

Consultation on

Environmental Analysis of Food Harvest 2020: Response of the Environmental Protection Agency

06 July 2012

Key messages

- The Environmental Protection Agency (EPA) recognises the important part that a sustainable food and agriculture industry will play in Ireland's economic recovery. This requires Ireland to achieve and maintain a good quality environment. The food industry in Ireland has many natural advantages and we welcome the food industry's acknowledgment in the strategy documents that, in order to establish Ireland as a leading producer of high quality, sustainable and safe food, the industry depends on a clean environment.
- The objective of this planned *Food Harvest 2020* environmental assessment must be to provide for a high level of protection of the environment and to promote sustainable development by integrating environmental considerations into the implementation of the strategy.
- Given that the 'green and natural' image is fundamental to the *Food Harvest 2020* strategy, it is essential that Ireland demonstrate its commitment to these goals by actively engaging and complying with EU and international commitments (including water quality and climate change obligations).
- Increasing emissions of greenhouse gases and ammonia emissions from agriculture will present challenges for Ireland in meeting national emission obligations.
- Ireland must bring water bodies to 'good status' and also, perhaps the more difficult target, we must prevent the deterioration of existing 'high' and 'good' status water bodies. Apart from agriculture, there are substantial measures required to manage water pressure from urban waste water, septic tanks, forestry, industry, and water abstraction but agriculture will have a large influence on Ireland's success in meeting water quality targets.
- Expanding production capacity may be a challenge for the agri-food processing companies operating existing licensed sites over which the Agency has a role in licensing and enforcement. The location of some existing processing sites could reach a limit where the assimilative capacity of receiving water is at or near capacity.
- Regional variation in the ability of the environment to support expansion must be made explicit within the environmental assessment. Innovative and equitable solutions will be required from the sector to give preference to production in areas most suitable.

- Once completed the findings of the *Food Harvest 2020* Environmental Assessment should be followed up by a mitigation plan integrated into the implementation of the strategy. The environmental impacts of the strategy should be monitored and reported upon during the life of the strategy.

Introduction

Apart from Ireland's natural environment having its own intrinsic value; it is a strategic asset for this country. For example, our abundant water resources will increasingly play a role in the development of our key economic sectors, including the agri-food industries, which depend on the clean and green image of Ireland. The EPA recognises the strategic importance of the agriculture and food sector to the recovery of Ireland's economy; but Ireland needs to base this recovery strongly on the principles of sustainable development. It is accepted in the *Food Harvest 2020* strategy document that expansion plans have the potential to cause environmental effects. Meeting the strategy targets means addressing these environmental challenges in a sustainable way. Key components of the strategy, such as herd expansion, will pose a serious challenge and the scale of the task must not be underestimated. It is vital that the implementation of *Food Harvest 2020* is undertaken in a manner that ensures emissions are managed and addressed in a sustainable way.

Environmental Assessment

Agriculture is a specified sector in the Strategic Environmental Assessment (SEA) Directive¹. Competent Authorities must subject specific plans and programmes prepared by them to an environmental assessment where the plan is likely to result in potentially significant effects on the environment. In the case of the *Food Harvest 2020* strategy, a formal SEA is not being conducted. Where a screening exercise has shown that a formal SEA is not compulsory, then the reasons for not requiring an environmental assessment, pursuant to Articles 4 to 9 of the SEA Directive, ought to be published and available to the public.

Irrespective of the findings of the screening exercise, the objective of this planned environmental assessment process must now be to provide for a high level of protection of the environment and to promote sustainable development by integrating of environmental considerations into the adoption of the strategy. This environmental assessment is being undertaken after the strategy-making process has been completed. Once complete the findings of this environmental assessment should be published and should be integrated retrospectively, by way of mitigation measures, into the implementation of the *Food Harvest 2020* strategy. This will include measures to encourage farm and processor level best practice but may include such measures as rescheduling, re-examination or adjustment of the strategy targets where any conflict with national or international environmental obligations arise.

