Environmental standards for UK agriculture in a new trade policy framework

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The briefing addresses the need for a new approach to environmental standards in trade policy relating to agri-foods, primarily in relation to the UK which is now developing its own policy outside the EU. Such standards can be expected to play a more prominent role in the coming decades as the food system adjusts to progressively more stretching sustainability requirements, as part of an economy-wide effort to deliver on climate, biodiversity, and other environmental commitments. Despite this, there has been relatively little detailed discussion about how environmental standards can be addressed in a new UK trade policy[1].

There is no current list of environmental standards that might be of particular concern for trade in agri-foods. Those of greatest relevance include not only product standards but rules that lay down how agricultural production takes place and how land and other resources are used on farms. It is clear that the starting point for a sustainable policy is to ensure that all existing domestic standards are maintained. Building on this, it is helpful to make a distinction between product and production standards on the one hand, and domestic and import standards on the other. This four-way categorisation can be captured in the matrix below.

[1] One exception is the recent Part One Report from the National Food Strategy [1] https://www.national-foodstrategy.org/partone/

	Product standards	Production standards
Domestic standards	Apply to products for sale and produced in the UK (e.g. maximum pesticide residue levels in food)	Apply to domestic means of production (e.g. maximum levels of fertiliser use)
Import standards	Apply to imported products for sale in the UK (e.g. permissible inorganic fertilisers and pesticides)	Apply to means of production of imported goods (e.g. organically produced food)

To take policy forward it would be helpful to identify the environmental standards that are potentially most affected by developing trade relationships, preferably on the basis of agreed criteria and robust evidence. These standards would then be the priority for application in some form to imports. Three possible criteria for distinguishing an explicit set of "core" environmental standards are discussed and illustrated with a number of examples of particular relevance to agriculture that are now in place in the UK.

A number of different mechanisms could be used, initially within FTAs, to secure the future of such "core" standards. All would be more effective with supporting action to improve the evidence base and governance of trade policy. The options include a voluntary approach based on the use of labels, reinforcing the status of current standards in domestic law, the use of differential import tariffs and the introduction of new environmental standards applying to imported agri-foods. Close scrutiny and evaluation of these options and the way they could be implemented is now needed.

A preliminary review suggests that some have distinct advantages, including the option of introducing a new set of environmental standards on imports. Their main purpose would be to uphold core domestic standards but there is also a case for restrictions on imports associated with particularly damaging environmental practice affecting the global commons, such as unsustainable deforestation.

Opinions over whether new import standards could be challenged successfully under WTO rules vary but there are interesting precedents and the EU has been proactive in defending several of its own standards through the control of imports. With gathering global momentum to tackle climate change and the loss of biodiversity the time for supporting rising environmental standards in a more effective way via transparent and strongly grounded trade policy surely has arrived.

Introduction

The UK has begun developing its own trade policy outside the EU and is active in seeking new Free Trade Agreements (FTAs), with a range of countries. Three of these, Australia, New Zealand and the USA, are major exporters of agricultural commodities. This has triggered a sharp growth in interest in the wider implications of new trade agreements and the influence they may have on future policy within the UK. Amongst those most in the spotlight are the present and future standards that apply to food, health, animal welfare and the environment.

Food safety has been particularly high profile in the recent debate about the potential consequences of new trade agreements but there are other important strands in the web of standards relating to food production. Environmental standards are amongst the most critical of these, especially given the influence they are expected to have in the coming decades as the food system adjusts to progressively more stretching sustainability requirements, as part of an economy-wide effort to deliver on climate, biodiversity, and other environmental commitments. There are likely to be significant linkages between environmental standards applying to food production and land management on the one hand and the trade in a range of commodities on the other.

Despite this, there has been relatively little detailed discussion about how environmental standards can be upheld, as the Government has committed to do, or how they can be advanced in future if conflicts with trade policy arise, for example as a result of new agreements with countries with lower standards.

At present, environmental standards for agriculture have a very limited role in agri-food trade policy. This Briefing starts with an outline of why there are concerns about this deficit before considering the different forms of standard in place and which might be considered "core" in a trade policy context. Different approaches to protecting these standards are discussed in a final section.

Why is there concern?

There is a tension between seeking to apply high environmental standards in any one country and allowing trade to occur in the absence of environmental filters or restraints. The agri-food sector is no exception. The UK has a range of environmental standards applying to the management of farms and rural land and this is likely to be extended over time in the light of new domestic and global environmental commitments, for example to reach net zero carbon dioxide emissions in the UK by 2050. On the other side however, there are scarcely any corresponding environmental requirements relevant to agri-foods in trade policy, particularly with respect to the standards required of imports This contrasts with the much more developed set of food safety standards that imports have to meet.

There are at least two potential reasons for introducing environmental filters on imports, both relating to the aim of reducing the country's overall environmental footprint, a significant share of which derives from agri-food imports.

The first is to uphold the purpose of domestic environmental standards by regulating imports that do not meet these standards. This is necessary to avoid the environmental costs of

production being transferred abroad to exporting countries and UK producers being disadvantaged by competition from imports produced to lower standards. If in future the UK market is opened more widely to exporters of agri-foods produced to less exacting standards than those applying in the UK then the potential for domestic producers losing market share to lower-cost imports is increased, especially where imports have a significant cost advantage. The likely consequence is a declining share of agri-foods being produced to high standards, worse environmental outcomes, UK producers being incentivised to produce to lower standards to save costs where this is permitted and, in addition to this, potentially lower incomes for UK farmers. A similar issue arises with respect to farm animal welfare where some UK standards, (restricting the use of sow stalls for example) have been higher than those in countries exporting on a significant scale to the UK market, putting domestic producers under pressure.

