

Paper 4: Industry Action

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Summary and key messages

1. The Greenhouse Gas Action Plan (GHGAP)¹ is a voluntary commitment adopted by industry to reduce GHG emissions from agriculture by boosting farm efficiency. It's ambition is to:
 - **Reduce annual GHG emissions from English agricultural production by 3 MtCO₂e by the third carbon budget period (2018 – 2022), compared to a 2007 baseline**
2. The livestock sectors' Product Roadmaps² provide good opportunities to align the GHGAP with existing activity underway to promote actions for sustainability. The product roadmaps have been developed by England's dairy, beef and sheep, and pig meat sectors. A roadmap for crops, 'Growing for the Future'³ has also recently been published which looks at GHG emissions in that sector.
3. There remains more to do, however, to bring the potential benefits of a more focussed and integrated approach from supply chain actors including processors and supermarkets along with farmers to support GHG emissions reductions from agriculture.
4. Defra welcomes the good start made by the Industry Partnership and we believe it is right the Industry continue to lead the implementation of its GHGAP. For example, we recognise the achievement of bringing together 14 organisations to focus on the challenge of reducing GHG emissions from agriculture.
5. We are also encouraged by the positive working relationships developed by Defra and industry. For example, the industry partners proactive willingness to engage in discussions relating to the long term challenges for agriculture in reducing GHG emissions from agriculture post 2022, i.e. what happens after the current GHGAP?
6. Of course more can be done and it will be important for the Industry Partnership to show leadership, innovation and creativity in the implementation of its GHGAP. As shown in the emerging findings of the review of voluntary and industry led approaches, we recommend the Industry set out the specific success criteria for how its novel approaches will encourage change and where appropriate, link the selected delivery approach to its key on farm actions, many of which are highlighted in paper 3 of this review.

¹ <http://www.nfuonline.com/ghgap/>

² <http://www.dairyco.net/library/research-development/environment/dairy-roadmap.aspx>,
<http://www.eblex.org.uk/publications/corporate.aspx>, <http://www.bpex.org.uk/Article.aspx?ID=301329>

³ <http://www.hgca.com/content.output/6403/6403/Environment/Environment/HGCA%20environmental%20Roadmap%20.msp>

Introduction

7. This paper provides an overview of the industry-led GHGAP and the progress it and supporting Sector Roadmaps have made to reduce GHG emissions from agriculture. Towards the end of this chapter, some of the emerging findings of the Defra review of voluntary and industry-led approaches are also highlighted.

The Greenhouse Gas Action Plan

8. The GHGAP⁴ is a voluntary commitment adopted by industry to reduce GHG emissions from agriculture by boosting farm efficiency. It's ambition is to:
- **Reduce annual GHG emissions from English agricultural production by 3 MtCO₂e by the third carbon budget period (2018 – 2022), compared to a 2007 baseline**
9. In '*Meeting the Challenge*', the Industry Partnership set out a three phase plan over the course of this decade to meet its overall ambition, where possible building on, existing initiatives and networks.
- Phase 1 (2010-2012) focused on the establishment and consolidation of the key activities to underpin future implementation
 - Phase 2 (2012 – 2015) was defined in further detail in an updated delivery plan published online in April 2012
 - Phase 3: (2015 – 2020) will enable the GHGAP activities to be targeted on the basis of an improved evidence base in view of the new inventory research
10. The focus of the industry's delivery plan is to promote business efficiency, as current knowledge suggests this can yield GHG emission reductions and result in more robust farm businesses. The plan also aims to complement other environmental priorities, such as the protection of water resources, soils and biodiversity. Some of the specific actions of the GHGAPs next phase of delivery are provided in annex A.
11. The livestock sectors' product roadmaps⁵ provide good opportunities to align the GHGAP with existing activity underway to promote actions for sustainability. The product roadmaps that have been developed by England's dairy, beef and sheep, and pig meat sectors provide platforms for analysing the roles and responsibilities of businesses and individuals at different stages of the supply chain, from pre-farm (input