A full range of environmental issues likely to be significantly affected by the strategy should be assessed. A full assessment of likely significant effects includes consideration of secondary, cumulative, synergistic, short, medium and long term, permanent, temporary, positive and negative effects, being assessed and reported. Regional variation in the significance of impacts should be identified and the potential for cumulative effects associated with the implementation of the strategy in association with other relevant programmes should be included in the final report and subsequent planned mitigation measures.

¹ Directive 2001/42/EC on strategic environmental assessment (SEA)

The methodology applied in the assessment of the strategy along with any assumptions made should be described in the final report. Where possible and practical, a quantitative analysis should be undertaken.

Water Quality

Intensification of production, increased usage of inorganic fertilizers, increased production and usage of organic fertiliser, change of farming practices, and land improvement may all have an impact on groundwater and surface water.

Water Framework Directive

The Water Framework Directive (WFD)² and the accompanying Groundwater Directive³ set the legislative framework that encompasses the requirements for good quality water. Ireland must maintain current 'high' and 'good' status water bodies and it is of critical importance that this is achieved. All water bodies at less than good status must show no deterioration and must be restored to good status by 2015 (there are extended deadlines to 2021 and 2027 for some water bodies).

Substantial measures are required to meet these targets across many sectors, including urban waste water, septic tanks, forestry, industry and water abstraction. However, high status water bodies may be at risk from changes in farming activity in their associated catchments. In addition, achievement of good status is a requirement, yet diffuse pollution is an identified pressure in many catchments. The Nitrates Directive⁴, implemented as the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2010, specifies maximum limits in relation to fertiliser application and stocking rates and represents a significant step towards achieving good water quality. However, this alone may not be sufficient for the protection of sensitive water bodies (and high status water bodies) and so further actions may also be necessary.

The European Commission are likely to take infringement actions should Ireland not meet our obligations under the directives.

In the most recent report on water quality covering the period 2007 to 2009, the EPA reported that 48% of river water bodies monitored nationally were at less than good ecological status. This represents 30 % of river channel length. Approximately half of the polluted river sites monitored are polluted by diffuse pollution sources. In the same period monitoring of our groundwater bodies showed that 14% are classified as poor status due to chemical quality impacts and that 53% of our inland lakes are at less than good ecological status. Similarly, our transitional waters have 54% of water bodies at less than good status, generally due to nutrient loading.

The challenge for Ireland will be to maintain the condition of the water bodies that are in a satisfactory condition, while restoring the water bodies in poor condition. Future farming activities will have a critical role in achieving both objectives. Achieving these objectives in the context of *Food Harvest 2020* will be a major challenge. Intensification and expansion will increase the use of fertilizing nutrients. It is therefore essential that the loss of nutrients to water is minimised.

² Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy.

³ Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration.

⁴ Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources

Work to reduce pollution loading from small rural point sources (such as soiled water from farmyards and effluent from single house on-site waste water treatment systems) must continue so as to avoid preventable loadings reaching natural waters. Developing practical measures, and encouraging farming enterprises to implement these at a farming level, is dependent upon robust research.

Kilkenny County Council is co-ordinating the preparation of a study entitled '*Study of the Interaction between the on Farm Dairy Sector, Food Harvest 2020 Dairy Targets and Water Quality Objectives in County Kilkenny*'. Kilkenny County Council, Department of Environment, Community and Local Government, Department of Agriculture, Food and the Marine, Teagasc, EPA, and South Eastern River Basin District (SERDB) are involved in the study. The outcome of this project and parallel research projects such as the Agricultural Catchments Programme and the EPA-funded Pathways Project will yield a greater understanding of the pressures from farming activities and this research must be followed by practical measures for farmers and for catchment management in order to achieve sustainable agriculture. These must be supported by farm inspections and cross-compliance arrangements.

Apart from the benefits that clean water bestows on human health, farming, industry and tourism, Ireland's progress in achieving the WFD objectives will be monitored by the EPA and reported to the European Commission. If Ireland does not meet these water quality objectives it is likely to lead to European Court action against Ireland.

Appendix I contains links to EPA reports containing further background on water quality.

