-data/ots-custom-table/?id=aa2a4de4-ec2d-4429-8c38-19d813180bb4>

<i>Biostimulants</i>	12
Traders, of which:	862
<i>Importers (EU)</i>	353
<i>Importers (non-EU)</i>	183
<i>Exporters (EU)</i>	191
<i>Exporters (non-EU)</i>	135

Total cost estimate

164. The total cost to businesses and government in year 1 is estimated at £34.5m, with transition costs comprising £29.3m of that cost. This estimate is expected to rise as additional evidence is gathered during the consultation process. This is because consultation is expected to produce the full monetisation of liming manufacturers, which are only partially monetised at present.

Table 12: Total cost estimate to government and businesses in year 1 for Option 2 (Paragraphs 140,146,149,156&158)

	Government	Business
A: Transition costs (£m)		
Compliance	0	28.7
Familiarisation with legislation	0	0.5
Subtotal	0.0	29.3
B: Annual direct costs (£m)		
Technical and scientific support	0.04	
Compliance		2.6
Trade costs		2.6
Subtotal	0.0	5.3
C: Total (A + B, £m)	0.04	34.4
Grand total (ΣC)	34.5m	

Sensitivity analysis

165. Substantial uncertainty remains around transition and compliance costs for producers, and costs of divergence for traders.

Assumptions and limitations

166. Until regulation is further developed it will be difficult to accurately estimate the costs of initial set-up of testing and ongoing compliance costs. The consultation provides potential to address any evidence gaps to help inform the development of the regulation.

167. At this stage there is no evidence that streamlining of regulation into either a UK or EU FPR (Options 2–4) would increase costs to end-users. For the majority of existing fertilising products, the new regulatory framework will be simpler than that which presently exists. This is because the majority of fertilising products by volume are straight or compound mineral fertilisers, which are well understood and have relatively little variation in manufacture and ingredients.

Benefits

168. Evidence available does not, at this stage, permit quantification or monetisation of all benefits from a UK FPR. Prior to the consultation stage, there are uncertainties both in the

form that the UK FPR will take (including what differences it will have from EU FPR) and in its likely direct and indirect benefits to affected industries. However, there is qualitative evidence regarding several private and social benefits. When standards are fully developed and likely impacts better understood, it may be possible to estimate and monetise, for example, the reduction in pollution from contaminated fertiliser products.

Private benefits

169. Whereas under the status quo manufacturers and traders must address a wide number of statutes regarding fertiliser manufacture, Option 2 (and Option 3) streamline the statute book to one simplified framework, removing outdated domestic regulation. This has the potential to streamline administrative costs for manufacturers and traders.
170. For manufacturers, Options 2 and 4 provide for a single domestic framework that minimises Government input, is easy to navigate and is fit for new fertiliser products and materials in the future. Option 2 simplifies the enforcement of standards: streamlines placing on the market of low-risk products but enables high risk products to go through more complex checks by UK approved bodies managed by UKAS.
171. For traders, Options 2 and 4 create a single set of rules for importers to follow to meet UK standards, reducing complexity in approving imported products.
172. More streamlined regulation will be easier to understand and communicate to consumers of the benefits and safety of products derived from compost and digestate like organic fertiliser. This may result in increased revenue for manufacturers of these new innovative outputs. There is not yet evidence to suggest the magnitude of the potential demand increase and therefore the size of the impact on manufactures' revenue is unknown. Any shift in demand from inorganic to organic fertiliser can be tracked through the annual British Survey of Fertiliser Practice.
173. Expanding what constitutes a fertiliser that improves nutrient uptake in crops and the standards that they need to meet will give a simple route to market for products and will be fit for innovation in the future. It will be simpler to add new component materials for product function categories in line with scientific advances. This offers an incentive for enterprises to invest in the development of fertilisers made from recycled materials as these products no longer fall under waste legislation. Businesses will be able to market such products as sustainable to an environmentally aware user and consumers will have confidence in their safety.

Social benefits

174. The UK would be responsible for standard setting, and this can be based on UK, as well as international where appropriate, evidence. This will permit a higher degree of locally optimal regulation than would adoption of the EU FPR.
175. Improved environmental safety and consumer confidence in fertiliser products Improved market access for innovative and more sustainable products that can stimulate green growth and contribute to Net Zero and other Government targets. An example of government targets is nutrient neutrality. This is a means of ensuring that a plan or project does not add to existing nutrient burdens so there is no net increase in nutrients as a result of the plan or project.
176. Enables market access for a wider range of innovative and more sustainable fertiliser products. A simplified risk-based registration procedure will assist more sustainable and innovative fertiliser manufacturers by reducing the time and cost associated with bringing products to market, potentially leading to lower carbon footprint fertilisers in the long term. However, the specific impact on CO₂ emissions from this wider range of products has not been assessed and requires further assessment. These effects have not been fully explored and will continue to be during consultation along with the assessment of potential wider impacts of the policy as assessed by stakeholders.

Option 3

177. Adopt FPR in its complete EU form unchanged, retract retained EU 2003/2003 Regulation and update domestic regulation to increase standards.

Impact

Positive impacts

178. Relative to the baseline, Option 3 will achieve some of the policy objectives relating to streamlining of existing fertilisers, bringing into force stricter quality controls and environmental standards. It will do this by adopting the EU FPR, which is explicitly intended to do these things. Whereas current regulations are fragmented and fail to deal adequately with biostimulants, compost and digestate, the EU FPR explicitly provides for their regulation while streamlining the regulation of mineral fertilisers.
179. Inasmuch as domestic regulations are updated to align with the EU FPR, adopting the EU FPR as a whole may provide a benefit for producers who wish to trade with EU, NI and domestically under FPR. This benefit could accrue since ones set of product standards would need to be followed, rather than two or more. For the same reason there may also be a cost reduction for EU manufacturers that wish to trade with UK and within EU under FPR.
180. Since this option involves adopting the EU FPR as a whole, mutual recognition of UK and EU labs and standards may be more likely, potentially lowering trade costs.
181. Option 3 will provide for a wider range of fertilising product types (biostimulants etc) on the UK market than the baseline.

Negative impacts

182. Revising current domestic regulations will be costly, burdensome, and difficult. It would be necessary to align them to the FPR standards to prevent imposing double standards unless intended. The statute book would remain fragmented.
183. Fragmented legislation will not support food safety and consumer confidence in fertiliser products (particularly innovative new products). Duplicate standards means that consumers risk losing association with what that standard demonstrates.
184. The EU will be responsible for standard setting and the UK will have no formal input to this process or that of any future revisions.