The second and complementary role of environmental filters on imports is to allow appropriate regulation of imports of agri-foods the production of which is authoritatively shown to be environmentally destructive, for example by causing unsustainable deforestation or other damage to the global environmental commons. This applies even if this particular threat does not arise in the importing country and so there is genuinely no need for directly corresponding domestic standards on the topic.

The lack of environmental filters on imports and generally low priority accorded to environmental policy objectives in agri-food trade policy is especially relevant now because the UK has left the EU and is embarking on new trade policies and relationships. The context for agriculture and for environmental standards is changing, bringing potential threats and opportunities for the farmed environment.

One risk arises from the demands that are likely to be made on the UK by the US and others in the course of negotiations over Free Trade Agreements (FTAs). Amongst the formal objectives set by the US Trade Representative for negotiating an FTA with the UK there is one seeking to remove "unwarranted barriers that block the export of U.S. food and agricultural products"[2]. Besides this, there is uncertainty about whether the UK will be more subject to challenge over current standards by trading partners than the EU has been and, separately, about the political durability of current standards in the UK outside the EU. If the terms of trade for UK farmers, with the EU or other major production regions, become significantly more challenging, there may be pressure for some relaxation of standards or of their enforcement to reduce competitiveness pressures faced by domestic farmers. Even if this pressure leads to a lowering of standards in only one part of the country because powers in this field have been devolved within the UK, it could lead to pressures in the other constituent countries because there will be a largely unrestricted internal market in agri-foods[3] within the UK. Greater certainty about the approach to the environment in trade policy at this stage would be particularly helpful in the devolved administrations since trade policy is reserved to the national government.

Aside from risks there are also opportunities. Now would be the time to bring the environmental dimension into what could be a fresh policy direction, potentially incorporating innovative ways of addressing an issue which is important for other countries as well as the UK. This could form part of an agreed approach between central government and the devolved authorities in

[2] United States-United Kingdom Negotiations: Summary of Specific Negotiation Objectives, USTR, February 2019, p2 https://ustr.gov/sites/default/files/Summary_of_U.S-UK_Negotiating_Objectives.pdf

[3] Bearing in mind the particular arrangements for goods moving between Northern Ireland and the rest of the UK.

the four constituent countries, reducing the scope for tension since powers in the environmental field have been devolved whereas trade policy is reserved to the national government.

The need for environmental standards applying to agriculture

A considerable number of environmental standards apply to agriculture and associated land management in the UK, as elsewhere in Europe. There are clear reasons for this since agriculture has a large environmental footprint, including impacts on soil health and carbon sequestration, water quality and quantities, wildlife species and habitats, valued landscapes, greenhouse gas emissions and levels of air pollution. Like many other sectors agriculture relies on a chain of imported inputs, such as inorganic fertilisers and animal feed and they too have a significant environmental impact. Unlike other economic sectors, agriculture occupies about 70% of the land area in the UK so the way this territory is managed is critical to meeting a range of key national environmental goals, such as the protection of many species of wildlife. Action to control diffuse pollution from agricultural sources is indispensable in most rural catchments if targets for cleaner water are to be met. Agriculture accounts for 25% of the phosphate, 50% of the nitrate and 75% of the sediment loadings in the water environment in England[4].

In a densely populated country with limited land availability and a large food requirement, most farmland is intensively managed where conditions allow, thus creating a corresponding level of environmental pressure. In addition, many farms are relatively close to urban areas, particularly by comparison with Australia or the US for example so the impact of pollutants such as ammonia or pesticide drift on local human populations can be greater. The correspondingly high level and detail of regulation is not surprising in this context and it seems unlikely that the level of public support for high standards will diminish.

Even with existing standards it is proving difficult to meet agreed strategic environmental objectives, such as to reverse the decline of wildlife. There is a very large gap between the current state of rivers and lakes in England, where only 14% are rated as having good ecological status according to recent data and the formal commitment under current legislation to achieve that standard by 2027.[5] Agriculture is one of the sectors where action to reduce pollution is particularly necessary.

At present the great majority of environmental standards affecting agriculture in the UK apply to domestic producers and mostly are derived from EU legislation, which has aimed to set up a "level playing field" for farmers throughout the Union as well as improving the environment. Very few environmental standards are in place to regulate agricultural imports,[6] so there is an absence of mechanisms to protect UK producers from imports from areas with lower production standards.

[4] https://www.gov.uk/government/publications/25-year-environment-plan

[5] Environment Agency data reported in the Times 18/10/20.

[6] The EU has invested considerable effort in agreeing common standards for food safety, animal welfare and the environment partly to ensure the lack of barriers to trade between Member States

For all these reasons high standards are required and in place to an extent that may not be replicated in some of the countries that aim to export more agricultural produce to the UK in the years ahead, such as Australia, New Zealand and the United States.

The direction of travel in the UK is likely to be a raising of a number of standards. For example, in future it seems highly likely that there will be new requirements of land managers related to meeting the goals of the 25 Year Environment Plan in England and its equivalents in other parts of the UK. The UK's commitment to Net Zero carbon emissions will require "a transformation of land use" in the words of the Committee on Climate Change and significant changes in agricultural practice, some of a relatively technical kind[7]. The greater use of controlled release fertilisers would be one example. It is difficult to imagine meeting these goals without increases in standards, underlining the importance of a trade policy that supports such a transformation.