Milk Production & Water Quality

Increased processing capacity at existing and new food industries will increase effluent emissions to natural waters. Of most significance is the anticipated increase in milk output which is likely to result in an increase by 50% in the quantity of milk produced and subsequent processing. The anticipated increase in milk production, following the abolition of milk quotas in 2015, is likely to be concentrated during the spring and summer as farmers optimise the use of grass as the main feed to produce milk.

It has been reported that some dairy processors anticipate an increase in primary milk production from the farmers of up to 60% (in the period 2011-2020) and consequently some have identified additional plans for processing capacity. This may require EPA consent and the limiting factor for some locations will be the capacity of receiving waters to accept discharges while not causing any deterioration in the water status. One of the key criteria to grant a licence (or revised licence) is that emissions from the activity will not result in the contravention of any relevant environmental protection standard or cause significant environmental pollution.

Pig Rearing & Water Quality

Food Harvest 2020 projects that there will be an increase in pigmeat and a corresponding increase in stock by approximately 35% (2007-2009 as baseline). The increase in production will result in increased production of organic fertiliser, which will require management on third party farms in accordance with the European Communities (Good Agricultural Practices for Protection of Waters) Regulations. The use of increased quantities of organic fertiliser has the potential to impact on water quality, particularly if the application of organic fertiliser is onto lands that were previously extensively farmed, or if the recipient farms are within a drinking water catchment. Measures should include innovation in the use of manures, for instance putting in place economic supports for technologies like anaerobic digestion. Increased production will result in increased processing throughput (slaughtering and processing). It appears, however, that there is adequate capacity within the existing slaughtering installations and there is also capacity in Northern Ireland.

The increase in stock is likely to result in a number of farm enterprises increasing in scale. While the majority of these will already have an IPPC licence from the EPA it is likely that some smaller installations will expand or some new facilities will be established above the threshold⁵ for an IPPC licence. Planning permission, and in many cases Environmental Impact Assessment (EIA), will be necessary for these developments. Existing licensed installations that wish to expand their numbers will be required to get planning permission and will also require a technical amendment or review of their licence prior to expansion. To grant a licence, the EPA must be satisfied that an activity will not result in significant environmental pollution.

Beef/Sheep/Poultry & Water Quality

While the strategy anticipates increases in primary meat production much of the increased value of exports is from higher value products (i.e., increased processing). The scale of increase in primary production is predicted as being less significant compared with the dairy and pig sectors. While the target for beef is an increase in output value of 20% rather than in animal numbers, an evaluation of the role of an expansion of the beef herd is needed. For instance, according to a recent Ulster Bank survey (as reported in the Farmer's Journal on 16th June 2012), farmers are planning an increase in stock numbers of 40% by 2010 with a further increase of 22% by 2015. These types of cumulative factors need to be accounted for within the environmental assessment.

Climate Change

Increased emissions, particularly methane and ammonia (NH₃), will be associated with the increase in animal numbers necessary to grow primary output. In addition the increased animal numbers will result in increased organic fertiliser production and associated air emissions. It is predicted that there will be no increase in inorganic fertiliser usage. The sectors of most importance in relation to greenhouse gas and ammonia emissions are the dairy and beef sectors.

Achievement of the *Food Harvest 2020* targets for dairy and beef is likely to result in some change in the composition and size of the Irish cattle herd as well as in the intensity of production. The dairy cow population was 1.1 million in 2010 and it is projected to increase to 1.3 million in 2020. The beef and suckler herd is projected to reduce by 3% between 2010 and 2020⁶. The sheep flock is forecasted to grow by 18%. In the pig meat sector, pork consumption is expected to grow steadily worldwide up to the year 2020. The pig herd is forecasted to grow by 35% to meet this target.

Forecasted animal numbers, produced by Teagasc for the EPA, show the change in animal numbers under (i) a no policy change scenario (Scenario 1), where the value of output from the agri-food sectors is projected to increase but not to the magnitude required under *Food Harvest 2020* and (ii) full achievement of *Food Harvest 2020* (Scenario 2). Appendix II includes the list of the assumptions included in each scenario. Table 1 summarises projected greenhouse gas emissions from agriculture for 2020 for Scenarios 1 and 2.

