

CAP Rural Development Division Department of Agriculture, Food and the Marine 4C Agriculture House Kildare Street Dublin 2

Sent by email to: CAPStrategicPlan@agriculture.gov.ie

11th October 2019

RE. SWOT Analysis for the CAP Strategic Plan Post 2020

To Whom It May Concern,

An Taisce welcomes the opportunity to comment on the SWOT analysis for the CAP Strategic Plan Post 2020.

Please acknowledge our submission and inform of us any further consultations.

Yours faithfully,

Ian Lumley, Advocacy Officer An Taisce - The National Trust for Ireland

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An Taisce - The National Trust for Ireland



Introduction

A SWOT analysis for any individual sector in Ireland needs to take a global overview in addressing the global climate and biodiversity loss emergencies, and be informed by relevant UN Sustainable Development Goals.

The documentation submitted with this consultation is entirely inadequate in producing the assessment and guidance needed for a comprehensive and credible SWOT analysis for Irish agriculture and CAP post 2020.

An Taisce would call the Department's attention to Article 103(2) of the COM(2018) 392 final, Regulation of the European Parliament and of the Council¹:

"The SWOT analysis shall be based on the current situation of the area covered by the CAP strategic plan and shall comprise, for each specific objective set out in Article 6(1), a comprehensive overall description of the current situation of the area covered by the CAP Strategic Plan, based on common context indicators and other quantitative and qualitative up-to-date information such as studies, past evaluation reports, sectoral analysis and lessons learned from previous experiences.

In addition, that description shall notably highlight in relation to each general and specific objective set out in Articles 5 and 6(1):

- (a) strengths identified in the CAP Strategic Plan area;
- (b) weaknesses identified in the CAP Strategic Plan area;
- (c) opportunities identified in the CAP Strategic Plan area;
- (d) threats identified in the CAP Strategic Plan area;
- (e) where relevant, an analysis of territorial aspects, highlighting those territories specifically targeted by interventions;
- (f) where relevant, an analysis of sectoral aspects, notably for those sectors subject to specific interventions and/or sectoral programs.

For the specific objectives set out in points (d), (e) and (f) of Article 6(1), the SWOT analysis shall refer to the national plans emanating from the legislative instruments referred to in Annex XI.

For the specific objective to attract young farmers set out in point (g) of Article 6(1), the SWOT shall include a short analysis of access to land, land mobility and land restructuring, access of finance and credits, and access to knowledge and advice.

For the general cross-cutting objective related to fostering and sharing of knowledge, innovation and digitalisation and encouraging their uptake set out in the second

¹ COM(2018) 392 final, Regulation of the European Parliament and of the Council: http://www.europarl.europa.eu/RegData/docs_autres_institutions/commission_europeenne/com/2018/0392/COM_COM(2018)0392_EN.pdf

subparagraph of Article 5, the SWOT analysis shall also provide relevant information about the functioning of the AKIS and related structures."

An Taisce submits that the SWOT analysis submitted by the Department is not in compliance Article 103(2).

Current CAP Subsidies

The consultation documentation fails to set out the overview needed to assess the sustainability of Ireland's current CAP-subsidised, beef and dairy-dominated agricultural sector along with the other direct and indirect subsidies and supports.

A 2016 CSO report (see Appendix A) revealed that just under €1.5 billion in potentially environmentally damaging subsidies was given out to the agriculture sector in 2016. According to the CSO, agricultural subsidies are included in the list as they can result in nutrient pollution and loss of biodiversity as well as increasing demands on water abstraction.

The total sum does not include the €506 million foregone on green diesel used in tractors and farm machinery but does take into account direct farm payments. The figure also includes revenues foregone through the likes of the zero rate of VAT for fertiliser (€27 million) and agricultural capital acquisitions tax relief (€118 million). Marketing and promotional expenditure from Bord Bia to promote Irish products to the tune of €33 million is also included in the figures for 2016.

The 2019 figures are not yet available but would represent a significant increase on 2016. Furthermore the direct costs to Government of supporting the Irish agricultural sector have not been factored in.