It would be highly unhelpful to have the present standards weakened or a brake imposed on the introduction of new standards as the need arises simply to satisfy the preferences of trade partners. Some of these, especially outside Europe, are more reticent than the UK or EU about setting binding environmental standards bearing on food production and land management. In the US, the Trump administration took this a stage further by adopting an active programme of deregulation with a sizeable environmental component[8].

Environmental standards in trade policy

Current environmental standards applying to agriculture can be divided into different categories for trade policy purposes. Some are product standards, setting out the acceptable characteristics of individual products, such as agricultural crops or pesticides. An environmental product standard might prohibit the presence of lead in petrol or limit the concentration of heavy metals in inorganic fertiliser for example. Product standards are widespread in trade policy and law.

However, in the case of agriculture a large portion of the environmental rules bearing on production and the associated management of farmed land are concerned with the management of the resources required rather than the attributes of specific products. Examples might include limits on the amount of nutrients that can be applied to land, restrictions on the application of fertilisers in zones subject to water pollution and limits on air pollutants permissible from an intensive pig or poultry farm. Most of these rules can be considered production standards since they address the methods by which something is processed or produced, including restrictions on the resources that can be deployed. In the parlance of the WTO, these standards generally fall into the category of non-product-related processes and production methods, known as PPMs. Since it is usually not possible to detect how goods have been produced when they are inspected at a national border these standards raise different issues for trade policy and they are applied much less frequently.

[7] https://www.theccc.org.uk/publication/land-use-policies-for-a-net-zero-uk/

[8] As tracked by the Brookings Institute https://www.brookings.edu/interactives/tracking-deregulation-in-the-trump-era/

Building on this, it is helpful to make a distinction between product and (in shorthand) production standards on the one hand, and domestic and import standards on the other. This four-way categorisation can be captured in the matrix below.

	Product standards	Production standards
Domestic standards	Apply to products for sale and produced in the UK (e.g. maximum pesticide residue levels in food)	Apply to domestic means of production (e.g. maximum levels of fertiliser use)
Import standards	Apply to imported products for sale in the UK (e.g. permissible inorganic fertilisers and pesticides)	Apply to means of production of imported goods (e.g. organically produced food)

The starting point for a sustainable policy is to maintain all existing domestic standards, those in the top line of the matrix. The concern now is that they are not supported to any significant degree by measures in the bottom line given the virtual absence of environmental production standards applying to agri-food imports. The lower right-hand box in the table is largely empty, with very few exceptions, such as the requirements imposed by EU law on importers of organic produce from other countries. This is the policy area of particular importance for the farmed environment, both with respect to maintaining current environmental standards and raising them over time. The introduction of more demanding environmental standards within the UK could accentuate this asymmetry unless action is taken.

The form and focus of current environmental standards

The standards of most relevance here are embodied in binding rules or guidelines based on statute. Most, although not all, of these derive from EU legislation and very few from international environmental agreements.[9] For this reason UK standards are broadly similar in the 27 EU countries. While a sizeable share of imports of temperate agri-food products continue to be derived from the EU this provides UK farmers and consumers with some level of protection from imports produced to lower standards. However, this could change if new FTAs result in a larger share of imports from countries with less environmental ambition.

In addition to statutory standards, there are some environmental standards that apply solely to farms making claims for financial support from DEFRA and its equivalents in the other parts of the UK, which were inherited from the CAP in the years before Brexit. These are cross-compliance rules applying to claimants for support, who are the vast majority of UK farmers. Many cross-compliance rules simply refer back to binding legislation but there are some that add an additional obligation e.g. for soil management. Since these rules do apply in practice to nearly

[9] One notable exception is the ceiling on national emissions of ammonia, the vast majority of which arise from agriculture. This derives from the UN Economic Commission for Europe Convention on Long-Range Transboundary Air Pollution, which is a regional rather than a global agreement.

all farmed land in the UK they are relevant to the maintenance of standards, even though their legal status is different (and in a few cases their future is in question, at least in England, given the prospective end of cross-compliance within a few years).

Given their origin, most important standards are broadly similar in the four countries of the UK at the moment, although there are certain differences, including for cross-compliance. Differences may well grow over time since powers in this area are devolved and the need to comply with evolving EU law has been removed.

In terms of trade policy and fair competition between producers in different countries it is statutory standards that are of central importance. Nonetheless, market-based standards also play a significant role in influencing the environmental aspects of production. Most UK farmers need to respect standards imposed by their markets over and above those specified in law; many retailers have their own standards for maximum pesticide residue levels in food that they are willing to buy for example and they enforce these actively. Processor and retailer standards and those laid down in prominent voluntary certification schemes, such as LEAF or Red Tractor, are outside the scope of this report but their influence could grow in the coming years, especially with increased consumer awareness of the environmental profile of different food products. The presence of market-based standards may also help to increase the level of compliance with certain statutory environmental standards. Compliance with some standards is inadequate at present, not only in the UK but in other countries as well, although this is difficult to document authoritatively and an area where significantly greater monitoring and independent assessment is required[10].