Greenhouse gas emissions under *Food Harvest 2020* will result in a 7% increase in total agricultural emissions on current levels. This increase is driven by a projected increase in the national herd. In addition, higher fertiliser use, with increased intensity of dairy production, under Scenario 2 results in 4% higher emissions from agricultural soils on current levels. Scenario 1 (without *Food Harvest*) shows total emissions from the sector increasing by 3.3% on 2010 levels.

⁵ See First Schedule of EPA Act, 1992 as amended by Section 18, Protection of the Environment Act, 2003 for a full list of activities and applicable thresholds.

⁶ This excludes expansion aspirations of individual farms reported in Ulster Bank/ Broadmore Research survey of June 2012.

Table 1: Agricultural greenhouse gas emissions projections under Scenario 1 and Scenario 2

Mt CO ₂ e eq	Scenario 1		Scenario 2
	2010	2020	2020
Enteric Fermentation (CH ₄)	8.50	8.89	9.18
Manure management (CH ₄)	2.13	2.19	2.36
Manure management (N ₂ O)	0.44	0.44	0.45
Agricultural soils (N ₂ O)	6.84	6.90	7.11
Total	17.91	18.42	19.10
<i>Fuel Combustion</i>	<i>0.77</i>	<i>0.87</i>	<i>0.87</i>
Total (including fuel)	18.68	19.29	19.97

Under the EU's *Climate and Energy Package*, Ireland is required to deliver a 20% reduction in greenhouse gas emissions from sources outside the Emission Trading Scheme (ETS) by 2020 (relative to 2005 levels). This is governed by the Effort Sharing Decision (406/2009/EC). In addition, Ireland also has binding annual emission limits over the period 2013-2020 to ensure a gradual move towards this 2020 target. These non-ETS sectors include agriculture, transport, residential and waste. The agriculture and transport sectors are forecast to account for 48% and 27% respectively of non-ETS sector emissions in 2020 (Figure 1). Therefore, mitigation strategies must be focused on the agriculture and transport sectors. Whilst no single mitigation option is available for agriculture, there are a suite of measures which should allow agriculture to play a role in maintaining production targets while mitigating greenhouse gas emissions. Such measures have been recently highlighted by Teagasc using Marginal Abatement Cost Curve analysis which shows a range of cost-beneficial mitigation measures that have potential to deliver the 1.1 Mt CO₂e of emission reductions. These include improvements in the Economic Breeding Index, extended grazing time and nitrogen efficiency. According to the Teagasc publication these measures will require associated incentives in order to realise their environmental and economic potential, mainly through knowledge transfer facilitated by large-scale advisory programmes. Targeted measures to deliver on this significant potential within the agriculture sector should be developed and progressed. However, behavioural barriers will need to be overcome and educational tools established to encourage the adoption of measures at farm level. Examples of greenhouse gas mitigation options include improvements in nitrogen use efficiency, accelerated gains in genetic merit, higher daily weight gain and extended grazing season.