International Context of Current Threats

The consultation documentation systemically fails to address the need for global agriculture to take the lead in greenhouse gas mitigation and biodiversity loss reversal. It also does not address the threat to countries facing increased global heating and water stress, thereby increasing risk for many of the import chains for fruit, vegetables and animal feed upon which Ireland is dependent.

In a country that faced the devastating impact of dependence on single crop species with the potato in the 1840s, the increasing risk of creating an agriculture sector dependent on a single animal species should be recognised. While the draft makes reference to "new and emerging diseases" as a threat and the increased sale of antibiotics as a weakness, the systemic risk to a sector so dependent on a single species is not properly assessed as an overarching threat. Antibiotic resistance to currently containable human and animal diseases and the projection of new crossover bird and animal flu viruses are internationally recognised a major global risk for the century ahead. The UN Food and Agriculture

Organisation (FAO) is coordinating continued, updated, global research on antimicrobial resistance².

Tree and crop species equally face increased global risks from resistance to pests or diseases with milder winters from global heating and ecosystem disruption being among the contributory factors. This also creates a risk of impact on monocropped tree species, such as Sitka spruce, from a new pest or disease.

Our submission on the areas defined in the proposed SWOT analysis is as follows.

1. Support viable farm income and resilience across the EU territory to enhance food security

STRENGTHS

Ireland has the land area, soil quality, climate and rural enterprise potential for diversified plant based food production in vegetables, pulses, fruit, nuts, seeds and oils, to substitute for produce currently imported into the EU from Asia (eg. nuts and vegetable oils) and from the EU into Ireland (eg. fruits and vegetables).

WEAKNESSES

Ireland has exceptionally poor food security and is over 90% dependent on fruit and vegetable imports. The current level of direct and indirect subsidies of beef and dairy is unsustainably intensifying beef and dairy exports at a time when EU sustainable food policy requires supporting a rapid global transition to a lower carbon, more plant-based diet, in accordance with UNEP (United Nations Environment Programme) auidance³.

Ireland's current direct and indirect subsidy of bovine agriculture is unsustainable. This includes the failure to assess and quantify the range of indirect subsidies, such as the cost to the State through the Department of Agriculture, Food and Marine, Teagasc and Bord Bia in supporting the current nitrate fertilizer import-based, bovine-dominated, high greenhouse gas model of agriculture that currently exists.

Claims that Ireland is only suitable for animal-based grassland agriculture are not justified and are undermining research on and support for diversification.

THREATS

Ireland is accumulating an investment and debt burden into increased milking parlour capacity, milk powder processing and beef processing. Current subsidy-driven beef and dairy, which is also evading real cost liability for greenhouse gas

² www.fao.org/antimicrobial-resistance/en

³ Assessing the Environmental Impact of Production and Consumption: http://www.unep.fr/shared/publications/pdf/dtix1262xpa-priorityproductsandmaterials_report.pdf010

emissions and environmental pollution, is not capable of being continued for the following reasons:

- Effective climate action will require a shift to a more plant based diet nationally, within the EU and globally with effective carbon proofing of beef and dairy;
- Effective water quality and biodiversity protection will require reversal of the current Irish "green desert" model of nitrate fertilized rye grass;
- Effective air pollution action will require reduction of ammonia emissions, currently breaching EU threshold limits since 2016, through reduction in nitrate fertilizer application and animal slurry.

Increases in milking parlour investment and in milk and cheese plant processing capacity is creating storage scale debt risk and "stranded asset" exposure.

Threats also arise from dependence on fruit, vegetable, nut and pulse imports from other EU countries, in particular from the Mediterranean, which is exposed to increased global heating and water stress. Similar issues also threaten imports from outside the EU.

OPPORTUNITIES

There is an opportunity to shift direct and indirect subsidy support as well as wider food, nutrition and public policy to produce diversified plant-based foods (vegetables, pulses, fruit, nuts, seeds and oils) to meet national and global food needs for a low carbon future and to contribute to the reversal of biodiversity loss.

2. Enhance market orientation and increase competitiveness including greater focus on research, technology and digitalisation

STRENGTHS

Ireland has the capacity, because of its climate and soil conditions, to produce a range of lower carbon, plant-based foods to meet national, EU and international market needs to address the global climate and biodiversity loss emergency.