⁴ <http://www.nfuonline.com/ghgap/>

⁵ <http://www.dairyco.net/library/research-development/environment/dairy-roadmap.aspx>,
<http://www.eblex.org.uk/publications/corporate.aspx>, <http://www.bpex.org.uk/Article.aspx?ID=301329>

suppliers of fertiliser, feed and seed) to the supermarket shelf and final consumer, and set out the potential for each of these to play a part in helping to reduce on-farm emissions. Some of the specific aspirations of these sector roadmaps are provided in annex B.

12. A roadmap for crops has also been recently published by the Home Grown Cereals Authority (HGCA). It looks at the challenges for growing cereals and oilseeds in the context of GHG emissions in that sector, emphasising the role of increased nitrogen use efficiency as a key route towards reducing nitrous oxide emissions from the sector.
13. As might be expected from widely varying agricultural sectors, each roadmap is different both in terms of the extent of whole supply chain involvement and the issues covered. What is consistent across all roadmaps however is the important role they have to play in delivering the GHGAP:
 - ‘The Dairy Roadmap provides a vehicle for delivery of the Greenhouse Gas Action Plan’s targets in the dairy sector’⁶;
 - ‘Our roadmap work is a part of the overall project and contributes towards the GHGAP’⁷;
 - ‘The GHGAP is integral and complementary to this Roadmap’⁸
14. The objectives set out by the Industry Partnership in its GHGAP recognise the immediate need to improve awareness among farmers and growers of farm practices that will both reduce GHG emissions and improve business efficiency. The GHGAP will also collaborate with other industry led activities such as the sector roadmaps, Tried & Tested⁹ and Defra funded work on the GHG Research Platform through the sharing of information and data to improve the measurement of agricultural GHG emissions. Both of these objectives are crucial to achieving the ambition for the industry as set out in the Government’s Carbon Plan¹⁰. While the outputs of the GHG Research Platform aimed at improving the agricultural GHG inventory won’t be fully known for some time, these joint objectives recognise that action to reduce on-farm emissions is too important to await the results of the better measurement tools that will be available by mid-decade. It must begin now.

Supply chain action

15. There remains more to do, however, to bring the potential benefits of a more focussed and integrated approach from the whole supply chain including processors and

⁶ Dairy Roadmap – our route to environmental success (2011)

⁷ Down to Earth – the beef and sheep roadmap (2011)

⁸ Advancing together – a roadmap for the English pig industry (2011)

⁹ <http://www.nutrientmanagement.org/>

¹⁰ http://www.decc.gov.uk/en/content/cms/tackling/carbon_plan/carbon_plan.aspx

supermarkets alongside farmers to support GHG emissions reductions from agriculture. Too often, the competitive pressures of the marketplace have led to a reluctance to examine the potential for the sort of win-wins that might accrue from a more product-focussed approach to complement and support the work of the GHGAP. While understandable, there is a danger that without greater cooperation the UK may begin, over time, to fall behind its competitors as a source of environmentally friendly food.

16. Clearly, there is a large amount of work being undertaken by farmers, sector bodies, representative organisations and food companies for greater sustainability, much of which was set out in the GHGAP first progress report in April 2012. The challenge for the next iteration of the industry's roadmaps is to continue to extend their scope and relevance to encompass targets that clearly demonstrate their sector's contribution to the GHGAP, and the range of supply chain actors responsible for their delivery.