Environmental standards relate to food production on farms and the costs of compliance in different ways. Some are very specific to a particular type of production for example the Industrial Emissions Directive requirements applying to larger intensive pig and poultry farms. Most standards however refer to the management of resources, equipment and inputs on the farm, irrespective of the crops being grown or what else is being produced. Limits on the amount of fertiliser and manure that can be applied to land are one example. Some requirements apply specifically to agriculture, such as authorisations for pesticides that can be applied to particular crops, others are more generic and apply to all land managers or to a wider set of actors.

For this reason the relationship between the environmental standards in place and the exact methods used by farmers in producing specific products can be more variable and less straightforward to map out than for the products of widely used manufacturing processes. However, that does not mean that environmental standards are less significant either in shaping the forms of management and production adopted on farms or the costs of compliance.

Trade sensitive standards

Given that there are a considerable number of environmental measures within the categories sketched above, the question arises as to which of these are potentially most affected by developments in trade policy. These could be considered 'trade sensitive' for a number of different reasons, for example if they could be undermined in practice or even eliminated entirely as

[10] For a discussion of some of the issues in England, see Baldock, D. and Hart, K. (2020), Risks and Opportunities of a post-EU environmental regulatory regime for agriculture in England, Institute for European Environmental Policy.

a result of a new trade agreement. Standards are more vulnerable to being undermined if they have a significant impact on the costs of UK production of traded agri-foods, (either generally or for specific products), if there are differences between them and standards prevailing in countries exporting to the UK, and if the competitiveness of British farmers is at risk because of this. Where standards applying to agriculture are of pivotal importance in meeting environmental objectives this sensitivity is all the greater.

It would be disproportionate to expect all countries trading in agricultural goods to have exactly the same standards and nor would it be appropriate given different farming and environmental conditions, forms of production, environmental policy goals etc. At the other extreme, open trade in agricultural products with no reference to the environment could be expected to give a cost advantage to those producers in countries with less demanding standards (although this would need to be demonstrated rather than necessarily assumed). Consequently, foreign suppliers would gain a larger share of overall production at the expense of farmers in more regulated countries and the balance of trade would move against the country with the higher standards. Other things being equal this is likely to raise the overall environmental cost of food production, increase overall transport requirements and associated environmental costs and discriminate against farmers adhering to higher standards.

Hence, as noted earlier, there is a need to introduce counterbalancing measures into trade relationships to stop these perverse outcomes but without seeking to embark on a protectionist course seeking to advantage domestic producers. Care would need to be taken to avoid undermining other objectives such as food security and development goals. The aim would not be to obviate the comparative advantage that some countries may have in food production. There can be an environmental element in this comparative advantage. Countries with plentiful water supplies for example may have an advantage in certain products over those with arid conditions and a corresponding need to utilise irrigation from limited water sources. The environment would not be served by having exactly the same stringency of regulations over water extraction and irrigation in countries with different water resources, production patterns and environmental objectives.

In this context there is a good case for ensuring that a set of particularly important standards are both maintained in the course of new trade arrangements and given space to develop as required as new environmental objectives are adopted over time. These standards could be considered as "core" on the basis of agreed criteria, preferably set by an independent expert body through a transparent process. Such a body must have the necessary expertise, credibility and freedom from subsidiary objectives that might confuse its decisions. Parallel standards could be defined in related areas such as farm animal welfare. (There may be some overlap here with the proposal for a role for "core standards" in UK trade policy in the interim National Food Strategy Report[11], although the model proposed is different).

[11] https://www.nationalfoodstrategy.org/wp-content/uploads/2020/08/6_NFS_Report_spv_Ch5_SecurityTrade.pdf

Such criteria would apply to standards as expressed in legislation[12] applicable to food production and associated land management in the UK and would be used to identify key requirements specified in legislation (called "measures" below for simplicity).

These **criteria** could be:

- **The environmental significance of the measure** whether in relation to purely domestic commitments or global ones, such as for climate mitigation under the Paris Agreement. If a standard applicable to agriculture is important for the overall delivery of a key environmental outcome, such as clean water, (which applies in the UK where the control of diffuse pollution from agriculture is essential to meet the goal of good ecological status in water bodies) then it would fall into this category. This criterion is needed to ensure that overall environmental objectives in the UK are not undermined by the provisions of trade agreements or by the consequences of the trade itself. Most current standards apply to the UK as a whole, although there are variations noted earlier, and questions of both jurisdictional and geographical scope would need to be addressed.[13]

- **The extent to which the measure imposes constraints** on the management of agricultural land and the production of food on agricultural enterprises. Measures that have a substantive bearing on a significant proportion of agricultural production and of producers are most likely to be critical in this sense. Measures that have a scant impact on farm management or apply only to specified sensitive locations (e.g. a prohibition on farm buildings near a sensitive habitat) would not be relevant. Some measures are significant for a particular sector of production, such as the Nitrate Directive rules which are particularly important for dairy farms in many areas, and these would meet this criterion. A significance test could be related to the degree to which the obligation concerned constrained production options, potentially raising costs, including any significant capital investment requirement. Where the obligations on UK farmers exceeded those prevalent in exporting countries this would be relevant, indicating potential sources of additional constraints and additional costs.

- **The extent to which the measure has an impact on the average production costs of particular agricultural products**. This would aim to capture the link between an environmental standard and specific traded commodities more sharply and hence address the potential impact on competitiveness and the pattern of trade if similar standards do not apply in countries exporting to the UK. Where environmental obligations have no discernible impact on costs then the risk of them being undermined by pressure from lower cost imports and of other perverse outcomes is relatively small. Capturing such costs can be quite challenging and the exercise would need to have realistic objectives and be framed in an appropriate way. For example, it might be most relevant to focus on the longer-term costs of abiding by a standard rather than short term adjustment costs when a new standard is first introduced.

