



clean air farming

Reducing Ammonia and Methane  
Emissions from Agriculture

## EEB position on a methane strategy effectively reducing emissions from agriculture

29 July 2020

### Why is methane relevant?

Methane is both a green-house gas, responsible for around 24% of global warming<sup>1</sup> and it is a precursor of air pollution<sup>2</sup>; once released, it forms ground-level ozone which causes several health and environmental issues. In 2016 (latest available data), it was responsible for 14,000 premature deaths in the EU, equal to 149.000 Years of Life Loss. Ozone also damages vegetation, crops and forests.

In the EU in 2017<sup>3</sup> methane emissions from the energy sector accounted for around 16% of the total, 28% came from the waste sector while the remaining share, 54%, originated from agriculture. Of this 54%, enteric fermentation of ruminants is responsible for about 81%, manure for 17%, while contributions from rice cultivation are about 1%.

### Why is action needed now?

Contrary to what the European Commission's roadmap on the methane strategy<sup>4</sup> says, supported by the position of the agricultural sector<sup>5</sup>, currently available data about methane emissions from different

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<sup>1</sup> Intergovernmental Panel on Climate Change's (IPCC) Fifth Assessment Report, Chapter 8;

<sup>2</sup> The European Commission also committed to tackle methane emissions through a Declaration included in the National Emission Ceilings Directive 2016/2284/EU (NECD), which was published on 17 December 2016: it declared that there is a "strong air quality case" and that "it will consider measures for reducing those emissions, and where appropriate, submit a legislative proposal to that purpose".

<sup>3</sup> Data included in the latest European Environment Agency '[Air Quality in Europe – 2019 report](#)';

<sup>4</sup> [EC roadmap on the EU methane strategy](#);

<sup>5</sup> [Copa-Cogeca's intervention](#) at the stakeholder meeting organised by DG ENER on 8 June 2020

agricultural sources are more than enough to pursue with regulations. Any progress in developing and implementing Tier 3 emission inventory methodologies will be welcomed, but this positive desired development must not be considered and treated as an essential pre-condition for action. Inventories based on Tier 3 methodology are of interest to individual farmers when taking decisions about farm management practices, but not needed to produce aggregate emission estimates as basis for policies and regulations.

A Methane Strategy had already been published in the form of a Communication in the distant 1996<sup>6</sup>, 24 years ago. Looking at the data published in the 'Greenhouse gas emissions by source sector'<sup>7</sup>, we can see that in 2018 methane emissions from agriculture were higher than in the year 2010, meaning that the policies and legislation in place did not deliver any reduction of methane emissions from agriculture. In the period 2010-2018 methane emissions from the three main sectors in the EU 27 have changed: the energy sector decreased with 14,84%, the waste sector decreased with 16,6% while the agricultural sector increased with 0,62%. Giving that existing policies and measures (no binding objectives and not mandatory measures) have led to an increase of methane emissions from agriculture between 2013 and 2017, it is of utmost importance that all necessary regulatory steps are taken now to start reducing methane emissions from agriculture as well.

Eurostat shows that "between 2005 and 2016 the total number of farms in the EU (not including Croatia, as 2005 data are not available for comparison) decreased by 28.6 %, and that over the same period, the number of farms with livestock fell even stronger, by well over one third (-37.6 %)"<sup>8</sup>. This decrease in the number of farms with livestock was not accompanied by a corresponding reduction in methane emissions (the number of animals, ruminants especially, did not decrease<sup>9</sup>). This also means that the actual policy framework supports the intensification of livestock farming (big farms).