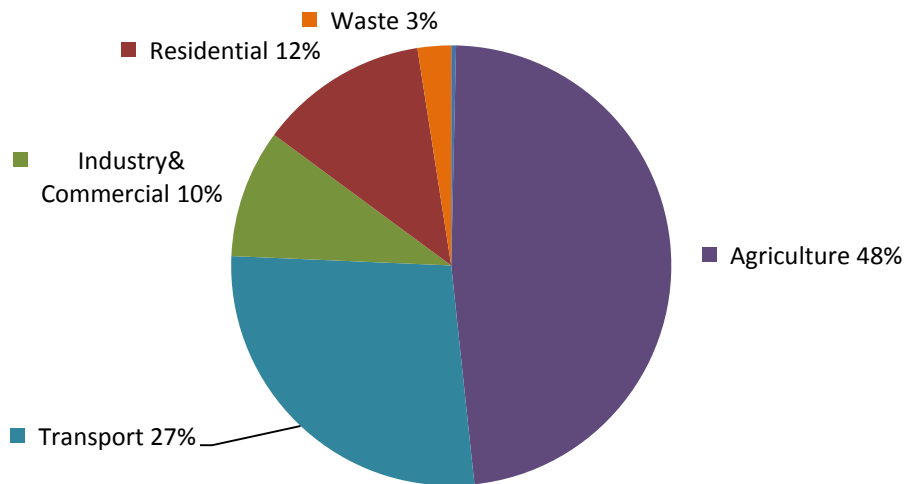


Figure 1: Source of GHG emissions in the non-ETS sectors in 2020

Ammonia

Agriculture is responsible for 98.5% of total national ammonia emissions, with the remainder coming from the transport sector. The Gothenburg Protocol is a multi-pollutant protocol designed to reduce acidification, eutrophication and ground level ozone by setting targets for sulphur dioxide, nitrogen oxides, volatile organic compounds and ammonia (NH₃). The Protocol is part of the Convention on Long-Range Transboundary Air Pollution which is an international agreement to protect human health and the natural environment. The implementation of targets at a European level is met by the National Emissions Ceilings Directive (2001/81/EC).

Ireland's target for ammonia emissions is a 0.5% reduction on 2005 levels by 2020 which equates to a value of 108.6 kilotonnes (kt) of ammonia in 2020. It is envisaged that the Gothenburg Protocol will be ratified by Ireland before end 2012 and Ireland will be bound by these 2020 targets. In addition, a revised National Emissions Ceilings Directive will be developed during 2013 which will establish these targets in EU legislation.

Projections of ammonia emissions are available for two scenarios; (i) Scenario 1 (i.e. no policy change) foresees an increase in the value of output from the agri-food sectors but not to the magnitude required under *Food Harvest 2020* and (ii) Scenario 2 assumes full achievement of the *Food Harvest 2020* targets.

Table 2 summarises projected ammonia emissions from agriculture for 2020 for Scenario 1 and 2. Ammonia emissions are projected to be 5% (5.4 ktonnes of ammonia) higher when *Food Harvest 2020* targets are assumed to be achieved.

Ammonia emissions will be higher across all sub-sectors under *Food Harvest 2020* (Scenario 2) relative to current levels (except for fertiliser nitrogen application) which results in a 10% increase in total agricultural ammonia emissions on current levels. This increase is driven by projected higher numbers of dairy, beef and suckler populations which underpin achievement of *Food Harvest 2020* targets.

Table 2: Agricultural ammonia emission projections under Scenario 1 and Scenario 2

kt ammonia	Scenario 1		Scenario 2
	2010	2020	2020
Cattle	77.5	81.1	84.1
Pigs	7.9	8.4	10.4
Sheep	2.4	2.6	2.6
Other livestock	4.0	4.8	4.8
Fertiliser application	12.9	12.3	12.8
Total	104.6	109.3	114.7

Ireland is currently projected to be 6.1 ktonnes of ammonia over the revised Gothenburg Protocol target for 2020 assuming full implementation of *Food Harvest 2020*. Examples of ammonia mitigation options which should be pursued include improvements in nitrogen use efficiency, the use of low emission manure spreading techniques and extended grazing season.

Increasing emissions of greenhouse gases and ammonia from agriculture will present challenges for Ireland to meet targets under the EU Effort Sharing Decision (No 409/2009) and the revised Gothenburg Protocol.

Clearly sustainable carbon policies and managing climate impacts are becoming ever more important in many multi-national food companies' supply chain decisions and marketing, and it is to Ireland's benefit to establish a sustainable, low carbon industry. Apart from the market benefit, if Ireland does not meet our emission ceiling or climate change effort sharing objectives it is likely to lead to European Court action against Ireland.

Biodiversity

Farmers, and farm enterprises, are custodians of a large area of Ireland's terrain and so have the potential to significantly contribute to the conservation of biodiversity, with measures such as hedgerow expansion, field margin enhancement, native tree planting, water protection, grassland management, providing riparian margins and keeping Natura 2000 sites intact.

Food production relies on rich biodiversity for essential ecosystem functions (e.g. carbon cycling, nutrient cycling and soil fertility). Damage and degradation of biodiversity is difficult to reverse once it is allowed to occur. Farm intensification and specialisation may have a detrimental effect on biodiversity through land drainage, nutrient enrichment, overgrazing and under-grazing and in the use of organic chemicals⁷.