[12] Some standards that are not legally binding on all producers may also have an important environmental role (for example GAEC requirements under the present cross-compliance regime) but because they are binding only on those receiving subsidies they have been excluded here.

[13] It is worth noting that the production of certain commodities, such as wine and fruit (raspberries, cider apples, hops etc) and indeed pigs, is quite concentrated in certain areas of the UK, as it is in several exporting countries.

The first two criteria would be fundamental in identifying core standards that needed to be upheld and protected and also acting as a benchmark for considering the equivalence of relevant environmental standards in other jurisdictions. The third criterion would be intended to help identify which measures are particularly trade sensitive, accepting that compiling evidence to make sufficiently precise linkages to the production costs of specific commodities might not be easy in a number of cases.[14]

To operationalise criteria of this kind, research work would be required, not least to identify and assess relevant environmental and farm management factors, to establish the costs of conforming to the specified standards on UK farms and the gap, if any, between domestic standards and those applying in other countries, which potentially export to the UK. A regularly updated and publicly available database would need to be created by a competent and credible independent body. This could be established relatively quickly and improved over time.

Increasingly information is becoming available about the differences in farm animal welfare standards between countries of particular relevance to the UK, for example the specification of intensive housing systems, including cage dimensions for poultry and the requirements concerning the use of farrowing crates for pigs.[15] These differences can be considerable. For pigs for example, the extensive use of sow stalls is permitted in the US in ways that it is not in the UK and growth promoting feed additives such as ractopamine are permitted unlike in the UK or other parts of the EU. These intensive rearing methods are not the only factor in play but help to explain why US pork production costs are significantly lower than those of the UK.[16]

By contrast, there is considerably further to go in establishing differences in environmental standards in a clearly evidenced and proportionate way, taking account of relevant variations in conditions between countries, both in environmental terms and with respect to the crops grown. There is no doubt that they exist. Documentation in some areas is relatively straightforward. Comparisons can be made between the permitted use of GMO crops in different jurisdictions and the pesticide active ingredients that are authorised for agricultural use and for specific crops. A total of 33 organophosphates are permitted in Australia, 26 in the US and 4 in the UK and EU. Of a group of 7 active substances considered highly toxic to bees and pollinators, mostly neonicotinoids, and so banned in the UK, all but one are permitted in Australia and the US.[17] The overall number of "active substances" permitted in the EU is likely to decline considerably in the coming years from the total of 476 in February 2020, not least because 215 are due for renewal by the end of 2021[18]. One analysis suggests that pesticides banned in the EU account for more than a quarter of all pesticide use in the USA.[19]

[14] Costs vary between farms and conditions and change over time but here is work in this area, in some cases looking at impacts in different countries. One example is Noleppa, S. 2017., Banning neonicotinoids in the European Union, An ex-post assessment of economic and environmental costs, HFFA research GmbH.

[15] See for example House of Lords European Union Committee (2017). *Brexit: Animal welfare*, 5th Report of Session 2017-19 HL Paper 15.

[16] The production cost gap is likely to vary but US production costs were reported as only half that in the UK in the Financial Times 18th June 2020.

[17] Lydgate, E. with PAN and Sustain (2020). Toxic trade. PAN/Sustain.

[18] https://risefoundation.eu/wp-content/uploads/2020/07/2020_RISE_CP_EU_final.pdf

[19] Donley, N. The USA lags behind other agricultural nations in banning harmful pesticides. Environmental health (2019) https://ehjournal.biomedcentral.com/articles/10.1186/s12940-019-0488-0

Permissible methods of applying pesticides also vary, with aerial spraying for example widespread in the US but banned other than in exceptional conditions in the EU and UK.

Examples of potentially trade sensitive environmental standards

Amongst the standards that are likely to meet at least the first two of these three criteria because of their environmental importance and impact on farm management are the following:

I. Key legislation regulating the use of **pesticides** in agriculture. In summary these include a) those regulations determining the more important active ingredients that are permissible or banned and significant conditions governing their use, and b) the associated requirements for maximum permissible pesticide residue levels (MRLs) in food. Whilst the latter group are essentially food standards, the need to comply with MRLs influences the management of crops, the extent and timing of agrochemical applications and environmental as well as human health outcomes. If current permissible MRLs are exceeded in food produced in the UK there is a potentially negative impact on human health and the additional economic hazard for British producers that they will not be acceptable on the EU market. UK legislation on pesticides is based on EU law including Regulation 1107/2009 on marketing, authorisations, Regulation 396/2005 on MRLs and Directive 2009/128 /EC on the sustainable use of pesticides.

II. Requirements concerning the acceptable level of **nutrients** (particularly Nitrogen and Phosphate) and those agrochemicals widely used in agricultural production in water bodies, fresh or saline. These underlie certain limitations on the application of manure and slurry, inorganic fertilisers and in some instances pesticides on farms. These requirements in the UK are spelled out in domestic measures derived from the EU Water Framework Directive, 2000/60/EC and the Nitrates Directive 91/676/EEC. In England the "Farming Rules for Water" set out the key requirements at farm level.