Progress made and the challenge for the GHGAP and Sector Roadmaps

17. Defra welcomes the progress made so far by the Industry Partnership in developing its GHGAP, most notably in bringing together 14 organisations to focus on the challenge of reducing GHG emissions from agriculture.
18. Among the early examples of progress being made by the industry partners is the GHGAP's recognition of the important role of advisers in disseminating the skills and knowledge to improve on-farm efficiency. All FACTS Qualified Advisers (FQAs) will be required to undertake training by the end of 2014 which includes new training modules integrating GHG mitigation into nutrient management planning. On the livestock side, a new Feed Carbon Group representing 130 companies and 95% of the feed supply sector was created in 2011 to examine how animal feed manufacturers can contribute to the GHGAP. A key piece of work is the creation of a register of trained feed advisors, to be launched in 2013.
19. Another area of progress has been the Industry Partnership's work to make sense of the landscape of activities undertaken by the partners and making decisions about where to prioritise leadership on GHG emission reduction. Defra welcomes the focus and value added to delivering advice and information on mitigation to farmers provided by the GHGAP in its first phase of delivery.
20. Having established its leadership and role, and set out its priorities, it is only right that the focus of the GHGAP now turns to the next steps of implementation. Whatever the uncertainties in our knowledge about the current level of emissions from agriculture, it is clear there are practical actions farmers can take now to achieve GHG emission reductions. These actions, many of which are set out in paper 3 of this review, include practical things which farmers can do including optimisation of animal feeding and

breeding, the methods, timing and quantities of fertiliser application, as well as improving animal health.

21. The key for the Industry Partnership will be to set out with more clarity, how the approaches and tools developed by the GHGAP, will encourage farmers on the ground to adopt the farm practices which save money and reduce GHG emissions. For example, while welcoming the partnership's Farm Efficiency Hub as a novel approach, we would encourage the development of a plan to set out specific success criteria and clarify the industry's thinking on who the tool is targeted at, how it will be used by its target audience and how that will assist knowledge exchange to farmers on the ground.
22. As noted elsewhere, good progress is being made in terms of standards of training for nutrient management and animal feed management across different sectors. We would also welcome further clarity about specific activities to be undertaken to promote the benefits of effective soil management, and for plans to build on existing programmes focussing on animal health. Further clarity on how the GHGAP works with and co-develops the strategic direction of it, sector roadmaps and other associated initiatives will also be important.

Relationship between the Industry Partnership and government

23. This review has identified Defra can do more to support the development of the GHGAP with the Industry Partnership to achieve some of the aims set out in the previous section. Defra although not a partner of the GHGAP, is open to develop a more collaborative working relationship with the industry and use the tools developed as part of this review to support a greater strategic focus on how the industry's novel approaches can drive the wider adoption of mitigation methods on the ground.

The government review of advice, incentives and voluntary and partnership approaches

- A formal assessment of the effectiveness of voluntary and partnership approaches, such as the GHGAP is being undertaken in response to the Natural Environment White Paper (recommendation 18). Voluntary and partnership approaches can provide a realistic and effective delivery mechanism for environmental outcomes, either as an alternative to, or working with and adding value to regulatory and incentivised approaches. Defra will be looking to identify examples of best practice which can be used to encourage both effective delivery of environmental outcomes and efficient farm businesses through the use of voluntary and partnership approaches. The final report will be published in March 2013 but emerging findings suggest some issues that the Industry Partnership could consider in the future. This suggests that:
 - **Collaboration** – close collaborative working between government and

industry (and other stakeholders), whilst recognising industry leadership, can be beneficial to the outcomes voluntary plans are looking to achieve

- **Agreeing success criteria** – It is important Partnership and Industry led approaches be realistic about expectations on the level of influence, impact and timeframes of strategic and implementation plans
- **Working with and through others** - Partnership and industry led approaches benefit from use of trusted deliverers with local relevance, working with other initiatives and through existing channels, including private sector
- In addition, other partnership initiatives highlight the importance of a focus for action e.g. dynamic individuals or funded co-ordinators to drive delivery.
- The review of voluntary partnership approaches is also part of a wider review to understand how existing delivery frameworks can work together to ensure a more integrated approach to the way advice and incentives are delivered to farmers and land managers in the future.
- One of the key actions in Defra's Business Plan is to 'publish plans for a streamlined framework of advice, incentives and voluntary initiatives to enable farmers and land managers to be more competitive and yield better environmental results'. This review is currently underway and is being taken forward in the context of Natural Environment White Paper commitment 20.
- Defra's review builds on the experience of the Integrated Advice Pilot (IAP) and the new Farming Advice Service (FAS). The IAP aimed to develop and test the effectiveness and delivery of integrated advice to improve farms' environmental and business performance, and included advice on mitigation of and adaptation to climate change. FAS delivers government advice on cross compliance to farmers and land-owners in collaboration with the industry and independent industry advisers; Defra has also introduced new themes to FAS including climate change mitigation and adaptation.

