

AGRICULTURE AND CLIMATE CHANGE: THE ROLE OF THE NEW CAP

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Cows are a major source of agricultural emissions. [US Department of Agriculture/Flickr]

EU emissions limits for agricultural gases face uncertain future

Efforts to cap agricultural emissions harmful to both the environment and human health face fierce opposition and tough negotiations before they can finally become EU law.

The proposed revisions to the National Emission Ceilings (NEC) Directive are due to be thrashed out in talks between national governments and the European Parliament in late February.

The trilogies – three way talks with the European Commission – must overcome differences between member states and MEPs. Both Council and Parliament must agree an identical text before the NEC can become law.

EU governments have already moved to strike the methane cap from their version of the bill, setting up a difficult fight to keep it in the text.

“Virtually all member states were applauding the ambition of the Commission proposal, but when it comes to accepting what they actually have to do to get there , they find it very difficult,” said Julie Girling, the lead MEP on the bill.

Discussing the methane and ammonia caps, she told EurActiv, “I expect it to be a real sticking point.”

But, she added, she would do her best to deliver the position voted for by the Parliament.

Air pollution is responsible for the deaths of 400,000 citizens a year. The bill caps six major pollutants – nitrogen oxides (NOX), particular matter (PM2.5), sulphur dioxide (SO2), methane (CH4), ammonia (NH3) and non-methane volatile organic compounds.

Methane is a more short-lived, but much more powerful global-warming greenhouse gas, than carbon dioxide. It also transforms into ozone, an air pollutant. Ammonia causes soil nitrification and acidification, and transforms naturally to become fine particles harmful to human health.

Agriculture, is heavily subsidised by the EU through the Common Agricultural Policy, and is responsible for 40% of methane emissions in the

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EU and 95% of ammonia pollution.

It is the first time that the European Commission has tried to cap methane. Environment Commissioner Karmenu Vella told MEPs in October, "To move forward, sectors that have so far done little will need to do more. [...] Efforts are needed from all sectors, including the agriculture industry. What we are after is better and healthier agriculture."

Double regulation?

But critics counter that, as a global warming gas, it should already be covered by 2030 climate change commitments. In October 2014, EU leaders agreed that greenhouse gas emissions should be slashed by at least 40% by 2030.

That formed the basis of the EU's negotiating position at December's UN Climate Change Conference in Paris, which successfully secured an agreement to cap global warming.

That could put political momentum behind lowering all greenhouse gases in future EU legislation, but sap it when it comes to targeting specifically ammonia and methane in the NEC Directive.

Better regulation

Such were the differences between the two camps that the draft legislation was under threat from the Commission's drive for better regulation.

Brussels originally planned to withdraw the bill because of fears the gap was too wide to bridge, but it ultimately stayed the axe.

The Commission will play an important role in the talks, as the different capping levels will require officials' technical expertise to explain the impact of any changes.

Despite the spectre of better regulation haunting the bill, divisions remain – even within the Parliament

itself. Some governments, including the UK, pushed for their MEPs to oppose it, earlier in the legislative process.

The Parliament's Environment Committee had strengthened targets in the European Commission's original proposal. The executive is pushing for a 30% methane reduction by 2030, which was backed by the Environment Committee, and a 27% ammonia cut, which MEPs increased to 29%.

But amendments passed by the Parliament in plenary in October meant that the 29% was watered back down to 27%.

The ammonia target was opposed by some MEPs, notably the European People's Party. The EPP, the largest group in the Parliament, branded the cap as unrealistically tough.

MEPs ultimately voted to include ammonia and methane and for binding 2025 targets to ensure countries were on track for 2030 goals.

They did exempt enteric methane, mostly caused by animals like cows burping, but that was not covered in the Commission's proposal in the first place. Enteric methane represents a "significant share of methane emissions" from agriculture, according to the European Environmental Bureau (EEB)

The Parliament's Agriculture Committee had called for the methane and ammonia targets to be dropped from the legislation before the vote.

Environmental and farming lobbies

Environmental campaigners have accused the agricultural lobby of trying to force the methane and ammonia caps to be dropped.

Louise Duprez, senior policy officer on air at the European Environmental Bureau said, "There is strong pressure from the agri-business lobby to scrap methane limits and significantly water down ammonia limits.

"Methane and ammonia contribute

to harmful ozone and particulate matter levels, causing premature deaths, allergies, respiratory and cardiovascular diseases and high associated healthcare costs."