WEAKNESSES

The research funded by Teagasc has been unsustainably directed towards perpetuating and increasing subsidy-driven, fertilizer and feed import-dependent, export-driven beef and dairy, to the detriment of diversified plant-based food and other crop production. At the same time, Teagasc has been unable to provide the level of measures required to mitigate the resulting adverse greenhouse gas, water pollution, ammonia air pollution, and biodiversity loss impacts.

There is a risk of legal action against the veracity of Bord Bia's Origin Green or other sustainable marketing claims made for Irish agricultural exports under trade or advertising description law in the United State or other jurisdictions.

Low carbon and sustainably produced, plant-based alternatives to meat and dairy undermine future of beef and dairy market globally.

A threat also arises from allowing lobbying and the increasingly globalised meat and dairy processing sector to pursue low cost expansion, price squeeze producers, and place short-term financial gain over creating sustainable production chains and achieving climate mitigation.

THREATS

Meeting global greenhouse gas targets to stabilise the climate at less than two degrees over preindustrial levels is incompatible with Ireland's current and expanding bovine agriculture model. There is also a sustained failure to address the risk of dependence on single animal species in the face of global threat of bird or animal flu viruses, or antibiotic resistance.

OPPORTUNITIES

Ireland has the opportunity to achieve a significant shift to produce plant-based, lower carbon food, and organic food to meet the level of rapid transition needed in global food production.

3. Improve farmers' position in the value chain

STRENGTHS

Ireland has dispersed landownership and is therefore in a position to benefit from enhanced support for sustainable food and other crop protection and biodiversity enhancement.

WEAKNESSES

The current beef and dairy industry dominated price control regime is driving farmers to increase volumes, thereby increasing their debt burdens.

THREATS

Threats may be divided into those which are certain and those which are uncertain. It is certain that if effective climate action is to be achieved, it will require carbon pricing to steer us toward a more plant based diet, rendering beef and dairy production and processing facilities obsolete, a "stranded asset" much like fossil fuel.

There are major uncertainties over the level of transboundary threat to industrial beef and dairy production as well as the level of pig and poultry exposure to global animal disease risk. The current penetration of African swine flu into China and Southeast Asia is an example of the type of risk facing global animal agricultural. Antibiotic resistance alo poses an uncertain risk impact on animal much as human health in the century ahead. Trees and crops also face transboundary risks from fungus, diseases and pests.

OPPORTUNITIES

Farm based income and rural employment can be better supported by redirection of direct and indirect subsidy support and wider food, nutrition and public policy to produce diversified pant based food: vegetables, pulses, fruit, nuts, seeds and oils, subject to soil suitability and protection, water, and biodiversity.

4. Contribute to climate change mitigation and adaptation, as well as sustainable energy

STRENGTHS

Ireland has the opportunity to take international leadership in climate mitigation through diversified food production, reducing beef and dairy production.

WEAKNESSES

The current Irish agricultural model of increasing beef, and in particular dairy, exports, is incompatible with climate action. The measures being promoted by Teagasc for climate mitigation in carbon soil management, the beef genome scheme, offsetting from forestry and bioenergy, do not remotely the level of carbon neutrality needed for Ireland to play its part globally in stabilising climate at as near as possible to 1.5 degrees above preindustrial levels.

The limited capacity of bioenergy to substitute for fossil fuel-based energy is not properly recognised. There are unrealistic EU and national policy supports and assumptions for biofuel and biomass consumption which do not meet sustainable energy criteria, where used as a dilute with fossil fuel perpetuate inefficient combustion engine or boiler use, and delay transition to genuine renewable energy sources.

THREATS

Effective climate action including, carbon processing for greenhouse gases, renders the Irish beef and dairy dominated production model unviable. The Irish industrial animal agricultural sector is unsustainably dependent on fodder import, which increased to a level of four million tonnes in 2018. Climate variation poses the risk of increased variability of grassland growth, as occurred with the 2013 and 2018 fodder crises. Milking parlours and milk powder production plants face being unusable stranded assets, similar to fossil fuel energy and transport infrastructure.