Costs

185. Given the early stage of policy development, most transition and annual costs are expected to be similar in magnitude to those outlined in Option 2 and so are quantified separately by exception. Detailed workings are set out in Table 13.
186. As Option 3 involves updating domestic regulations, firms will still have to familiarise themselves with both the adopted EU FPR and any changes to UK regulations. The estimated cost for this is higher, at £1,472 per firm. This higher cost comes about due to the need to familiarise with an additional piece of regulation. This may be an overestimate for firms which currently export products to the EU, as they will already be familiar with EU FPR.
187. Biostimulants are currently unregistered. Option 3's EU FPR process for registration is likely to be less streamlined than the UK FPR process specified by Option 2. As a result, the upper bound costs outlined in paragraph 136 are used as a proxy for firm costs for biostimulants in Option 3 and 4. This yields a year 1 compliance cost for biostimulant producers of £5.3m (£437,673 per firm), and a total year 1 cost for biostimulant manufacturers of £439,145 per firm.

188. As Option 3 involves adopting the EU FPR as a whole, the UK would not bear additional costs to establish standards or commission evidence mentioned in paragraph 147.

189. Total transition costs for manufacturers are estimated at £30.4m.

Table 13: Set-up costs for manufacturers, Option 3

Cost	Mineral fertiliser	Liming	Inhibitors	Biostimulant
A: Number of firms	75	30	5	12
B: Firms facing additional compliance costs	-	-	-	-
Familiarisation				
C: Time to read new UK regulation (h)	3h 06m	3h 06m	3h 06m	3h 06m
D: Time to read new EU regulation (h)	4h 52m	4h 52m	4h 52m	4h 52m
E: Times read	6	6	6	6
F: Mean hourly wage for legal activities (£/h)	25.39	25.39	25.39	25.39
G: Non-wage uplift	1.2	1.2	1.2	1.2
H: Subtotal per firm (£) EFG(C+D)	1,472	1,472	1,472	1,472
I: Subtotal (£) (AH)	110,376	44,150	7,358	17,660
Compliance				
J: Existing products per firm requiring regulation	5	2	2	3
K: Cost of technical dossier (£)	56,112	56,112	56,112	145,891
L: Additional plant compliance costs (£)	0	0	0	0
M: Subtotal per firm (£) (JK) + LB/A	280,560	112,224	112,224	437,673
N: Subtotal (£) (AM)	21,041,987	3,366,718	561,120	5,252,080
O: Total per firm (£) (H + M)	282,032	113,696	113,696	439,145
P: Sector total (£) (AO)	21,152,363	3,410,868	568,478	5,269,740
Grand total (£m) (ΣP)	30.4m			

Familiarisation costs for traders

190. Businesses engaged in the trade of fertilisers with the EU will be required to familiarise themselves with the new UK amendments, as any imported products from within the EU will need to comply with the new UK standards. Businesses engaged in export of fertilising products will need to be familiar with the new UK regulation to be aware of the standard to which their exported products are produced.

191. Traders with non – EU countries will need to familiarise themselves with both the newly adopted EU FPR and the UK amendments.

192. Businesses engaged in EU-bound exports will also have to familiarise themselves with the new EU FPR, but such costs are not additional to the baseline.

193. Traders' familiarisation costs are calculated in the same manner as in paragraph 127. Full details are given in Table 14.

Table 14 Set-up costs for traders option 3

Cost/value	Traders EU	Traders non-EU
A: Number of firms	544	318
Familiarisation		
B: Time to read new UK regulation (h)	3h 06m	3h 06m
C: Time to read new EU regulation (h)	-	4h 52m
D: Times read	6	6
E: Hourly wage for legal activities (£/h)	25.39	25.39
F: Non-wage uplift	1.2	1.2
G: Total per firm (£)	573	1,472
H: Sector total (£) (AG)	311,691	468,073
Grand total (£m) (ΣAG)	0.8m	

194. Since standards would be set by the EU, the additional trade costs for EU-originating imports in Option 2 would not apply.

195. Given the complexity of meeting two sets of regulation (the EU FPR and the updated domestic regulation), non-EU imports may still face additional costs gaining certification. Using the same procedure set out in paragraphs 155 – 156 yields a cost of £1.1m (£6,275 per firm), set out in Table 10.

Total cost estimate

196. The total cost to businesses and government in year 1 is estimated at £35.2m, with transition costs comprising £31.2m of that cost. This estimate is expected to rise as additional evidence is gathered during the consultation process.

Table 15: Total cost estimate to government and businesses in year 1 for Option 3

	Government	Business
A: Transition costs (£m)		
Compliance	0	30.2
Familiarisation with legislation	0	1.0
Subtotal	0.0	31.2
B: Annual direct costs (£m)		
Technical and scientific support	0.04	
Compliance		2.9
Trade costs		1.1
Subtotal	0.0	4.0
C: Total (A + B, £m)	0.04	35.2
Grand total (ΣC)	35.2m	

Benefits

197. Full UK adoption of the EU FPR could increase the probability of mutual recognition of laboratories. In this instance, the baseline trade costs outlined in paragraphs 102 – 113 could be substantially reduced, a benefit to traders and manufacturers. An estimate for the

cost reduction for EU importers can be found in Table 6. As mutual recognition has not been agreed, any such contingent benefits are not counted in this IA.

198. Relative to the baseline, the EU FPR is likely to be more stringent with respect to environmental impacts. Adopting it has substantial potential to further reduce the environmental impact of fertiliser production and application. Notwithstanding the fact that most fertilizer used in the UK is manufactured in the EU, the fertiliser that is both manufactured and used in the UK would now also meet the more stringent EU FPR.

Option 4

199. Adopt FPR in its complete EU form unchanged, repeal retained EU 2003/2003 Regulation and retain domestic regulations unchanged.

Impact

Positive impacts

200. Relative to the baseline, Option 4 will achieve some of the policy objectives relating to streamlining of existing fertilisers, providing for the regulation of biostimulants, compost and digestate, and bringing into force stricter quality controls and environmental standards. However, retaining domestic regulations in their existing form risks complicating the regulatory environment and maintaining competing and potentially contradictory sets of standards.
201. Option 4 would provide a framework for regulation that minimises government input, simplifies the enforcement of standards and is fit for the future.
202. Option 4 could provide a potential cost benefit for manufacturers that wish to trade with EU, NI and GB under the EU FPR.
203. As with Options 2 – 3, Option 4 provides for a wider range of fertilising product types on the UK market than under the baseline.
204. Mutual recognition of UK and EU labs and standards may be more likely than under Options 1, 2, and 5, however, no recognition is yet agreed.
205. Option 4 provides a route to market for waste streams that are increasing in volume. However, the potential for these products to displace more polluting/less sustainable mineral fertilisers is diluted by the double system.