III. Requirements concerned with acceptable levels of emissions of **airborne pollutants** from agricultural operations. These include binding national ceilings on ammonia emissions, about 88% of which derive from agriculture in the UK. The targets set for 2030 in the Clean Air Strategy 2019 are central here[20]. The Strategy commits the Government to regulate to reduce ammonia emissions from farming by requiring adoption of low emissions farming techniques, by extending the system of environmental permitting to the dairy and intensive beef sectors and by regulating to minimise pollution from fertiliser use, seeking advice from an expert group on the optimal policy approach. Once in place these regulations will affect livestock farms in particular.

IV. Requirements for the protection of **wildlife species and habitats** that are applicable to farmland. A wide range of protected species occur on farmland in the UK where the area of purely natural unfarmed habitat is relatively small. Many of the semi-natural habitats protected under national legislation, including different types of species rich grassland, occur on farmland and are subject to restrictions on the forms of management that are permitted. In all four UK countries the domestic legislation derives mainly

[20] HM Government Clean Air Strategy 2019.

from the EU Birds Directive 2009/147/EC and the Habitats Directive 92/43/EEC as well as some domestic measures but there are variations on the exact requirements in different parts of the UK.

V. Requirements for **permitting** larger intensive farming operations for pigs and chickens under the Environmental Permitting Regulations. These cover emissions of dust, bio-aerosols as well as ammonia, the treatment of slurry, etc. They are due to be extended in due course to the dairy and intensive beef sectors as well.

VI. Limitations on potentially **damaging changes in land use** or management on farms. Some of these are contained in wildlife legislation (iv above), including controls on ploughing, drainage etc on protected habitat types, but others apply through different mechanisms such as Environmental Impact Assessment (EIA) requirements. Although the EIA requirements impinge relatively weakly on agricultural production, there are some areas (e.g. change of land use, or major development of intensive farming installations) where they have an effect and these could be tightened over time for example in response to more ambitious greenhouse gas emission targets for agriculture. EIA requirements in the UK derive from EU Directive 2014/52/EU.

This list is intended only to be illustrative of the major measures from an environmental and agricultural perspective and is not based on a more systematic study of the kind that would be needed to prepare a more definitive list. A full review of the complete range of standards now in place in the four countries, together with prospective changes would be required to develop a final list.

It is notable that most of these standards concern the methods of production and management of land in agriculture rather than constituting product standards, with implications for the way that they would need to be addressed in trade policy.

How to protect these standards?

Several different routes and specific mechanisms could be adopted for this purpose, with varying implications for trade policy and compatibility with international trade law. Some could be deployed more rapidly than others. The aim should be to put in place effective mechanisms that become an integral part of UK trade policy, whether expressed in multilateral policies, in the negotiation of FTAs or in the development of WTO law.

The immediate challenge of FTAs. In the short term, given that the UK currently is engaged in negotiating a number of FTAs with potentially significant implications for trade in agri-foods, there is particular value in focusing first on approaches that could be applied in or alongside bilaterally negotiated trade agreements. A key principle of the GATT and the WTO is that trade restrictions should not go beyond what is necessary to achieve "legitimate" objectives, including the protection of human, animal and plant health. Where FTAs are developed, however, the parties may choose to accept requirements going beyond this and need not feel constrained in addressing environmental concerns in relatively novel ways if necessary. This is particularly relevant to some of the options discussed below.

A first step is to ensure that new FTAs do not contain provisions (or entail agreements made in the margins during negotiations) that lead directly or indirectly to a weakening of domestic product or production standards in order to accommodate the preferences of trade partners. This is undesirable in itself given political support in all parts of the UK for current and likely higher standards. However, certain trading partners, including the US, may push hard to obtain new markets for goods meeting lower – or different – standards, than those applying in the UK.

Some policy options in brief. A number of possible approaches to protecting environmental standards that could be adopted by the UK Government are outlined below, briefly noting some of the issues that they raise, including compatibility with trade law, and some possible strengths and weaknesses, especially in relation to meeting environmental objectives. They are not comprehensive or mutually exclusive options. All merit further examination.

I. A voluntary approach based on the use of labels on food marketed within the UK

This approach assumes that it is acceptable to have some food available at lower environmental standards and therefore either to live with the consequences for the environment and for consumers or seek to address them through some other route. Consumers would retain the choice of buying foods produced to higher standards, although they may cost more. A labelling system would aim to inform consumers of key environmental considerations applying to food that they purchased, assuming this is available in a verifiable, clear and sufficiently concise form and such labels are acceptable to traders and exporting governments.

Amongst the drawbacks to this approach is the large proportion of food consumed outside the home, approaching half the total in normal times, significantly limiting the scope of labels. Second is the difficulty of conveying a wealth of complex information in a meaningful and concise way. This is much more challenging for the multiplicity of environmental issues impinging on food than for some other topics, even in the best case where consumers make a direct purchase of foods with relatively few ingredients, the characteristics of which are set out clearly in a legible label. The many different aspects of environmental sustainability are not captured in any detail on labels; most convey only broad distinctions e.g. between organic food and non-organic or between leading certification schemes like LEAF and Red Tractor. It is difficult for consumers to discern the environmental footprint of a food and in practice they appear to rely on a web of environmental regulations and supporting efforts to be assured of the sustainability of agriculture; they assume that food which is legally marketable is produced to acceptable standards – in effect, that Government is doing its job of choice-editing for them.