The current sustainability model and production capacity of bio-methane has not been demonstrated as it is based on continuing and increasing bovine agriculture and nitrogen enriched grassland.

OPPORTUNITIES

Ireland has the opportunity to take global leadership in climate action and reversing biodiversity loss.

5. Foster sustainable development and efficient management of natural resources such as water, soil and air

STRENGTHS

The entire current model of agriculture is dependent on a range of direct and indirect subsidies, which can be redirected into supporting sustainable development.

WEAKNESSES

Irish current industrial animal agriculture model is incompatible with the level of action needed to enhance surface and ground water. Irish agriculture is 90% responsible for the breaching of the EU ammonia ceiling thresholds.

Ireland does not have a strategy in place to protect the organic soil carbon, particularly in the 20% of the national land area which has peat soils. These peat soils time store 75% of organic soil carbon. The extraction of peat for horticulture, control of land burning, land drainage and management, grazing management and current forestry policy and practice are incompatible with peat soil and peatland protection.

THREATS

Continued beef and dairy production levels, pig and poultry factory farming, and non-native short rotation conifer clear-felling are incompatible with achieving sustainable development including the UN Sustainable Development Goals in relation to water and life on land.

OPPORTUNITIES

Ireland has the opportunity to diversify agriculture to provide more crops cultivable on higher quality mineral soils particularly in south and east.

6. Contribute to the protection of biodiversity, enhance ecosystem services and preserve habitats and landscapes

STRENGTHS

Ireland has major capacity to accommodate peatland restoration, riparian area restoration and native forest restoration.

WEAKNESSES

The current Irish beef and dairy expansion based on nitrate fertilised grassland, increasing ammonal levels from all sectors of animal agriculture, and the short rotation clear fell of non-native conifer plantation policy are incompatible with biodiversity protection.

Decades of successive environmental schemes and subsides have failed to reverse biodiversity loss in Ireland.

There is a lack of confidence in the current agricultural inspection and environmental protection enforcement regime in protecting water quality and biodiversity.

The interaction of animal veterinary products, herbicides, and pesticides on the terrestrial, aquatic and avian ecosystems is not being properly researched.

The vetting of sustainably sourcing of foodstuff imports, such as soya, palm oil based products, as well as animal feed, is entirely inadequate.

THREATS

The August 2017 Article 17 six-yearly report by Ireland to the European Commission on the status of EU protected habitats and species in Ireland is showing that agriculture is the major adverse threat to conservation status, with 70% of European designated habitats impacted⁴.

Key farmland bird species are declining along with a number of bee species; the National Biodiversity Data Centre is showing an average 3% annual decline in insect species⁵. The extraction of kelp and marine life for animal feed supplements is increasing adverse impacts on marine ecosystems.

OPPORTUNITIES

Ireland has the potential for major biodiversity and landscape enhancement, though peatland protection, habit restoration including in riparian zones, and native woodland restoration.

7. Attract young farmers and facilitate business development in rural areas

STRENGTHS

The national and global need for more plant based food production and biodiversity loss reversal present major opportunities for young farmers and rural economies.

⁴ NPWS 2019 Report on the Status of EU Protected Habitats and Species in Ireland (Overview): https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol1_Summary_Article17.pdf

⁵ Coordinated by Dr Tomás Murray, Senior Ecologist at the National Biodiversity Data Centre, the Irish butterfly and bumblebee monitoring schemes have revealed rates of decline in these important insects in line with the worldwide decline. "Sadly yes, across the 120 sites in our butterfly monitoring scheme our recorders have detected an average annual decline of 2.6% over the past 10 years, slightly above the global average of 1.8%. Similarly, across the 100 sites in the bumblebee scheme, our recorders have observed average declines of 3.7% per annum over the past six years, markedly above the 1.0% global average." http://www.biodiversityireland.ie/press-release-citizen-science-key-to-tracking-insect-declines-in-ireland/

WEAKNESSES

The current increase in milking investment is targeting minimum age migrant employment, therefore not sustainable employment in rural areas.

THREATS

There is a serious risk of debt burdens created by current milking parlour investment supports.