Negative impacts

206. EU will be responsible for standard setting and the UK will have no input to this process as they will not be at the table for negotiation of future revisions.
207. Option 4 would result in a fragmented, multi layered statute book, with outdated domestic regulation sitting alongside a modern regime. This will allow manufacturers to select a route to market with unacceptable standards. Regulation will be difficult to navigate by industry and enforce by government.
208. As with Options 2 – 3, there will be a cost to businesses to set up the new system.
209. Labelling of bespoke blended products that can contribute to more efficient crop nutrition will be over complicated relative to Option 2.
210. The UK will have to accept EU imports even if they do not agree with the standards (for example the UK could become a market for EU waste contaminated with antimicrobial resistant organisms).
211. Fragmented legislation will not support food safety and consumer confidence in fertiliser products (particularly innovative new products). Consumers will find it difficult to understand double standards.
212. Manufacturers may have no incentive to use the EU FPR regulation if domestic regulations have lower standards and remain unchanged, raising the risk of failure to achieve the policy objectives.

Costs

213. Given the early stage of policy development, most transition and annual costs are expected to be similar in magnitude to those outlined in Option 3 and so are only quantified separately by exception.
214. In Option 4, firms need only familiarise themselves with the EU FPR. This is because existing regulations are retained unchanged, while the new EU FPR is adopted in full. The cost per firm for this is estimated at £900, or £0.1m in total.⁸⁷

Familiarisation costs for traders

215. Businesses engaged in the importation of fertilisers from non-EU countries will be required to familiarise themselves with the new EU FPR, as any imported products (either from will need to comply with the EU standards. Businesses engaged in export of fertilising products will need to be familiar with the EU FPR in order to be aware of the standard to which their exported products are produced.
216. Traders' familiarisation costs are calculated in the same manner as in paragraph 127. Full details are given in Table 16.

Table 16 Set-up costs for traders option 4

Cost/value	Importers (non-EU)	Exporters (non-EU)
A: Number of firms	183	135
Familiarisation		
B: Time to read new EU regulation (h)	4h 52m	4h 52m
C: Times read	6	6
D: Hourly wage for legal activities (£/h)	25.39	25.39
E: Non-wage uplift	1.2	1.2
F: Total per firm (£) (BCDE)	899	899
G: Sector total (£) (AF)	164,363	121,478
Grand total (£m) (ΣAF)	0.3m	

217. As Option 4 involves adopting the EU FPR as a whole, the UK would not bear additional costs to establish standards or commission evidence mentioned in paragraph 146.
218. Since standards would be set by the EU, the additional trade costs for EU-originating imports in Option 2 would likely be lower.
219. Total transition costs (familiarisation and compliance) for manufacturers and traders under Option 4 are estimated at £30.6 million.
220. The total cost to businesses and government in year 1 is estimated at £34.7m. This estimate is expected to rise as additional evidence is gathered during the consultation process.

Benefits

221. As in Option 3, UK adoption of the EU FPR could increase the probability of mutual recognition of laboratories. In this instance, the baseline trade costs outlined in paragraphs 102 – 113 could be reduced, a benefit to traders and manufacturers. An estimate for the

⁸⁷ This cost assumes a reading time of 4h 52m, read 6 times, using a wage of £25.39 and a non-wage uplift of 1.2 across 122 firms.

cost reduction for EU importers can be found in Table 4. As mutual recognition has not been agreed, any such contingent benefits are not counted in this IA.

- 222. Relative to the baseline, the EU FPR is likely to be more stringent with respect to environmental impacts. Adopting it has substantial potential to further reduce the environmental impact of fertiliser production and application. Notwithstanding the fact that most fertilizer used in the UK is manufactured in the EU, the fertiliser that is both manufactured and used in the UK would now also meet the more stringent EU FPR.
- 223. The unquantified savings from regulatory simplification (i.e., the repeal of existing statutes and introduction of a CAF) will not accrue to firms in this Option.
- 224. EU traders are not assumed to have familiarisation or compliance costs below the baseline.

Option 5

- 225. Deregulate the sector. Repeal existing EU 2003/2003 Regulation and existing domestic regulations.

Impact

Positive impacts

- 226. Deregulating the sector would reduce costs for existing firms and decrease barriers to entry. However, due to limited data and unknown factors, the exact magnitude of these benefits cannot be currently quantified.

Negative impacts

- 227. If manufacturing and marketing rules around fertilisers were replaced by voluntary measures, softer policy levers, or complete deregulation, it would not be possible to ensure fertilisers meet basic benchmarks of content, efficacy or safety.
- 228. The manufacture and use of fertilising products is associated with a range of negative environmental externalities. If the sector were deregulated, those restrictions that already govern content and use with a goal of reducing such externalities would be eliminated.
- 229. If fertiliser were completely deregulated, there would be less restriction on the use and storage of some explosives. As a result of negligent or illegal use, there would be an increase in risks to property and life.
- 230. Fertilisers produced domestically in a deregulated environment would likely face additional barriers to export, since a simple conformity assessment approach to mutual recognition would not be possible.
- 231. Deregulation in this case may not be suitable or appropriate and therefore a quantitative assessment of the negative impacts has not been conducted.

Option 6

- 232. Adopt FPR in its complete EU form unchanged, repeal EU 2003/2003 Regulation and repeal domestic regulations.

Impact

Positive impacts

- 233. Relative to the baseline, Option 6 will achieve some of the policy objectives relating to streamlining of existing fertilisers and bringing into force stricter quality controls and environmental standards. It will do this by adopting the EU FPR, which is explicitly

intended to do these things. Whereas current regulations are fragmented and fail to deal adequately with biostimulants, compost and digestate, the EU FPR explicitly provides for their regulation while streamlining the regulation of mineral fertilisers.

- 234. Option 6 would provide a framework for regulation that minimises government input, simplifies the enforcement of standards and is fit for the future.
- 235. Option 6 could provide a potential cost benefit for manufacturers that wish to trade with EU, NI and GB under the EU FPR. Furthermore, by adopting EU standards, the UK aligns itself with common international norms in fertiliser regulation, which can benefit trade relationships beyond the EU.

Negative impacts

- 236. EU will be responsible for standard setting and the UK will have no input to this process as they will not be at the table for negotiation of future revisions.
- 237. The EU's centralised approval process for new fertiliser types could lead to delays in bringing innovative products to market, potentially reducing UK farmers' access to the latest technologies. It's possible that the EU regulations don't find the best possible balance between protecting the environment and maintaining UK agricultural productivity.
- 238. The UK will have to accept EU imports even if we do not agree with the standards.
- 239. Increased reliance on EU-approved fertilisers could reduce supply chain flexibility for UK farmers, especially if there are disruptions within the EU market.