Conclusion and next steps

24. Defra recognises and welcomes the good start made by the Industry Partnership and we believe it is right the Industry continue to lead the implementation of its GHGAP.
25. We are encouraged by the positive working relationships developed by Defra and industry. This includes the work with the Defra statistics team to evaluate and agree key indicators of activity and progress for the GHGAP. We also acknowledge the industry partners proactive willingness to engage in discussions relating to the long term challenges for agriculture in reducing GHG emissions from agriculture post 2022, i.e. what happens after the current GHGAP?

26. Of course more can be done and it will be important for the Industry Partnership to show leadership, innovation and creativity in the implementation of its GHGAP. As shown in the emerging findings of the review of voluntary and industry led approaches, we recommend the Industry set out the specific success criteria for how its novel approaches will encourage change and where appropriate, link the selected delivery approach to its key on farm actions, many of which are highlighted in paper 3: analysis of this review.

Annex A: GHGAP Next Steps of Delivery

Priority Area	Proposed Action	Target date
Strategic co-ordination (and reporting)		
Steering Group Action 1	Consider options for funding a GHGAP co-ordinator in the context of greater integration between industry-led initiatives, the role of Farm Efficiency Hub and plans for overall funding and management	By end 2012
Steering Group Action 2	Maintain oversight of mitigation activity to identify gaps in action or progress in collaboration with others e.g. Defra's Research Platform Policy Group, as appropriate	Throughout Phase II
Steering Group Action 3	Evaluate and agree key indicators of activity and progress for the GHGAP with GHG Platform and Defra Statistics team in order to better report on progress	Throughout Phase II
Steering Group Action 4	Test Farm Efficiency Hub with adviser focus groups and collate feedback	By end 2012
Steering Group Action 5	Convene high profile workshop with senior Defra officials to exhibit the Farm Efficiency Hub and present the case for wider ambition in support of co-ordinated (integrated) advice delivery and industry-led initiatives	By April 2012
Communication		
Steering Group Action 6	Continue to identify opportunities for collaboration in communications within the GHGAP, with other farming organisations and service providers and the supply chain, and investigate the opportunities for greater exposure in the trade press	Ongoing
Steering Group	Subject to Steering Group approval, initially	From 2013 to

Action 7	assess the usefulness of social media as a form of communication	2015
Steering Group Action 8	Review the on-farm actions to take into account new knowledge and policy	In 2013
Management skills and advice		
Steering Group Action 9	FACTS Qualified Advisers continue to undertake new training	By end 2014
Steering Group Action 10	AIC to draft plans for a register of feed advisers consulting with members, with BSAS, AHDB livestock sectors and others on administration and a standard of training for eligibility to remain on such a register Agreed plans to be resources and implemented	By Sept 2012 By mid 2013
Steering Group Action 11	Use Tried & Tested campaign (guidance and tools) to help raise the skills and understanding of farmers in the benefits of integrating animal feeding planning and crop nutrient planning on livestock farms	By end of 2013 then ongoing
Steering Group Action 12	Continue to promote the benefits of improving skills and training e.g. Continuing Professional Development schemes by AHDB livestock sectors	Ongoing
Steering Group Action 13	Continue to support 'carbon footprinting' through: • Initiatives such as the development of a tool for the cereals and oilseeds sector (HGCA to lead) • Considering options to meet the range of farmers' needs of 'carbon footprinting'	Throughout Phase II By end 2013
Crop nutrient management		