OPPORTUNITIES

The national and global need for more plant based food production, and biodiversity loss reversal presents major opportunities for young farmers and rural economies. The 2019 EAT Lancet report provides the outline of a more plant-based healthy planet reference diet including a range of crops suitable for cultivation in Irish climatic and soil conditions.

8. Promote employment, growth, social inclusion and local development in rural areas, including bio-economy and sustainable forestry

STRENGTHS

Ireland has a dispersed rural population providing a basis for sustainable employment and diversified rural economy.

WEAKNESSES

The potential for sustainable sourcing of bioenergy in Ireland is limited.

The Irish non-native clear fell short rotation forestry model is not sustainable.

No sustainable fuel source is available or viably efficient for combustion for electricity generation.

There is inadequate research in the potential of biocrops which sequester carbon in building materials, for example, hemp lyme motar as a substitute for high carbon impact gypsum cement.

THREATS

The expansion of the current beef and dairy model faces major "stranded asset" risk if climate and other sustainability targets are to be met. In this regard, the threat is similar to the redundancy and wasted investment in fossil fuel energy and transport infrastructure.

OPPORTUNITIES

The national and global need for more plant based food production and biodiversity protection present major opportunities for young farmers and rural economies.

9. Improve the response of EU agriculture to societal demands on food and health, including safe, nutritious and sustainable food, as well as animal welfare.

STRENGTHS

Ireland has the soil and climate to produce a diversified range of plant based foods.

WEAKNESSES

Ireland's industrial beef and dairy export model and factory pig and poultry sectors do not meet current societal demands for low carbon, sustainably produced food.

THREATS

Ireland's unsustainable beef and dairy expansion and current forestry model create the danger of delaying the transition to sustainable food and other crop production.

OPPORTUNITIES

Ireland has the land, soil, climate and rural enterprise potential to produce diversified plant based food: vegetables, pulses, fruits, nuts, seeds and oils.

APPENDIX A



Research Paper

Fossil Fuel and Similar Subsidies 2012-2016

Background

The UN System of Environmental-Economic Accounting (SEEA) is a statistical system that brings together economic and environmental information into a common framework to measure the condition of the environment, the contribution of the environment to the economy, and the impact of the economy on the environment. The SEEA contains an internationally agreed set of standard concepts, definitions, classifications, accounting rules and tables to produce internationally comparable statistics.

Eurostat has developed a series of legal and voluntary environmental accounts modules based on the SEEA and the CSO provides data to Eurostat on an annual basis for those modules. The CSO has published statistical releases on two Eurostat SEEA modules which complement this research paper: the Environmental Taxes and Environmental Subsidies and Similar Transfers modules.

Eurostat has developed a new module to collect data on potentially environmentally harmful subsidies¹. This first collection of data from EU countries will be undertaken by Eurostat in the second half of 2019. This new module is also building upon work done by the United Nations, OECD, International Energy Agency, and the International Monetary Fund. The methodological work being done by Eurostat, the UN, and the OECD will lead towards consistent coverage of support measures across all countries and hence the data will be more comparable across countries.

Some publicly-funded supports have a negative impact on the environment. These supports come in many forms and are accordingly difficult to measure on a consistent basis across all countries. Examples of such supports include: Direct subsidies and provision of a good or service from government; Market price interventions; Tax rebates; Reduced excise rates for certain sectors of the economy; Social supports; etc. These supports can have important social and economic purposes but can be detrimental to the environment. Alternative approaches such as refurbishment of dwellings or supporting the purchase of eco-friendly vehicles can achieve the same social purposes without having a detrimental impact on the physical environment. This research paper contains estimates for 2012 to 2016 of the extent of such potentially environmentally damaging subsidies.