Costs

- 240. Given the early stage of policy development, most transition and annual costs are expected to be similar in magnitude to those outlined in Option 4.
- 241. In Option 6, firms need only familiarise themselves with the EU FPR. This is because existing regulations are repealed, while the new EU FPR is adopted in full. The cost per firm for this is estimated at £900, or £0.1m in total.⁸⁸
- 242. Costs to traders of £0.3m are the same as reckoned in Table 16 for option 4.
- 243. As Option 6 involves adopting the EU FPR, the UK would not bear additional costs to establish standards or commission evidence mentioned in paragraph 147.
- 244. The total cost to businesses and government in year 1 is estimated at £34.6m, with transition (familiarisation and compliance) costs comprising £30.6m of that cost. This estimate is expected to rise as additional evidence is gathered during the consultation process.

Benefits

- 245. As in Option 4, UK adoption of the EU FPR could increase the probability of mutual recognition of laboratories. In this instance, the baseline trade costs outlined in paragraphs 102 – 113 could be reduced, a benefit to traders and manufacturers. An estimate for the cost reduction for EU importers can be found in Table 4. As mutual recognition has not been agreed, any such contingent benefits are not counted in this IA.
- 246. Relative to the baseline, the EU FPR is likely to be more stringent with respect to environmental impacts. Adopting it has substantial potential to further reduce the environmental impact of fertiliser production and application. Notwithstanding the fact that most fertilizer used in the UK is manufactured in the EU, the fertiliser that is both manufactured and used in the UK would now also meet the more stringent EU FPR.

⁸⁸ This cost assumes a reading time of 4h 52m, read 6 times, using a wage of £25.39 and a non-wage uplift of 1.2 across 122 firms.

Summary of Options

247. As this IA is conducted alongside the consultation and pre-implementation, it is not possible to measure from real-world data many of the costs and benefits that may be realised. Where possible, proxy data have been used from similar assessments or sought from industry. Substantial uncertainty remains around transition and compliance costs for producers, and costs of divergence for traders. It is intended that the consultation will provide an opportunity for interested parties to provide additional evidence to support, amend, or update the data used in this impact assessment.
248. The options that have been considered in this impact assessment:
- i Option 1: Do nothing. Retain EU 2003/2003 Regulation⁸⁹ and existing domestic regulations.
 - ii Option 2 (preferred): Adopt a UK centric version of the fertilising product regulation (FPR) and repeal EU 2003/2003 Regulation and domestic regulations.
 - iii Option 3: Adopt FPR in its complete EU form unchanged, repeal EU 2003/2003 Regulation and update domestic regulation to increase standards.
 - iv Option 4: Adopt FPR in its complete EU form unchanged, repeal EU 2003/2003 Regulation and retain domestic regulations unchanged.
 - v Option 5: Deregulate the sector. Repeal existing EU 2003/2003 Regulation and existing domestic regulations.
 - vi Option 6: Adopt FPR in its complete EU form unchanged, repeal EU 2003/2003 Regulation and repeal domestic regulations.
249. The preferred option is option 2 as it allows regulations to reflect the needs and requirements of the UK environment. However, at this stage of policy development and with the available data, it is not possible to make an absolute comparison of options due to the number of unmonetised costs and benefits. We are unable at this stage to determine that option 2 to create a UK-specific FPR is the best option, and therefore, each of the options includes comparative analysis statements. These statements provide a brief comparison of the options, pointing to option 2's potential for a higher BCR/NPV despite being more expensive at this stage. A summary of the cost and benefits of each of the options are below in Table 17.

⁸⁹ Regulation (EC) No 2003/2003 of the European Parliament and of the Council. <https://www.legislation.gov.uk/eur/2003/2003>

Table 17: Summary of costs and benefits for each option

Options	2	3	4	5	6
	(preferred)				
Costs					
A: Transition costs (£m)	29.2m	31.2m	30.6m	0	30.6m
Compliance	28.6m	30.2m	30.2m	0	30.2m
Familiarisation with legislation	0.6m	1.0m	0.4m	0	0.4m
B: Annual direct costs (£m)	5.3m	4.1m	2.9m	0	2.9m
Government technical and scientific support	0.04m	0.04m	0.04m	0	0.04m
Compliance	2.6m	2.9m	2.9m	0	2.9m
Trade costs	2.6m	1.1m	-	unknown	-
Environmental costs	unknown	unknown	unknown	unknown	unknown
C: Costs Total (A+B, £m)	34.5m	35.2m	33.5m	0	33.5m
Benefits					
D: Private benefits (£m)	unknown	unknown	unknown	unknown	unknown
E: Social benefits (£m)	unknown	unknown	unknown	unknown	unknown
F: Benefits Total (D+E)	unknown	unknown	unknown	unknown	unknown
Qualitative comparative statements	Option 2, a UK centric FPR, aligns with UK agricultural priorities. This alignment will streamline processes, drive innovation by simplifying regulatory barriers and accommodating products derived from living matter and waste, and reduce unnecessary burdens for	Option 3, which adopts the EU FPR alongside updated domestic regulations, might be more cost-effective to implement and offers stricter quality controls and environmental standards relative to the baseline. However, it risks creating a complex regulatory environment where overlapping rules and	Option 4 adopts the EU FPR alongside existing domestic regulations. This approach reduces regulatory changes in the short term and introduces stricter quality controls and environmental standards relative to the baseline, but it likely fails to address UK-specific needs. Maintaining existing domestic regulations	Option 5 is to deregulate the fertiliser sector. While this might offer short-term cost reductions, it could lead to significant negative externalities. Compromised product safety, reduced consumer trust, and environmental damage could	Option 6 streamlines regulation by adopting EU FPR and repealing domestic regulations without consideration of how the EU FPR aligns with the UK market. Relative to the baseline, the EU FPR is likely to be more stringent with respect to environmental impacts. However, this approach could lead to

Options	2 (preferred)	3	4	5	6
	<p>businesses. If we could quantify more of the potential benefits associated with these outcomes, we would expect this option to lead to a higher benefit cost ratio (BCR) when compared with the other options.</p>	<p>standards could hinder efficiency. Businesses may need to navigate conflicting or redundant requirements, limiting their ability to streamline processes and focus on innovation. Potential regulatory overlap and complexity could lead to a lower BCR when compared to option 2.</p>	<p>alongside the EU FPR risks regulatory overlap and potential conflicts between different sets of rules. Businesses might find it challenging to navigate this complex landscape, potentially hindering efficiency and diverting resources from innovation. The restrictive regulatory environment could result in a lower BCR when compared to option 2.</p>	<p>impose substantial long-term costs on society, potentially outweighing any initial benefits and harming the sector's competitiveness. Long-term risks associated with deregulation could significantly decrease the BCR compared to Table 2.</p>	<p>inefficiencies, as businesses might need to comply with potentially less relevant standards, limiting their ability to operate effectively under a simplified, UK-focused regulatory system. Reliance on the EU regulatory framework could limit efficiency gains, potentially leading to a lower BCR compared to option 2.</p>