⁷ The EPA will be publishing Ireland's *National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants*.

The impact of increasing production under this strategy must be clearly identified and county-wide sensitive areas noted. Measures must interweave biodiversity protection into day-to-day agricultural practice. Policy and schemes – AEOS/REPS, cross-compliance and CAP reform – could be used to educate, encourage, compensate or, when necessary, enforce farmers to protect Ireland's biodiversity.

The European Communities (Environmental Impact Assessment) (Agriculture) Regulations 2011, S.I. No. 456 of 2011 apply to certain changes in use or work on rural land holdings. The Regulations provide for an assessment of the environmental impact of certain projects before they can proceed. Planning applications and IPPC licence applications are required to be supported at least by an Appropriate Assessment screening and in many cases a Natura Impact Statement (NIS), within which the impact of new/expanded developments on Natura 2000 sites must be assessed.

Ireland has a need for strong datasets on our terrestrial biodiversity and any measures to maintain or enhance farmland biodiversity should include strong monitoring activities so as to determine the success of measures employed.

Environmental Liability Directive and Biodiversity

Where agricultural land expands into or is adjacent to protected areas, the EPA also has a role under the European Communities (Environmental Liability) Regulations which transpose aspects of the Environmental Liability Directive (2004/35/EC). Here operators causing 'damage' (or risk of damage) to protected species and habitats may be liable for appropriate protective or restorative measures.

Research Funding and Environmental Data

Research and development has a key role in protecting the agri-environment by providing evidence for policy decisions, assessment of current/past performance and projecting future trends. Research based development may also lead to solutions that facilitate agri-business growth while staying within environmental limits. You will be aware that arising from a recommendation in *Food Harvest 2020*, the Minister for Agriculture established an Agri-Research Expert Advisory (AREA) Group with the objective of developing research programmes on sustainable primary agriculture production. The programme was given the title SSARI – Stimulating Sustainable Agricultural Production through Research and Innovation and one of the four thematic research areas is sustainability (bio-energy, water/soil, climate change and biodiversity). Research priorities include improving nutrient efficiency and nutrients' environmental fate. In order that the State efficiently progresses research work, the Department of Agriculture, Food and Marine and the EPA should look to future opportunities for cross-agency funding where there are common interests, in line with recommended approaches under the Forfás National Research Prioritisation Exercise.

The EPA publishes periodic reports and assessments of Ireland's environment. Our current reports are available for download on www.epa.ie and links to a section of these reports are included in **Appendix 1**.

The EPA has funded 660 research projects since 2001 varying in size from desk-based studies to large multi-annual projects. Our new online database (erc.epa.ie/smartsimple/) contains information about all of these projects and is searchable by keywords, lead researcher, research institution etc. This database also provides details of the project abstract, expected end date and where relevant a link to the final report/output.

SAFER-Data is a fully web-based interface to the EPA's Environmental Research Center's Environmental Research Data Archive. Research resources are available at erc.epa.ie/safer/.

Emissions data is published on the EPA's Pollutant Release and Transfer Register (PRTR) website (prtr.epa.ie). Each year operators submit environmental reports to the EPA. For each facility, information is provided concerning the amount of pollutant releases to air, water and waste water as well as off-site transfers of waste, from a list of 91 PRTR pollutants including heavy metals, pesticides, greenhouse gases and dioxins. The establishment of a publicly accessible, national register of pollutants is an important aspect of the Aarhus Convention pillar on access to information.

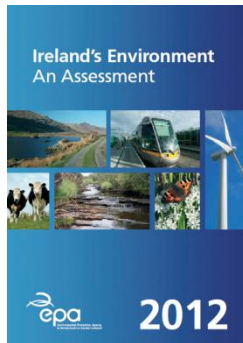
Conclusion

Food Harvest 2020 is a vision for the Irish agri-food industry which will establish the country as a leading producer of high quality, green, and safe food. The implementation of *Food Harvest 2020* has the potential to have an environmental effect associated with increased production of primary outputs and subsequent processing of the increased output. The analysis of potential environmental impacts should be followed by practical steps to ameliorate any potential impacts at a farm, processor and national level. Given that the green and natural image is fundamental to the vision articulated in *Food Harvest 2020*, it is essential that Ireland demonstrate its commitment to a sustainable industry and actively work towards complying with water, climate change and trans-boundary emission obligations.