Sustainable Development Goals

The United Nations SDGs contain a number of indicators that are of relevance to environmentally harmful subsidies:

- 2.b.1 Agricultural export subsidies
- 2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium- or long-term conservation facilities
- 2.5.2 Proportion of local breeds classified as being at risk, not at risk or at unknown level of risk of extinction

¹ https://circabc.europa.eu/webdav/CircaBC/ESTAT/Environment%20Meetings/Library/2019-06%20-%20Working%20Group%20on%20 Monetary%20environmental%20statistics%20and%20accounts%20(15-16%20May%202019)/ENV_MESA_WG_2019%2005b%20PEDS_pdf

- 3.9.1 Mortality rate attributed to household and ambient air pollution
- 6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
- 7.1.2 Proportion of population with primary reliance on clean fuels and technology
- 12.c.1 The amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels
- 14.1.1 Index of coastal eutrophication and floating plastic debris density
- 14.6.1 Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing
- 15.3.1 Proportion of land that is degraded over total land area

The U.N. London Group on Environmental Accounting has established a Task Force to collect data on fossil fuel supports. As part of this work, the Task Force will identify what data sources and methodologies were used by the participating countries. Ireland is a member of the Task Force.

OECD

The OECD has undertaken a considerable amount of work on potentially environmentally damaging subsidies. The OECD defines a subsidy as the result of a government action that confers an advantage on consumers or producers in order to supplement their income or lower their costs.

This definition includes tax expenditures. Tax expenditures do not appear in government budgets or accounts, however they constitute a loss of revenue by the government in order to support producer or consumer economic activity. Tax expenditures were calculated using the revenue foregone approach.

CSO Methodology

The CSO has followed the OECD approach which is broadly consistent with Eurostat. We have only included schemes that met the following two criteria:

- Were regarded as a subsidy; and
- · Were considered potentially environmentally damaging.

A subsidy is classified as a potentially environmentally damaging subsidy if it is likely to incentivise behaviour that could be damaging to the environment irrespective of its importance for other policy purposes. Examples of such subsidies include providing fossil fuels at lower prices to certain industries and providing fuel allowances to households to alleviate fuel poverty. Providing fuels at a subsidised price may result in increased emissions through unnecessary use of such fuels. An alternative to household fuel allowances is refurbishment of the property through improved attic, wall, floor, and window insulation. Those measures would greatly reduce the amount of energy required to heat a dwelling as well as resulting in much improved heat retention. They would reduce health risks from the presence of damp or mould. Subsidies that have a purpose of improving energy efficiency are included in the CSO Environmental Subsidies and Similar Transfers release. We have classified subsidies into four categories: Fossil fuel supports; Agriculture and food supports; Transport supports; and Fishing and aquaculture supports. Agricultural subsidies can result in nutrient pollution and loss of biodiversity as well as increasing demands on water abstraction. Transport supports can incentivise the purchase of vehicles while Fishing supports include grants that may result in larger catches.

Commentary

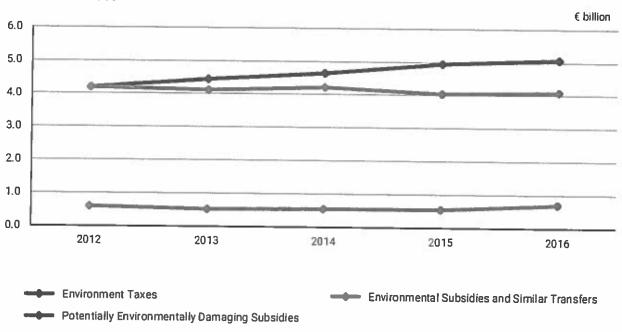
Table 1 shows our initial estimates for the period 2012 to 2016. In 2016, €2.5 billion in direct subsidies and revenue foregone due to preferential tax treatment supported fossil fuel activities in Ireland, while a further €1.6 billion supported other potentially environmentally damaging activities. Total potentially environmentally damaging subsidies were estimated at €4.1 billion in 2016. Supports to fossil fuel activities increased on a year by year basis from 2012 to 2016 from €2.3 billion in 2012 to €2.5 billion in 2016.

Table 1: Potentially Environmentally Damaging Subsidies by Activity, 2012-2016

					€m
	2012	2013	2014	2015	2016
Fossil Fuel Supports	2,260	2,315	2,380	2,479	2,505
Agriculture and Food Supports	1,904	1,760	1,739	1,462	1,490
Transport Supports	10	15	60	65	82
Fishing and Aquaculture Supports	12	22	27	29	16
Total [†]	4,186	4,111	4,207	4,035	4,093

[†]Due to rounding, totals may not correspond precisely with the sum of the categories.