Small and Micro Business Assessment (SaMBA)

250. A small business is defined in the Better Regulation framework manual as one employing fewer than 50 full-time equivalent employees, and a micro-business as one employing up to 10 employees.
251. There is considerable uncertainty about the number of fertiliser manufacturers that are small and micro businesses (SMBs), with estimates ranging from 15 to 75 firms.⁹⁰
252. In total they employ approximately between 430 – 1,500 people (central estimate 1,062).⁹¹ This uncertainty makes a detailed SaMBA difficult.
253. Most farms meet the criteria to be small or micro businesses. This policy is expected to benefit farmers by increasing the quality and diversity of fertilising products available to them and increasing the trust between farmers and suppliers due to labelling requirements. Evidence gathered from the consultation stage will be used to quantify these benefits.
254. As detailed in the option analysis, most costs to fertiliser manufacturers are expected to be transitional so this policy is not expected to cause a sustained increase in the prices of fertiliser products. Furthermore, the total cost of £34.5m represents only 2.0% of the total fertiliser market value in 2024⁹², so the short-term price impact is expected to be insubstantial.
255. We will set out a fuller assessment of the impact on small and micro businesses and will further investigate, through consultation and engagement, the impact on these businesses as part of the process of developing this IA alongside secondary legislation. This analysis will be produced in line with HMT Green Book methodology and RPC guidance on small and micro business assessments.⁹³

Are exemptions feasible?

256. Exempting SMBs from the provisions of the proposed regulation would have deleterious consequences both for the businesses and for the functioning of the regulation. Many biostimulant manufacturers are smaller firms. Since one of the main goals of the proposed regulation is to address the lack of regulation governing biostimulants, an SMB exemption would be counter to the goals of the regulation.
257. Furthermore, an exemption would leave products made by SMBs unregulated, disadvantaging them in export markets and leaving domestic consumers without labelling information and certification for products made by SMBs. Such an exemption would have trade costs and decrease consumers' abilities to make informed choices.
258. Finally, an exemption would disadvantage larger businesses against SMBs with respect to regulation governing the creation of negative externalities. Inasmuch as regulation might either reduce the impact or internalise the costs of the externality it is undesirable to shift market demand from regulated to unregulated goods.

Mitigating SMB impacts

259. Most costs and benefits outlined in this impact assessment are proportional to the size of the firm and the number of product lines it produces and markets.
260. The main exception to this is the cost of familiarisation, which is modelled as constant between firms. As such, a greater burden will fall on SMBs relative to larger firms. It may be possible to mitigate against this by the provision of information and training on the

⁹⁰ See footnote 72.

⁹¹ See footnote 80.

⁹² [Chapter 9: Intermediate consumption - GOV.UK](#)

⁹³ [RPC Small and Micro Business Assessment \(SaMBA\) guidance](#)

coming into force of any new regulation. Guidance and training sessions will be offered to industry as well as trading standard officers and others in the enforcement space.

Reflections from the EU FPR: Impacts on SMEs and Regulatory Complexity

261. The EU Fertilising Products Regulation (FPR) has introduced a dual regulatory system, allowing producers to choose between harmonised EU rules and national legislation. This optionality has led to uneven uptake across Member States and product categories. SMEs, in particular, have often opted to continue under national rules due to the perceived complexity of the FPR and the high compliance costs associated with CE-marking fertilising products.⁹⁴
262. Stakeholder feedback highlights that the FPR is especially challenging for SMEs, who face disproportionate administrative burdens and costs. For example, conformity assessment for biostimulants can exceed €200,000, compared to around €50,000 for inorganic soil improvers. These costs, combined with technical challenges and delays in the development of harmonised standards, have discouraged uptake among smaller producers. Defra is currently funding a [project](#) to determine the most appropriate methods to enable the effective and safe use of plant biostimulant products in the UK. The project is evaluating the methods described in the EU Fertilising Product Regulations (EU 2019/1009) and the European Committee for Standardisation (CEN) Technical Committee 455 'Technical Standard on Plant Biostimulants'. This project is working with stakeholder's representative of large and SMEs to ensure that key product types are represented, efficacy testing methods are appropriate for use in the UK. This work will inform future policy develop in relation to the use of biostimulants in the UK.
263. The uptake of the FPR varies significantly by product type. Inorganic fertilisers (PFC 1.C) show high adoption (>95%), largely due to their export potential and existing coverage under previous EU regulations. In contrast, organic fertilisers (PFC 1.A), organo-mineral fertilisers (PFC 1.B), soil improvers (PFC 3), and growing media (PFC 4) have seen very low uptake (<5%), with most producers relying on national rules. This is often due to limited export markets, high transportation costs, and the complexity of meeting FPR requirements for waste-derived inputs. We don't have evidence on the uptake domestically but the same issues would exist so we may expect similar results.
264. Importantly, in the EU, fertilising products intended for domestic markets are more likely to be placed on the market under national rules, while those aimed at export are more commonly CE-marked under the FPR. This reflects a strategic choice by producers based on market access needs and regulatory burden. Under a UK-centric FPR, compliance will not be optional and therefore all products will qualify for both the domestic and the EU markets, provided no nuances exist for the given product type in UK FPR compared to EU FPR.

Regulatory scorecard for preferred option

Please provide quantitative estimates and qualitative descriptions of impacts under each heading in the following sections. The right-hand column for directional ratings should be based on the description of impact and the sign of the suggested indicator (NPV, NPSV, all impacts): **green** – positive impact, **red** – negative impact, **amber** – neutral, negligible, or no impact, **blue** – uncertain impact. Please use the colours in the examples shown below, as these are suitable accessible colours. Please see BRF guidance technical annex for definitions.

Part A: Overall and stakeholder impacts

⁹⁴ CSES, supported by CSIL and Prospero (2025) Background Working Paper for the first Stakeholder Workshop on the Evaluation of the FPR - 15th October 2025. European Commission.