Before the Parliament's vote, farmers' association Copa-Cogeca wrote to MEPs warning the industry will quit the European Union if they voted to cap agricultural gas emissions.

Pieter de Pous, the EEB's policy director said at the time, "Amendments to exempt farmers from pollution limits will favour the large agro-businesses who do most of the polluting, but they are certainly not in the public interest."

Yesterday, Copa-Cogeca said the Council's position was going in the right direction by dropping methane.

"But some countries still face serious problems in implementing the proposed ammonia targets," Copa-Cogeca Secretary-General Pekka Pesonen said.

"This is not good for the economy, society or the environment," he told EurActiv.

Cutting agricultural production in Europe went against the Climate Change deal in Paris, which called for climate change adaptation without endangering food production, he claimed.

Can we feed the world and halt climate change?

The fundamental purpose of farming is to feed humanity. But the reality of contemporary agriculture is often quite different, and it is costing the planet dearly.

Europe's fertile plains produce an abundant cereal crop, some of which ends up as bread or pasta. But much of it is also used for animal feed: maize provides proteins for cattle, and barley, when it is not used to make beer, is exported to feed sheep in Saudi Arabia. And one in ten European cars now runs on biodiesel from rapeseed.

The variety of different aims pursued by modern farmers have caused a ten-fold increase in the sector's environmental impact. Agriculture now accounts for one quarter of the planet's Greenhouse gas (GHG) emissions, making it one of the most carbon-intensive activities.

According to the UN Food and Agriculture Organisation (FAO), carbon emissions from agriculture have doubled in just five years, mainly due to increases in livestock breeding and the methane these animals emit. The digestive gasses produced by the world's 80 billion livestock animals account for 40% of the sector's total GHG emissions. Methane is 25 times more powerful a greenhouse gas than carbon dioxide (CO₂).

While the explosion of agriculture's carbon footprint is largely down to the production of meat and the growth in demand for meat products, the effects of deforestation cannot be discounted. The uprooting of forests and the destruction of the world's humid zones, which are natural carbon sinks, as well as the artificialisation of land in high growth areas, are also major contributors to



Our taste for meat has caused farming emissions to double in just five years. [Jennifer C./Flickr]

greenhouse gas production.

Calls for farmers to alter this alarming and destructive course have largely fallen on deaf ears. Agriculture received only the most cursory of mentions at the COP21. A source from the European Commission said, "This is a sensitive issue, and we are making gradual progress."

Under the Commission's 2013 programme of "greening" the Common Agricultural Policy (CAP), a bonus and penalty scheme was put in place to encourage farmers to preserve hedgerows and consume less water. But the programme ignores the question of surface artificialisation and the idea of limiting bovine livestock farming.

The regulatory response from the EU, which recently decided not to limit greenhouse gas emissions from livestock farming, appears weak. But for Pascal Canfin, the director of WWF France, who is working with the frozen foods retailer Picard to develop meat-free products, another approach to changing agricultural practices is possible.

"We have to target consumer habits. Encouraging local communities to choose certified palm oil, for example. Or going directly to consumers by promoting vegetarian dishes: not everyone can become a vegetarian over night, but it could help encourage people to eat less meat," he said.

At the other end of the chain, the construction of a regulatory framework

is slowly progressing. Agriculture accounts for 10% of CO₂ emissions across the EU, but with large variations from one country to another: in Ireland, for example, farming is responsible for 30% of CO₂ emissions.

Already "greened" in 2013, the CAP is due for another reform in 2020, when the focus of the model will be adapted to take into account the climate risks associated with farming. If only by changing the methodology: as climate change increases the risk of variable harvests, the new CAP could offer a system of insurance that would only be activated if the harvest was poor or price fell too low.

According to the latest study by the FAO and the Intergovernmental Panel on Climate Change (IPCC), the main risk that climate change poses to agriculture is the increased frequency of extreme weather events, like drought and flooding. The need to adapt to temperature changes is also inevitable.

Research into crop varieties that use fewer resources and less water is already ongoing. But only by reversing the upward trend of its own emissions can the agriculture sector guarantee its own future and its ability to continue feeding the planet.

This idea is behind the French "4 per 1,000" initiative; a plan to cut farming emissions by sequestering carbon in the soil.

CAP could be called in for 'better regulation' scrutiny

Environmental campaigners plan to force changes in the reformed Common Agricultural Policy by using the European Commission's 'better regulation' procedures to call in the laws for renewed scrutiny.