II. Reinforcing the status of current domestic standards

This could be achieved by the insertion of a legally binding non-regression requirement applying at least to core environmental standards, or to a broader suite of standards, in relevant domestic legislation. This would have the merit of signalling to trade partners that the Government was not free to trade away current standards in the course of negotiating FTAs, or in related "side bargains"[21]. Since the EU is known for very rarely weakening adopted standards

[21] See Institute for Government (2020) https://www.instituteforgovernment.org.uk/publications/trade-regulation-after-brexit

it is less exposed to pressure from trade partners to do so than the UK will be, since it has less economic clout and a palpable eagerness to sign new deals, making it more vulnerable to pressure on standards. This commitment could be combined with any of the other approaches outlined here and would form a helpful foundation to options iii and iv below. It could be introduced into law relatively quickly.

One option would be to include such a binding requirement within the Internal Market Bill, which would have the merit of applying throughout the UK and would play a role in preventing conflicts that would arise if one country within the UK reduced a standard in future whilst the others chose not to. It could be reinforced by a requirement in relevant UK trade legislation for the Government not to concede any downward modifications to the relevant environmental legislation in the course of any trade negotiations, whether bilateral or multilateral.

In the particular case of the EU, if effective non-regression provisions could be agreed and embodied in an environmentally forward-looking EU/UK FTA, this could complement domestic legislation with regard to a major portion of core standards. Assuming it was a reciprocal agreement it would bind the EU as well, giving added stability to the standards and comfort to UK farmers that they remained in a reasonably level playing field in this respect.

As well as creating a legal barrier to pressure from trading partners for the UK to lower standards, an environmental non-regression provision would give certainty domestically. It would provide a clear foundation for meeting future environmental commitments within the UK, such as the 2050 date for Net Zero greenhouse gas emissions and the UK Prime Minister's new ambition for 30% of England's land area to be protected for nature. In addition, it would implement Conservative Party manifesto commitments to maintaining high standards.

III. Applying conditional tariffs on imports in relation to environmental standards

This approach would involve the UK introducing differential tariffs for imports of certain agri-foods conditional on whether they meet certain environmental standards, seeking to penalise the less sustainable imports by means of higher tariffs. The aim would be to prevent the relevant environmental outcomes (in the UK or globally) from being undermined. There are several possible ways of doing this, for example using different tariff bands or having a tariff reduction only for certain sustainable products, or possibly using tariff rate quotas (TRQs).[22] One variant of this model is the proposal of the Part One report of the National Food Strategy that the Government should only agree to cut tariffs in new trade deals on products meeting UK core standards, referring specifically to imports of livestock products on which tariffs are relatively high.[23]

This option could perhaps be introduced more rapidly than requiring imports to meet standards equivalent to core environmental standards in the UK and conceivably could be deployed on an interim basis while longer term measures are developed. However, it is not without difficulties in political terms and from the perspective of trade law could be seen as positively discriminating against imports in order to benefit domestic producers. Differential tariffs may

[22] See for example Wilkinson, D. Defending British Farming Standards in Post-Brexit Trade Negotiations. Euro Choices volume 19, Issue 1 May 2020. https://doi.org/10.1111/1746-692X.12249
[23] National Food Strategy. Op cit

be effective in largely excluding imports in certain conditions and where tariffs are high enough to allow substantive differences between the tiers. However, they run the risk of being negotiated away over time and are effective only in certain market price conditions that may prove either transient or unpredictable or both. Nor is it entirely clear how they would be determined with any degree of objectivity. Would they be simply a deterrent or set at a level to reflect cost differences between different production conditions in some way?

Perhaps most importantly, without great clarity there is a risk of blurring the line between commercial and genuine public interest environmental considerations. Since they are less than a clearly principled defence of a public policy objective per se they appear a weaker means of defending a standard that the importing country intends to uphold.

IV. The introduction of new environmental standards on imported agri-foods

In principle binding environmental requirements could be agreed to regulate imports of agri-foods, according to whether or not they met environmental standards equivalent to a core set applying in the UK. The standards would cover process and production methods (PPMs) as well as product standards. This would enable the prevention of the import of agri-foods falling below the set of core standards.

This approach might begin within a group of important FTAs before becoming more generalised. Provisions could be included in an FTA by means of a special chapter on the environment or on agri-foods for example. A robust evidence base would be required and mechanisms would have to be set up to verify the presence of sufficiently rigorous domestic environmental requirements in exporting countries in order to establish equivalence. Identical standards would not be required. Several variations on this basic model can be envisaged, including special provisions for less developed countries and possibly periods of transition before the restrictions apply fully.

This model has been effective when applied to the protection of food safety standards and could be in relation to environmental standards, accepting that there are additional complexities in the environmental case, both in design and enforcement. Significant political resistance may well be encountered from trade partners in the negotiation of agreements, although this may be considerably tempered if exporting countries were able to demonstrate rapidly that they had equivalent environmental standards of their own. The EU has adopted this approach in some instances, mainly with regard to food safety concerns. It could be taken further by the UK with respect to environmental standards, both immediately in the negotiation of FTAs with third countries and in then in the development of more widely applicable WTO law and practice. Such an approach may not be popular with future FTA partners but the costs of ignoring public sentiment on this issue are far from trivial either.