(1) Overall impacts on total welfare		Directional rating Note: Below are examples only
Description of overall expected impact	The preferred option is a UK centric FPR, which aligns with UK agricultural priorities. Overall, this alignment will streamline processes, drive innovation, and reduce unnecessary burdens for businesses, though there may be some initial teething problems due to the substantial change for the sector.	Neutral Based on all impacts (incl. non-monetised)
Monetised impacts	<p>Under the 2025 base year scenario, the central estimate for the total present value cost of the UK FPR is £74.6 million, with a range from £61.4 million (low/best case) to £90.7 million (high/worst case). At this stage, no benefits have been monetised. We are unable to provide a quantified estimate of the benefits because we do not currently have sufficient information to assign a reliable monetary value. We will consult with relevant stakeholders to gather information that will enable us to monetise the potential positive impacts in future iterations of the assessment.</p> <p>Due to the absence of monetised benefits at this stage, the overall impact must be rated as negative based on the Net Present Social Value (NPSV), which reflects total costs without offsetting quantified gains</p>	Negative Based on likely £NPSV
Non-monetised impacts	<p>At this stage of the assessment, several potentially significant impacts remain unmonetised. These include expected benefits such as improved regulatory clarity, streamlined compliance processes, enhanced market access for innovative and sustainable fertilising products, and environmental gains through increased use of recycled materials. These impacts are likely to contribute positively to overall welfare in the longer term.</p> <p>However, due to the current lack of quantified evidence, these benefits cannot yet be reliably valued. As a result, while the direction of impact is expected to be positive, the overall effect on total welfare remains uncertain. Further stakeholder engagement and evidence gathering during the consultation stage will help assess the scale and distribution of these impacts more robustly, including identifying and monetising any possible disbenefits of this policy.</p>	Uncertain
Any significant or adverse distributional impacts?	<p>The introduction of a UK Fertilising Products Regulation (FPR) may have varying distributional impacts across different stakeholder groups. Larger producers with established compliance infrastructure may benefit from streamlined market access and regulatory clarity. However, smaller producers could face disproportionate administrative and financial burdens, particularly if conformity assessment processes are complex or costly.</p> <p>There is also potential for regional variation in impacts, depending on the types of fertilising products produced and the structure of local supply chains. Without appropriate support or flexibility, the regulation could unintentionally</p>	Uncertain

	disadvantage certain sectors or regions, affecting overall welfare and market participation.	
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(2) Expected impacts on businesses

<p>Description of overall business impact</p>	<p>This option introduces a single, simplified UK Fertilising Products Regulation, replacing multiple pieces of outdated domestic legislation. By consolidating the regulatory framework, it is expected to reduce complexity, improve clarity, and support long-term innovation in the fertiliser sector. Businesses may benefit from a more navigable and proportionate system that is better suited to emerging fertiliser types and materials, including those aligned with circular economy principles.</p> <p>The streamlined framework is designed to minimise government intervention while remaining flexible and future-proof. It is expected to reduce unnecessary regulatory burdens and create a more enabling environment for product development and market access.</p> <p>However, businesses involved in the manufacture, import, and export of fertilisers will need to familiarise themselves with the new regulation. Transitioning to the UK FPR will require investment in training, system changes, and compliance infrastructure. These transition costs will be accompanied by ongoing costs related to testing, conformity assessment, and regulatory maintenance. The scale of change may be particularly challenging for small and medium-sized enterprises, which may face disproportionate burdens due to limited capacity and resources.</p> <p>There is also a risk of short-term disruption during the transition period, including potential delays in product approvals and uncertainty around mutual recognition of standards. These impacts will need to be carefully managed to ensure a smooth implementation.</p>	<p>Uncertain</p>
<p>Monetised impacts</p>	<p>Under the 2025 base year scenario, the total net financial cost to business is estimated at £74.3 million, with no monetised benefits currently available. This figure includes both transition and ongoing compliance costs and reflects the expected financial burden on manufacturers, importers, exporters, and retailers adapting to the new UK Fertilising Products Regulation. Administrative costs are included within this estimate.</p> <p>However, it is important to note that no benefits have been monetised at this stage due to insufficient evidence to assign reliable monetary values. As such, the current NPV reflects only the cost side of the equation.</p> <p>While the directional rating is negative based on the current NPV, this could change as further evidence is gathered and benefits such as improved market access, regulatory clarity, and environmental gains are monetised. Stakeholder engagement and data collection will be essential to reassess the balance of impacts in future iterations of the assessment.</p>	<p>Negative</p> <p>Based on likely business £NPV</p>

<p>Non–monetised impacts</p>	<p>At this stage of the assessment, several potentially significant impacts remain unmonetised. These include expected benefits such as improved regulatory clarity, streamlined compliance processes, enhanced market access for innovative and sustainable fertilising products, and environmental gains through increased use of recycled materials. These impacts are likely to contribute positively to overall welfare in the longer term.</p> <p>However, due to the current lack of quantified evidence, these benefits cannot yet be reliably valued. As a result, while the direction of impact is expected to be positive, the overall effect on total welfare remains uncertain. Further stakeholder engagement and evidence gathering will be required to assess the scale and distribution of these impacts more robustly.</p>	<p>Uncertain</p>
<p>Any significant or adverse distributional impacts?</p>	<p>Biostimulant producers are expected to face disproportionate impacts under the UK Fertilising Products Regulation (UK FPR), particularly where firms are small or operate multiple product lines. The regulation introduces new compliance requirements and technical standards that may be complex and resource–intensive to navigate.</p> <p>These burdens are likely to be felt more acutely by firms with limited regulatory capacity or those operating in rural regions, where access to specialist support may be constrained. To mitigate these impacts, the policy should include tailored guidance and training for industry and enforcement bodies, and further engagement will be undertaken to refine technical definitions and ensure proportionality in implementation.</p> <p>The current directional rating is negative, reflecting the potential for disproportionate costs and regulatory uncertainty, though this may improve as mitigations are rolled out and benefits are better evidenced.</p>	<p>Negative</p>

(3) Expected impacts on households

<p>Description of overall household impact</p>	<p>The regulation is expected to have a neutral overall impact on households. Streamlined rules may improve consumer understanding of fertilising product safety and benefits. However, there may be minor cost increases for imported products – fertilisers and agricultural goods – as businesses pass on compliance costs.</p>	<p>Neutral</p>
<p>Monetised impacts</p>	<p>Household NPV: Not available</p> <p>Approximate net financial cost to households (EANDCH): Not available. Current evidence is insufficient to examine the impact on households of increased costs to fertiliser producers. The majority of fertiliser purchased in the UK is for commercial farming, so the direct impact of higher fertiliser prices on households will be small.</p> <p>Administrative costs: Not separately estimated</p> <p>Pass–through to businesses deducted: N/A</p> <p>Estimated pass–through costs from business to households: Not available. Some costs may be incurred by households if increased costs to fertiliser producers result in increased</p>	<p>Uncertain Based on likely household £NPV</p>

	fertiliser prices, which subsequently pass through to increased prices of agricultural goods. The scale of these pass-through effects are all uncertain. Evidence gathered during the consultation stage may allow monetisation in the future; the consultation includes multiple questions on cost impacts and on importation.	
Non-monetised impacts	The regulation may improve transparency and consumer confidence in fertilising products, especially those derived from organic materials. However, households may indirectly bear minimal costs where businesses adjust pricing to reflect compliance with UK FPR requirements.	Neutral
Any significant or adverse distributional impacts?	<p>No</p> <p>Low-income households: No significant impact expected due to limited fertiliser purchasing.</p> <p>Other impacted groups: Home gardeners may see minor price changes; mitigated through clear labelling and product guidance.</p> <p>Regional impacts: No significant regional household impacts identified.</p>	Neutral