Better regulation is the executive's drive to cut red tape through fitness checks of EU legislation. Green NGOs will use the Commission's 'Lighten the Load' website to demand the CAP is put under the microscope. The site asks the public to suggest ways to make EU laws more effective and efficient.

If successful, it could be the first time the REFIT programme is used to further environmental goals, rather than ensure burdens on business are lightened.

The CAP is a system of farming subsidies, first introduced in 1962, and subject to regular reforms ever since. The 2014-2020 CAP earmarks about €62 billion, for the 'greening envelope' of direct payments, and €50.4 billion from the Rural Development budget. €44.2 billion was spent over 2007-2013.

"The Commission will say this is the greenest CAP ever but we have every reason to believe that is not the case," said Pieter de Pous, of the European Environmental Bureau, one of the NGOs involved.

He branded the greening of pillar one of the CAP a "complete failure". "Agriculture is the main driver of biodiversity loss," he added.

CAP subsidies did not make economic sense and only existed because of historical reasons. They



Brussels could give the reformed CAP a better regulation 'fitness check'. [Rob Bertholf/Flickr]

were effectively a social policy. If such a social policy was desired, it should not only be available to farmers, de Pous told EurActiv.

Failed objectives

Campaigners will argue that CAP has failed to deliver its objectives of viable food production, sustainable management of natural resources, climate action, and support rural employment and social fabric.

Using the executive's better regulation principle, campaigners will ask;

- Is the policy delivering results effectively and cost-efficiently?
- Is it coherent with other EU policies on areas such as water, air, climate and biodiversity?
- Does it adhere to the subsidiarity? Does EU involvement bring added value or would national policies be better?

REFIT Platform

The application process is based around a standardised online evaluation form. Requests feed into the REFIT Platform, which consists of two independent groups.

One is made up from government representatives of each member state and the other of business, civil society, and members of Economic and Social Committee and Committee of the Regions. Two members of environmental NGOs sit on the Platform.

The REFIT Platform, which meets for the first time on 29 January, analyses the requests and makes recommendations to the executive. If the decision to begin REFIT is made by the Commission, it must begin a consultation process.

It must develop questions for the relevant European Commission departments, and organise a study, or report scrutinising the law.

That too will be open to consultation before the executive takes a decision. If it decides to change the laws, the normal legislative process will begin, and involve input from both the EU Council and Parliament.

"If the Commission does not accept the application, it will then confirm a bias for business in the system," said de Pous. "If it does agree, we will have an interesting debate about how effective the reformed CAP is."

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Fitness checks

The executive has, on its own initiative, carried out fitness checks of the directives in the Water Framework Directive, the Birds and Habitats Directive, and rules on ecolabelling, environmental reporting and chemicals.

The check on the Birds and Habitats Directive sparked a record response of more than 187,000 people, all demanding the conservation rules were not weakened.

The Circular Economy Package of waste and recycling laws was axed, and later retabled, as part of the better regulation push.

Better regulation is one of the UK's demands for EU reform. The Commission hails it as an important way to fulfil its promise to be "big on the big things and small on the small things", and to reduce unnecessary burdens on businesses.

In December last year, the European Commission backed a new inter-institutional agreement on better regulation. It has yet to be confirmed by the European Parliament.

The push for better rule-making is spearheaded by Commission First Vice-President Frans Timmermans.

Copa-Cogeca Secretary-General Pekka Pesonen said "Farmers are doing their utmost to make the CAP and new greening measures work. The CAP is a market oriented policy providing support for farmers so that they can provide society with safe, nutritious, quality food whilst delivering a number of public goods in the areas of environment, animal welfare, and protecting against biodiversity loss.

"In Europe, we have some of the highest environmental and welfare standards in the world. The greening measures are however still very complex and burdensome on farmers."



An argument for vegetarianism. [David Blackwell / Flickr]

Eating less meat will save the planet, study says

The overconsumption of meat will inevitably push global temperatures to dangerous levels, a recent study has warned, urging reluctant governments to take action.

The world's rapidly expanding population is posing a huge challenge to farmers. A report published in November 2015 by Chatham House, and the Glasgow University Media Group, examined the interconnection between meat and dairy consumption with climate change.

Nearly one-third of the world's cultivated land is being used to grow animal feed. In the EU alone, 45% of wheat production is used for this purpose, with 30% of overall use met by imports.