Figure 1: Environment Taxes; Environmental Subsidies; Potentially Environmentally Damaging Subsidies, 2012-2016



Detailed Tables

Table 2: Direct Potentially Environmentally Damaging Subsidies, 2012-2016

	2012	2013	2014	2015	2016
Total Direct PEDS	2,168.3	2,063.8	2,108.7	1,702.4	1,799.3
Total Fossil Fuel Supports	557.6	561.7	627.5	561.4	533.9
PSO Levy: Electricity Generation from Peat	94.2	94.8	119.0	121.9	115.4
PSO Levy: Security of Electricity Supply	42.2	61.0	104.7	47.3	0.0
Petroleum Exploration and Production Promotion and Support (PEPPS) Programme	1.3	0.5	1.6	2.2	2.4
Electricity Allowance	176.7	161.0	154.6	149.6	150.7
Gas Allowance	20,6	16.3	21.8	18.8	19.2
Fuel Allowance	211.4	228.1	217.7	214.2	230.9
Other Supplements (Heating Allowance)	11.2		8.1	7.4	6.7
Fuel Grant for Disabled Drivers and Disabled Passengers Scheme		9		•	8.6
Total Agriculture and Food Supports	1,600.5	1,492.0	1,470.0	1,129.8	1,254.8
Agricultural Product Subsidies: Cattle	28.5	9.4	28.8	43.2	55.9
Other Agricultural Programmes	1,509.2	1,434.9	1,404.5	976.9	1,159.4
Subsidies and Grants for Marketing and Processing	23.5	9.5	7.5	7.7	3.5
Income and Market Supports (incl. School Milk Scheme)	14.8	12.4	1.2	69.2	2.3
Bord Bia Marketing and Promotional Expenditure	24.5	25.8	28.0	32.8	33.7
Total Transport Supports	7.4	7.6	7.8	7.6	7.6
PSO Air Services Scheme	7.4	7.6	7.8	7.6	7.6
Total Fishing and Aquaculture Supports	2.8	2.5	3.4	3.6	3.0
BIM Scaling and New Market Development Scheme			•		0.2
BIM Special Assistance for Young Fishermen	0.3	0.5	0.1	0.0	
BIM Aquaculture Schemes	0.0	0.8	1.2	1.4	0.8
Aquaculture Processing and Commerical Schemes	2.5	1.2	2.1	2.2	2.0

Table 3: Indirect Potentially Environmentally Damaging Subsidies (Tax Expenditures), 2012-2016