Part B: Impacts on wider government priorities

Category	Description of impact	Directional rating
Business environment: Does the measure impact on the ease of doing business in the UK?	The UK FPR is expected to positively impact the ease of doing business in the UK by providing a clearer and more consistent framework for fertilising products. As the regulation develops, it may enhance competitiveness and resilience in the sector by supporting innovation and reducing uncertainty around novel product types. This could improve the attractiveness of the UK market, lower barriers to entry for new firms, and support a more diverse and competitive market structure. While initial compliance costs may be a consideration, the measure is expected to encourage long-term investment and innovation.	Supports
International Considerations: Does the measure support international trade and investment?	The UK FPR is not expected to significantly impact international trade or investment. The requirements are broadly aligned with the EU Fertilising Products Regulation (EU FPR), which should minimise friction for imports and exports between the UK and EU markets. This alignment is particularly important given that the EU is the UK's largest trading partner for fertilisers. It helps maintain regulatory predictability for international suppliers and investors. While some additional compliance steps may be required for non-EU suppliers, these are not expected to create material barriers. The regulation may also provide greater clarity and consistency over time, which could support international investment in UK-based production of compliant fertilising products.	Neutral

<p>Natural capital and Decarbonisation:</p> <p>Does the measure support commitments to improve the environment and decarbonise?</p>	<p>The UK FPR is expected to support improvements in natural capital and contribute to decarbonisation objectives. By encouraging the use of organic and waste-derived fertilising products, the regulation promotes nutrient recycling and reduces reliance on synthetic inputs, which are typically more carbon-intensive to produce. It also introduces clearer contaminant limits, supporting soil health and reducing environmental risks. While quantitative estimates of greenhouse gas reductions are not currently available, the measure aligns with the Environmental Principles Policy Statement and supports delivery of legally binding targets under the Environment Act, particularly those related to soil quality and resource efficiency.</p>	<p>Supports</p>
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Monitoring and evaluation of preferred option

265. As part of the Monitoring & Evaluation (M&E) strategy, a theory of change⁹⁵ has been developed. This details a comprehensive set of activities, outputs, and outcomes we expect to see at different points in time alongside the assumptions. Key elements of the strategy include:
- a) Monitoring of indicators to track progress;
 - b) Assessing long term impact of the regulation change intended outcomes through a post implementation review.
266. A full post-implementation review (PIR) would be conducted in year 5 following the initial implementation. This allows sufficient time for the policy to embed, for measurable outcomes to emerge, and for robust data collection. The PIR will assess whether the regulation has achieved its intended objectives, identify any unintended consequences, and inform decisions on whether amendments are required.
267. The PIR will evaluate whether the original objectives, such as improving nutrient use efficiency, reducing environmental impact, and supporting innovation in fertiliser products have been met. This will involve comparing observed outcomes against baseline data, stakeholder feedback, and cost-benefit analysis.
268. For all activities, outputs, and outcomes, indicators and key metrics will be developed using a 3-step process: defining indicators, identifying existing datasets and collecting new data and evidence via consultation. The preliminary development of potential indicators and metrics for output and outcomes can be found below in Table 18.

Table 18: Indicators and metrics for monitoring and evaluation

Category	Output	Outcomes	Indicators	Metrics
Domestic food production and security.	Retained domestic food production.	Maintain crop yields. Retained food sufficiency.	Yield per hectare of major domestic crops. Food production to supply ratio.	Food Production to Supply Ratio ⁹⁶ Change in fertiliser application rate per unit of yield.
Increased productivity and profitability of agriculture.	Increased nutrient use efficiency.	Reduced input per unit of crop yield.	Agricultural productivity (input of fertilisers).	Total fact productivity

⁹⁵ [Fertiliser FPR Theory of Change](#)

⁹⁶ The farmgate value of raw food production divided by the value of raw food for human consumption.

Category	Output	Outcomes	Indicators	Metrics
	Economic viability of agriculture	Reduced nutrient losses from agriculture.	Fertiliser application rates and costs. Farm profitability.	agriculture (input of fertilisers) ⁹⁷ . Farm business income. Change in fertiliser application rate per unit of yield.
Environmental impact.	Reduced environmental impact from fertilisers.	Reduced nutrient loss from agriculture. Improved water, air, and soil quality.	Soil nutrient levels on farms. Nutrient concentrations in waterbodies (nitrates, phosphates). Nitrous oxide emissions from agriculture.	Change in soil nutrient levels (kg/hectare). Waterbody nutrient concentrations mg/L ⁹⁸ . Emissions of nitrous oxide from UK agriculture by source (MtCO ₂ e). ⁹⁹
Fertiliser product development and innovation.	Development and production of innovative and recycled fertiliser products.	Greater diversification of fertiliser products on the market which are less polluting or less polluting in their creation.	Percentage of fertiliser products in the UK derived from organic materials. Availability of fertiliser products on the UK market.	Volume of inorganic fertiliser produced and application rates. Change in emissions for production of fertilisers (MtCO ₂ e). Number of new fertiliser products registered. Sales growth rates of new fertiliser products compared to EU growth rates.

269. There are several regularly updated official data sets that will facilitate monitoring the indicators and impact of this regulatory change. The below data sources cover the indicators and metrics listed in Table 18.

⁹⁷ Total fact productivity (TFP) is a measure of how well inputs are converted into outputs, giving an indication of the efficiency and competitiveness of the agricultural industry.

⁹⁸ The agricultural contribution is estimated as 61% of the total nitrate-N loading to rivers. Agriculture in the UK 2022 Chapter 11: Agri-environment, DEFRA

⁹⁹ The majority of agricultural nitrous oxide emissions come from soils, particularly as a result of nitrogen fertiliser application.