On a global level, problems associated with rising meat consumption are only expected to get worse.

"Global consumption of meat is forecast to increase 76% on recent levels by mid-century. A 'protein transition' is playing out across the developing world:

as incomes rise, consumption of meat is increasing," says the Chatham House report. While demand for meat in the developed world has reached a plateau, consumption there has stabilised at a level which is considered "excessive", the report warns.

This will make it more difficult to meet the UN goal of limiting global temperature increases below 2°C, compared to pre-industrial levels.

"This is not sustainable. A growing global population cannot converge on developed-country levels of meat consumption without huge social and environmental cost [...] Livestock production is often a highly inefficient use of scarce land and water. It is a principal driver of deforestation, habitat destruction and species loss," the report reads.

America is the world champion

The world champion of meat consumption is the United States. Every American consumes about 250g of meat per day on average while an Indian will eat less than 10g.

In Europe, Germany finds itself topping the European table in terms of meat consumption—along with

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Denmark, Spain and Portugal. According to a report by the Federal Ministry for Food, Agriculture and Consumer Protection, 83% of respondents said they eat meat several times a week.

Adrian Bebb, a senior Food Campaigner at Friends of the Earth Europe, told EurActiv: "The mass production of meat impacts upon the lives of people around the world, on the environment, biodiversity and the climate. Sustainable alternatives exist and need to be given higher priority on the public agenda. What we eat is no longer a private matter."

How agriculture affects climate change

Farming contributes to 10% of the total EU's greenhouse gas emissions, mainly by producing two powerful greenhouse gases: Methane (CH₄) – from livestock digestion processes and stored animal manure, and nitrous oxide (N₂O) – from organic and mineral nitrogen fertilisers.

"Agriculture is a significant source of greenhouse gases; but it can also play an important role in helping to fight climate change, by acting as a sink and storing carbon in the soil organic matter and in biomass," an EU Commission

Spokesperson told EurActiv.

According to the European Environment Agency (EEA), the consumption of meat and dairy products contributed close to 25% of the environmental impacts from the total consumption of all goods and services in the EU-27.

For example, producing 1kg of beef requires 617 liters of water, a measurement known as the blue water footprint.

As far as greenhouse gas emissions are concerned, the production of livestock and fodder globally generates more than 3 billion tonnes each of carbon dioxide equivalent.

In 2014, according to Eurostat data, Germany, Spain, France and the United Kingdom had the highest number of livestock. The largest number of pigs was recorded in Germany and Spain (28.3 and 26.6 million heads respectively), cows in France (19.3 million heads) and sheep (23.0 million heads) in the United Kingdom.

Governments called to action

Governments have so far been reluctant to act for fear of a consumer and public opinion backlash.

But the Chatham House report says that risk may have been overestimated. It recommends building the case for government intervention with awareness-raising campaigns at national level linking environmental goals with other policy objectives such as managing healthcare costs.

"Messages should focus on the co-benefits of reduced consumption," the report stresses. Engaging with "mainstream media" and "non-partisan experts such as scientists" is seen as key in this respect.

On the policy level, the report says shifting diets will require "comprehensive strategies" combining the promotion of non-meat alternatives at supermarkets with other initiatives to prop up the price of meat.

These include the "removal of direct or indirect subsidies to the livestock sector", subsidising plant-based alternatives, or "interventions to increase the price of meat and other unsustainable products, such as a carbon tax."

"Government capacity to influence diets is expanding and publics are becoming increasingly accepting of the role of government in this area," the report concludes.

Commission promotes smart farming to mitigate climate change

The European Commission wants to build "bridges" between agriculture and the ICT sector in order to better address the environmental challenges of farming.

Rising demand for agricultural products – and the pollution associated with it – is putting pressure on

polymakers to find "innovative" ways of reducing the environmental footprint of the farming sector.

The Commission now believes information technologies could help farmers reduce the EU's emissions of greenhouse gases, 10% of which come from agriculture.

"These emissions have declined by 24% since 1990 while total output of agricultural production was maintained thanks to land management using modern technologies, improved knowledge and specific practices combat climate change," a Commission spokesperson told EurActiv.com.

However, getting farmers into the digital era won't be an easy task for the

EU executive.

Investing in smart farming

The EU has already taken a number of steps to integrate climate change concerns in the new Common Agricultural Policy (2014-2020).