Steering Group Action 14	Continue to promote the Tried & Tested nutrient management plan, website and tools and the benefits of professional advice, and soil analysis, with a continuing focus on the needs of the livestock sector	Ongoing
Steering Group Action 15	Sub-group of GHGAP and Tried & Tested partners to plan how best to promote the benefits of accurate nutrient application and the services available considering different sector needs	By mid 2013, then through to 2015
Steering Group Action 16	Promote strong linkages between nutrient and soil management activities e.g. between Tried & Tested and HGCA nutrient and soil management events	Throughout Phase II
Soil and land management		
Steering Group Action 17	Look for opportunities to promote the benefits of soil management and soil organic matter e.g. AHDBHGCA, CSF project - running 70 farm events	Throughout Phase II
Steering Group Action 18	Conduct further evaluation of Defra surveys in conjunction with the Defra Statistics teams to help identify the most reliable means of indicating progress in soil sampling	By end 2014
Steering Group Action 19	Evaluate contribution of CFE measures (including farm stewardship) to GHG mitigation	By end 2014
Livestock nutrition		
Steering Group Action 20	Create a new guide and tool – a Tried & Tested Ruminant Feeding Plan with balance sheets and showing the link between feeding practices and animal health and also the integration between grass & forage nutrition and feed management	By end 2012

Steering Group Action 21	Promote the new plan through the Tried & Tested nutrient management network, and through the supply chain for milk and beef products	Through to 2015
Livestock health and fertility		
Steering Group Action 22	Build on the early success of established programmes e.g. DairyCo's Mastitis Control Programme, and take opportunities to collaborate with animal health professionals	Throughout Phase II
Steering Group Action 23	Work with the Cattle and Sheep Health and Welfare groups to tackle critical health issues relevant to the beef, dairy and sheep sector	Ongoing
Energy efficiency and renewables		
Steering Group Action 24	Continue to provide information on energy efficiency and technology through existing e.g. GrowSave, and the new initiatives e.g. Pig Improvement by Information Technology (PIVIT) project	Ongoing
Steering Group Action 25	Continue to support and make the case for renewables and AD in particular because of its mitigation potential and other environmental benefits including contributing to the Voluntary code of practice/Best practice guidelines for AD crop feedstocks	Ongoing

Annex B: Sector Roadmap targets

Dairy

- 50% of dairy managed farmland entered into Environmental Stewardship Schemes
- 5-15% uptake of water use efficiency measures
- 65% dairy farmers actively nutrient planning
- 95% of dairy farmers have a manure management plan
- 95% of dairy farmers have Farm Health Plans
- 100% of dairy farmers, through DairyCo, supporting research into new technologies

Beef and Sheep

- 67 litres of blue water (water from lakes, aquifers and water courses) needed to produce one kg of beef
- 49 litres of blue water needed to produce one kg of lamb
- 50p per kg improvement in beef producers' financial margin per 5kg CO₂ eq reduction in GHG emissions per kg of liveweight
- 28p per kg improvement in sheep producers' financial margin per 1kg CO₂ eq reduction in GHG emissions per kg of liveweight
- 4 million cubic metres of water used each year in beef and sheep slaughtering and processing

Pigs

- Climate change potential: reduce emission of greenhouse gases into the atmosphere. The target is a 17% reduction
- Eutrophication potential: reduce amount of nutrients such as nitrate and phosphate from manure or slurry that ends up in the aquatic environment. The target reduction is 15%
- Acidification potential: reduce the release of acidic gases such as ammonia, again from slurry or manure or sulphur dioxide from burning fossil fuels. The target is a 15% cut
- using feed, including the selection and choice of ingredients, more efficiently and responsibly

- achieving a higher number of pigs per litter combined with the Two Tonne Sow (2TS) programme
- managing slurry/waste in ways that reduce its environmental impacts

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