- a) Agriculture in the United Kingdom – Chapter 11: Agri–environment¹⁰⁰ and Chapter 14: The Food Supply Ratio chain.¹⁰¹
 - b) The Farm Business Survey provides information on the physical and economic performance of farm businesses in England and Wales.¹⁰²
 - c) Total factor productivity of the agricultural industry. Annual statistics giving an indicator of the long–term performance of the UK agricultural industry.¹⁰³
 - d) The annual British Survey of Fertiliser Practice¹⁰⁴ monitors fertiliser application rates and practices.
 - e) The ONS publishes a UK business: Activity, size and location¹⁰⁵ dataset annually. This can be used to monitor changes in the size and composition of the fertiliser manufacturing sector.
 - f) Agriculture Agri–climate report 2023 provides annual summary statistics of emissions from Agriculture.¹⁰⁶
 - g) Defra records a variety of air quality¹⁰⁷, water quality¹⁰⁸, and soil nutrient¹⁰⁹ data that can help assess potential impacts on negative externalities arising from changes in fertiliser production standards.
270. The new regulation will be implemented in stages for different fertilising products and component materials. The first stage will see traditional fertilisers prioritised for implementation since further research and policy development are required in relation to other types of fertilising products and materials. In subsequent stages, compost and most digestate, fresh crop digestate, inhibitors, animal byproducts, and other new fertiliser components will be brought into scope. An evaluation following the implementation of the first stage will allow for ongoing assessment, facilitate adjustment for subsequent stages, and enhance overall rollout execution by reducing impact for suppliers and users.
271. A first–stage evaluation would focus on listening to stakeholders as part of assessing early impacts and monitoring the existing datasets in paragraph 269.
272. The initial evaluation would be to establish and agree that the proposed metrics measure what is required and can be used to form a baseline.

¹⁰⁰ Department for Environment, Food & Rural Affairs (Defra), 2025. Chapter 11: Agri-environment. In: Agriculture in the United Kingdom 2024. <https://www.gov.uk/government/statistics/agriculture-in-the-united-kingdom-2024/chapter-11-agri-environment>

¹⁰¹ Department for Environment, Food & Rural Affairs (Defra), 2025. Chapter 14: The food chain. In: Agriculture in the United Kingdom 2024. Available at: <https://www.gov.uk/government/statistics/agriculture-in-the-united-kingdom-2024/chapter-14-the-food-chain>

¹⁰² Department for Environment, Food & Rural Affairs (Defra), 2025. Farm Business Survey. <https://www.gov.uk/government/collections/farm-business-survey>

¹⁰³ Department for Environment, Food & Rural Affairs (Defra), 2025. Total factor productivity of the agricultural industry. <https://www.gov.uk/government/statistics/total-factor-productivity-of-the-agricultural-industry>

¹⁰⁴ Department for Environment, Food & Rural Affairs (Defra) and Scottish Government, 2025. British Survey of Fertiliser Practice 2024. <https://www.gov.uk/government/statistics/british-survey-of-fertiliser-practice-2024>

¹⁰⁵ Office for National Statistics (ONS), 2025. UK Business: activity, size and location 2025. <https://www.gov.uk/government/statistics/uk-business-activity-size-and-location-2025>

¹⁰⁶ Department for Environment, Food & Rural Affairs (Defra), 2024. Agri-Climate Report 2023 <https://www.gov.uk/government/statistics/agri-climate-report-2023>

¹⁰⁷ Department for Environment, Food & Rural Affairs (Defra), 2025. Air quality statistics: an annual update on concentrations of major air pollutants in the UK. <https://www.gov.uk/government/statistics/air-quality-statistics>

¹⁰⁸ Department for Environment, Food & Rural Affairs (Defra), 2024. Water quality and abstraction statistics. <https://www.gov.uk/government/collections/water-quality-and-abstraction-statistics>

¹⁰⁹ Department for Environment, Food & Rural Affairs (Defra), 2024. UK and England soil nutrient balances, 2023: annual estimates of inputs and offtake of nitrogen and phosphorus on agricultural land. <https://www.gov.uk/government/statistics/uk-and-england-soil-nutrient-balances-2023>

Minimising administrative and compliance costs for preferred option

273. The proposed UK Fertilising Product Regulations (UK FPR) aim to streamline and harmonise the existing regulatory framework, reducing complexity and administrative burdens for businesses and individuals involved in placing fertilising products on the UK market. Monetisation of these impacts may be possible following the consultation, during which fertiliser producers will be asked how much they expect the UK FPR to decrease their administrative costs, if at all. The possibility of future monetisation will depend on the range of evidence submitted by the consulted parties; for this and the below, monetisation may be possible but still highly uncertain if evidence is insufficient to produce strong assumptions.
274. Existing fertilisers legislation spans multiple regimes and sets out definitions, compositional limits, and labelling requirements. However, its scope is limited, particularly for newer product types such as inhibitors and plant biostimulants, which often lack specific regulatory requirements. This results in an imbalance of information between manufacturers and end users. The UK FPR will introduce consistent labelling and testing requirements across all fertilising products, helping end users make more informed decisions and reducing the need for businesses to navigate fragmented regulations. The consultation will ask respondents for their opinions (agree/disagree) on testing and labelling requirements and for any relevant evidence informing that opinion.
275. All fertilising products placed on the market under UK FPR will need to meet general labelling requirements. Products marketed with a UKCA mark will also need to meet specific requirements based on their claimed function. For manufacturers of products that previously had limited requirements, this may introduce new compliance activities, such as testing and efficacy validation. However, the overall streamlining of regulation is expected to minimise additional burdens compared to the existing domestic baseline.
276. Businesses engaged in the importation and export of fertilisers will need to familiarise themselves with the new UK FPR. This includes time spent reading the regulation, training staff, and updating documentation. Importers will benefit from the UK FPR's alignment with the EU Fertilising Products Regulation, which simplifies import procedures and reduces administrative overheads. Exporters will also benefit from improved efficiency and predictability when accessing the EU market. The consultation will ask respondents about their current importing behaviour and how they expect this to be affected by the UK FPR. This can be used alongside consultation evidence around administrative costs to monetise the impact on importing behaviour.
277. Although increased competition from EU producers may result, UK manufacturers will gain from a clearer route to market and reduced delays in bringing new products to market. The UK FPR will also reduce switching costs for traders, as fertiliser contracts are typically agreed on an annual basis, allowing time to adjust to the new requirements.
278. For manufacturers, ongoing compliance activities will vary depending on the product type and risk level. Simpler products will be regulated through a streamlined conformity assessment framework, while higher-risk products may require more detailed technical documentation. The phased implementation of the regulation will help manage the transition and reduce immediate burdens. The consultation will ask respondents for their opinions on and any evidence relating to requiring all fertilising products to meet general product requirements and label requirements, and UKCA marked products needing to comply with specific requirements in relation to the product's claimed function and component material.
279. Overall, while some transitional and compliance activities are expected, the harmonised framework and alignment with existing EU standards are designed to minimise administrative burdens and support a more efficient and transparent fertiliser market in the UK.