For example, financial support to farmers is now generally provided by direct aids decoupled from production. "Cross-compliance" measures link farmers' direct payments to the observation of environmental and other legislation set at EU level. Beneficiaries of direct payments must also maintain

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agricultural land in good environmental condition.

Under the new CAP, the EU is also investing in climate-smart agriculture, with projects financed under the bloc's Horizon 2020 programme for research.

"With Horizon 2020, our efforts of research and innovation in food, agriculture, forestry and marine have doubled, reaching €3.6 billion for the period 2014 to 2020," the same EU source told EurActiv.com.

Climate smart agriculture is one of the key topics for the almost 3,000 innovation projects that are expected to receive funding from the Rural Development budget, EurActiv.com was told.

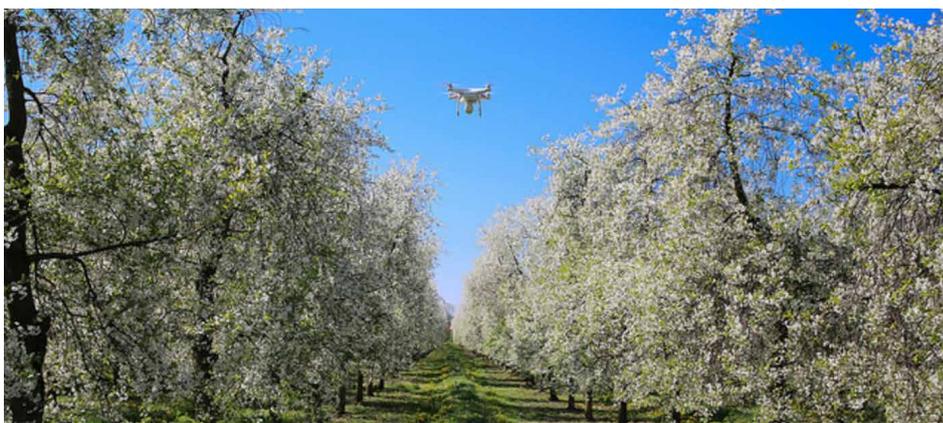
Around €64 million will be dedicated to precision farming and digital technologies in the agriculture sector under the Horizon 2020 Work Programme for 2016-2017 while €30 million will be invested in the implementation of an Internet of Things Large Scale Pilot on "Smart farming and food security".

The "last frontier"

Phil Hogan, the EU Commissioner for Agriculture and Rural Development, said the EU executive sought to establish vehicles to bring together people from the agri-food and ICT industries. This would breach the "last frontier" as products and Apps have been developed for every other economic sector, except agriculture.

"Smart and digital agriculture hold many promises for a more sustainable, productive, and competitive EU farm sector," Hogan said. "We have seen solutions that have the potential to significantly improve resource efficiency, animal health, carbon footprint, and farmers' position in the supply chain."

"This is what we mean by precision farming – harnessing ICT to enable farmers to do their work more smartly, and more efficiently."



A drone surveys rows of cherry trees in an orchard in Denmark. [Lars Plougmann / Flickr]

Hogan acknowledged, however, that agriculture had not yet caught up with the "digital revolution".

Drones in farming

Drones have emerged as one of the most promising technologies, allowing for instance the spraying of pesticides in a more efficient and targeted way. But few European farmers are currently taking advantage of it, partly because of a lack of awareness.

"In terms of the extent that drone, or precision technology, is utilised here in Europe, in comparison to the United States it is limited," said Maeve Desmond, Communications Manager at Alltech European Bioscience.

Still, precision technology in agriculture is growing, Desmond told EurActiv.com. Mapping drones, for example, can identify underperforming soil and crops.

The utilisation of drones to monitor fields investigating moisture and nutrient deficiencies in crops has massive potential for farmers while the highly advanced imaging equipment spots details too subtle for the human eye to detect.

"This allows farmers to apply treatment before the crops are impacted significantly. In the United States, for example, drones are being utilised to monitor herds, as they have the functionality to detect unusual body temperatures and other conditions,"

Desmond explained.

Many farmers have mixed feelings about drones, she conceded. But serious consideration should be paid to "the positive impact they can bring such as increased accuracy and combating challenges such as soil compaction, erosion, and damages to crops".

"If we want to ensure food security in the face of a rapidly growing global population, then we need to expand our knowledge and engage with new technologies such as drone and precision technology," she concluded.

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