Should the project team wish, the relevant EPA staff will be available to meet with the project team to present and discuss in more detail the environmental considerations associated with the development of the agricultural sector in Ireland.

Appendix I

Links to Environmental Data and EPA Reports;



www.epa.ie/ebooks/soe2012/

Ireland's Environment – An Assessment 2012

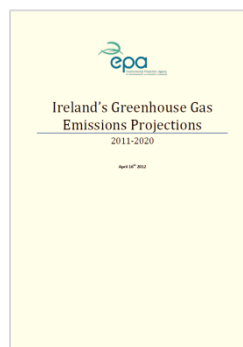
www.epa.ie/irelandsenvironment/

Access the latest information about Ireland's environment under eight separate themes or visit our dashboard of key environmental indicators.



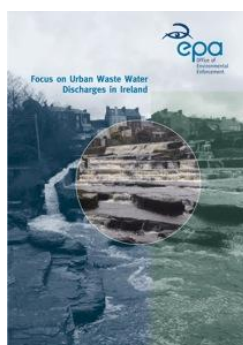
www.epa.ie/downloads/pubs/water/waterqua/name,30640,en.html

This report presents a review of water quality in Ireland for the years 2007-2009.



http://www.epa.ie/downloads/pubs/air/airemissions/EPA_GHG_%20Emission_%20Proj_publication_2012_final_v1.pdf

The EPA produces greenhouse gas emission projections annually taking into account the most recent environmental and other policy developments as well as updates to key assumptions (such as revisions to anticipated economic growth and future fuel prices).



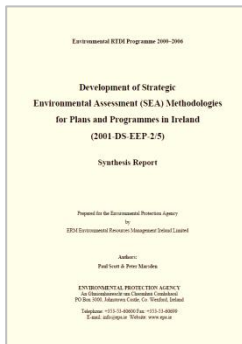
www.epa.ie/downloads/pubs/water/wastewater/uww/

This report, the eighth in the series, includes for the first time a review of the operation of waste water treatment plants at 529 urban areas that are the subject of an EPA waste water discharge licence application.



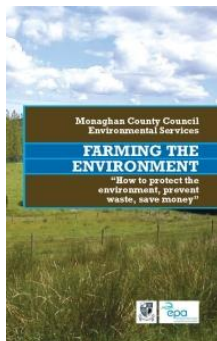
www.epa.ie/researchandeducation/research/

The EPA research programme aims to protect and improve the natural environment by addressing key environmental management issues through the provision of world-class scientific knowledge generated through a programme of research developed supported and co-ordinated by EPA.



www.epa.ie/whatwedo/advice/sea/

Guidance and information on the SEA process including generic templates



www.epa.ie/downloads/pubs/waste/wastepreventionprojectoutputs/name_28072,en.html

This is a booklet to help farmers cut costs and improve their environmental performance

Appendix II

In the provision of forecast animal numbers to the agency in December 2011, FAPRI-Ireland provided two scenarios:

1) No policy change which assumes:

- No Common Agricultural + 2013 reform
- No conclusion of the World Trade Organisation Doha Round
- No Mercursor-EU bilateral trade agreement
- Milk quota abolition in 2015
- Annual forestry planting rates of 7,500 ha and 4,000 ha for bioenergy crops
- The suckler cow welfare scheme and grassland sheep scheme are not renewed beyond 2012
- No measure to assure achievement of Food Harvest 2020 targets

2) Food Harvest 2020 which assumes

- The achievement of the Food Harvest 2020 targets for the dairy, beef, sheep and pig sectors
- Annual forestry planting rates of 7,500 ha and 4,000 ha for bioenergy crops
- No Common Agricultural Policy + 2013 reform
- No conclusion of the World Trade Organisation Doha Round
- No Mercursor-EU bilateral trade agreement
- Milk quota abolition in 2015
- The suckler cow welfare scheme and grassland sheep scheme are not renewed beyond 2012