					€m
	2012	2013	2014	2015	2016
Total Indirect PEDS	2,017.9	2,047.4	2,097.6	2,332.3	2,293.4
Total Fossil Fuel Supports	1,702.7	1,753.1	1,752.4	1,917.3	1,970.6
Revenue Foregone: Excise Rate on Autodiesel ¹	276.9	290.9	309.4	337.5	362.0
Revenue Foregone: Excise Rate on Marked Gas Oil ¹	546.5	534.7	484.2	492.4	506.9
Revenue Foregone: Excise Rate on Fuet Oil ¹	39.9	35.7	30.9	29.7	28.3
Revenue Foregone: Excise Rate on Kerosene ¹	486	486.7	460.1	544.9	563.6
Revenue Foregone: Excise Exemption on Aviation Fuel Fuel Oil used in Manufacture of Alumina: Excise Exemption	333.4 1.3	384.3 1.3	425.9 0.6	481.9 0.0	494.4 0.0
Domestic Electricity Use: Excise Exemption	4.1	4.0	3.9	3.9	3.9
Diesel Rebate Scheme		0.7	21.1	13.1	1.3
Marine Diesel Scheme	0.1	0.2	0.1	0.1	0.1
Commercial Sea Navigation: Excise Duty Repayment	6.6	6.8	8.5	8.4	10.1
Horticulture: Excise Duty Repayment	0.1	0.1	0.1	0.1	0.0
Fuel Excise Repayment for Disabled Drivers and Disabled					
Passengers	7.8	7.7	7.6	5.3	•
Total Agriculture and Food Supports	303.7	267.9	268.9	332.2	235.4
Fertiliser: Zero Rate of VAT	29.1	35.1	30.8	31.3	27.1
Farmer VAT Refunds	48.3	50.1	50.5	54.4	55.7
Agricultural Capital Acquisitions Tax Relief	201.0	163.0	164.0	215.0	118.0
Stamp Duty Relief for Young Trained Farmers	7.9	3.8	4.7	5.2	4.6
Stamp Duty Relief on Certain Family Farm Transfers	:	0.2	0.1	0.1	0.2
Consanguinity Relief	3.7	2.0	3.0	4.7	2.1
General Stock Relief for Farmers	5.2	5.2	5.2	6.1	6.4
Stock Relief for Registered Farm Partnerships	0.1	0.1	0.3	0.1	0.5
Stock Relief for Young Trained Farmers	1.1	1.1	1.1	1.4	1.4
Exempt Rental Income from Leasing	7.3	7.3	9.2	13.9	19.4
Total Transport Supports	2.6	7.0	52.4	57.6	74.1
Touring Coaches	2.6	4.0	5.5	6.3	10.0
VRT Relief for Leased Cars	:	:	14.7	17.3	22.9
Repayments of VRT: Disabled Drivers and Disabled Passengers Scheme	:	:	23.6	24.9	30.5
VRT Exemptions	:	:	7.6	8.6	10.2
Multi-storey Car Parks	:	3.0	1.0	0.5	0.5
Total Fishing and Aquaculture Supports	8.9	19.4	23.9	25.2	13.3
/AT Relief on Fishing Vessets	7.8	18.6	23.6	24.9	13.0
Employer's PRSI Relief for Employment of Seafarers	0.7	0.4	:	:	:
Seafarers Allowance	0.4	0.4	0.3	0.3	0 <u>.3</u>

[:] Programme in operation but data not available

¹ The excise duty rate includes the carbon tax

Alternative Method to Calculating Fossil Fuel Tax Expenditures

The tax expenditures in the detailed tables were calculated using the revenue foregone approach. This method uses the deviation of the excise rate for a particular fuel from a benchmark rate (in this case, the excise rate for unleaded petrol) and calculates the revenue lost due to the lower rate of excise duty, assuming no change in fuel consumption. An alternative approach would be to also take account of the extent of the environmentally harmful effect of each fuel. A simple indicator to use is the carbon dioxide emission factor of each fuel. In this case the revenue foregone due to the difference in excise rates is weighted by the emission factor of the fuel relative to the emission factor of petrol. The results are shown in the table below.

Table 4: Fossil Fuel Tax Expenditures weighted by CO₂ Emissions Factor, 2012-2016

					€m
	2012	2013	2014	2015	2016
Weighted Tax Expenditure: Excise Rate on Autodiesel	315.5	331.4	352.5	384.5	412.3
Weighted Tax Expenditure: Excise Rate on Marked Gas Oil	622.6	609.2	551.6	560.9	577.4
Weighted Tax Expenditure: Excise Rate on Fuel Oil	50.0	44.8	38.7	37.2	35.5
Weighted Tax Expenditure: Excise Rate on Kerosene	520.87	521.63	493.07	583.97	604.04

The introduction of a weighting factor based on carbon dioxide emissions has the effect of increasing the cost of the tax expenditures. In other words, a higher rate of excise duty would be needed on autodiesel, marked gas oil, fuel oil and kerosene, compared with petrol, to reflect the higher carbon dioxide emission factors of the fuels in Table 4. This is a similar concept to the carbon tax, which is calculated based on the carbon content of each fuel. Carbon tax is included in the excise rates used for the calculations in Table 4 above.

Carbon Tax Approach

The OECD, in its work in this area, focussed on establishing an appropriate carbon tax that would reflect the environmental damage caused by fossil fuels. We have not calculated figures for this approach because the main approach in Ireland to-date is to use different excise duties which incorporate social and economic policies. A carbon tax was introduced in Ireland in 2010.