In addition to import requirements designed to uphold core domestic environmental standards, there is the parallel but rather different case for the introduction of specifically targeted restrictions on those imports associated with particularly damaging environmental practices in the course of food production, with global consequences, such as those that threaten climate stability. In this case there would not be a reference to an equivalent domestic standard because the issue would be beyond the scope of UK environmental standards. Large scale tropical deforestation with global consequences would be an example. Such restrictions would need to

be based on verifiable evidence of both the utilisation and the significance of the damaging production methods. To be legitimate they would need to be targeted only on the agri-food produced in a particular way and removed if and when the damaging practice ceased. Such restrictions would need to be carefully designed not to be discriminatory and to avoid an escalation of retaliatory measures. Given such constraints they seem unlikely to be used very frequently but without this option there would be a hole in the armoury of trade measures to meet global as well as domestic environmental objectives.

WTO compatibility. A common objection to environmental restrictions on imports is that they are not compatible with WTO law or would be too vulnerable to challenge from other countries, especially if mandatory import standards were extended more widely beyond the confines of voluntarily agreed FTAs. There are questions about the legal acceptability of introducing standards based on PPMs in particular and some commentators do not regard them as viable.

Nonetheless there are reasons to believe that there is more flexibility and potentially openness to new approaches within the WTO framework than has existed in the past. For example, it is difficult but not prohibited per se to introduce a non-discriminatory restriction on imports based on a reasoned PPM argument referring to environmental or human health considerations and experts vary in their interpretation of the growing body of case law in this area.[24] There may be scope for making more use of the exceptions permitted under Article XX of the GATT on the basis of robust environmental evidence. However, any new restrictions need to be carefully crafted and genuinely motivated by environmental ambition rather than domestic protectionism.[25] The primary purpose of WTO rules is to prevent impediments to trade stemming from protectionism and this needs to be demonstrated. Given clear evidence and the authority of a credible independent body behind it, this should be possible. Discussion with trading partners is clearly necessary however and time will need to be allowed both to adjust to new conditions and to set up the necessary machinery to enact new requirements, such as the verification of standards in exporting countries

There are relatively few examples of binding import standards based on environmental PPMs. However, there is the interesting case of the US Marine Mammal Protection Act which includes an Imports Provisions rule that requires countries exporting fish and fish products to the US to be held to the same standards as US commercial fishing operations with regard to reducing the bycatch of marine mammals such as seals. In this case a period for foreign suppliers to adjust was included in the form of a 5-year exemption period to allow countries exporting to the US to "develop, as appropriate, regulatory programs comparable in effectiveness to U.S. programs".[26] Such an approach might be part of a deal covering agri-food environmental standards.

This case seems to support the views of those who believe that the UK could ban imports falling below core standards without breaching WTO rules.[27] Nonetheless, signalling a serious

[24] Potts J. *The legality of PPMs under the GATT*. International Institute for Sustainable Development, 2018

[25] See Client Earth (2020) https://www.clientearth.org/latest/documents/international-trade-rules-and-environmental-protection-measures/

[26] https://www.fisheries.noaa.gov/foreign/marine-mammal-protection/noaa-fisheries-establishes-international-marine-mammal-bycatch-criteria-us-imports

[27] See for example Emily Lydgate https://www.sustainweb.org/news/agbill/

commitment to sustainable trade in agri-foods would tread on sensitive ground and would require considerable political courage.

V. Supportive changes in governance, capacity and the evidence base

Building a stronger evidence base to support the development of policy in this area is a priority, as noted already. This should cover standards and related issues in agri-food exporting countries as well as in the UK. It applies irrespective of which, if any, options are selected but it would be particularly necessary if there are new environmental filters on imports, whether through binding standards, conditional tariffs or other mechanisms.

There is also a governance dimension. The development and sustained implementation of a new approach would be greatly assisted by a competent and credible independent body with standing in the international community as well as domestically. New governance arrangements have been recognised by the Government as being necessary in this area, as evidenced by the creation and recent extension of the Trade and Agriculture Commission (the TAC).

Going beyond this, so that permanent oversight was entrusted to a relevant expert body, such as a fully independent standing Commission on sustainable trade and agriculture, with a depth of expertise on agri-environmental issues, would provide the technical and governance underpinnings for a new approach. The independent body could assess core environmental standards rather rapidly on the basis of evidence available and propose these to the Government, both in relation to current FTAs and longer-term trade policy**.** It would need to engage with stakeholders but not represent them and preferably would have a remit for the whole of the UK to mirror responsibilities for trade policy, working with devolved bodies in appropriate ways. Provided that it had a clear environmental remit and the necessary expertise it could be a body with a wider scope, covering other standards as well, as the TAC does.

An independent Commission with the expertise and authority to examine environmental standards in the context of trade agreements could play a helpful part in a system of governance in which there was much fuller parliamentary oversight of trade agreements and trade policy and expanded means of stakeholder engagement. For example, it could be given the right to examine developing trade agreement texts, and a duty to alert Parliament (and devolved legislatures) to potential trade risks to environmental standards from ongoing negotiations.

In conclusion

The recent debate about trade in agri-foods in the UK has highlighted important issues about food safety and farm animal welfare but the significance of environmental standards has emerged less clearly. Yet there are a number of standards relating to agriculture and land management that are of strategic importance for meeting the UK's environmental objectives and are particularly sensitive to the UK's future trade policy; their importance seems likely to grow over time. An effective means of maintaining the UK's environmental standards is required, especially as the risk of pressure from trading partners with less ambitious objectives is expected to grow. At the same time, restrictions on imports associated with seriously damaging environmental practice, such as unsustainable deforestation, will be required as part of an armoury of measures to meet global as well as domestic environmental priorities. As new trade

law, policy and governance is put in place in the UK now is the time to incorporate an effective environmental dimension.