The Common Agricultural Policy (CAP) supports and incentivises intensive livestock production both directly and indirectly. Voluntary coupled support (VCS) is used by many Member States to subsidise the production of ruminant meat (sheep, goat, beef, and veal) and dairy. In 2016, 49.5% of all beef and veal cows and 36.5% of dairy cattle were supported through VCS<sup>10</sup>. Additionally, investment support (under pillar 2) is often directed at technological improvements of livestock infrastructure which directly supports intensive livestock producers and incentivise upscaling. The CAP also indirectly supports the intensive livestock sector through VCS for protein crops which are predominantly used for livestock feed and hectare-based Basic Income Support which props up the production of cheap grains and protein crops for livestock feed – with 63% of EU arable land used for feed production<sup>11</sup>. It is imperative to end these perverse incentives for a livestock model that works directly against the EU's climate, environmental and health objectives.

<sup>6</sup> [Strategy paper for reducing methane emissions](#), Communication from the European Commission to the Council and to the European Parliament, 1996;

<sup>7</sup> Eurostat, [Greenhouse gas emissions by source sector \(source: EEA\)](#);

<sup>8</sup> [Agri-environmental indicator - livestock patterns](#), page 6, Eurostat;

<sup>9</sup> [Livestock population, EU 28, 2010-2018, Eurostat](#);

<sup>10</sup> European Commission, [Evaluation study of the impact of the CAP on climate change and greenhouse gas emissions](#)

<sup>11</sup> Greenpeace, [Feeding the Problem: the dangerous intensification of animal farming in Europe](#)

## How can the EU methane strategy deliver?

The roadmap describes the Commission's intention to reduce methane emissions from the oil & gas sector acting on the so called 'super-emitters': the Commission should consider adopting the 'super-emitters' approach also to tackle methane emissions in the agricultural sector. Today, in the EU 28 methane emissions from large livestock farms with more than 50 LSU account for about 70% of agricultural methane emissions and about 40% of total methane emissions in the EU (across all sectors)<sup>12</sup>. In addition, 5% of farms are responsible for 80% of ammonia emissions. Given that also ammonia emissions<sup>13</sup> are, as methane emissions, strictly related to livestock farming and manure management, and that ammonia emissions are increasing (with most Member States not on track to meet their 2020 and 2030 National Emission Reduction Commitments<sup>14</sup>), the methane strategy should be seen as a powerful tool to set win-win mandatory measures which will reduce methane and ammonia emissions, especially tackling the so called 'super-emitters'.

As said, some of the technical measures to reduce methane emissions will also be beneficial for reducing ammonia emissions (which generate PM 2.5). Win-win solutions are: coverage of slurry stores, frequent removal of manure from the stable, extraction of biogas from slurries and manure and/or acidification of the slurry<sup>15</sup>. However, biogas from slurry is an end of pipe solution: given that livestock farming will always exist, it is necessary to think about strategies to limit to the maximum extent possible its impact on the environment, on human health and on climate. But biogas should not be considered as a 'solution' to continue business as usual, and crops which are suitable for human consumption should not be used to feed biogas plants. Circularity also means less waste, so less material to be used by biogas plants. The role of biogas plants in the future is therefore limited.

While there are technical measures which can and should be implemented at farm level to reduce methane emissions, science tells us that they will not be enough. Behavioural changes will be needed to reduce methane to a level which will allow us to be in line with climate and air quality objectives.

Applying the maximum technical potential to reduce methane emissions from all sources will not be sufficient, reduction of meat and milk consumption will be also necessary. According to the Commission's consultant IIASA, the maximum technical potential – at any cost – could reduce EU methane emissions by only 62% from 2005 to 2050, compared to a 42% reduction in the baseline. But combining technical measures with behavioural changes would bring additional reductions also from agriculture, making it possible to get closer to the Paris Agreement and air quality targets.

<sup>12</sup> IIASA, the International Institute for Applied Systems Analysis (IIASA);

<sup>13</sup> [European Court of Auditors special report, Air pollution: Our health still insufficiently protected](#): "Although EU policies regulate agricultural practices, progress on reducing air pollutants from agriculture has been very slow and since 2012, NH3 emissions have even increased. The EEA notes that despite the existence of technically and economically viable measures such as agronomic, livestock or energy measures, they have yet to be adopted at the scale and intensity necessary to deliver significant emission reductions". The ECA recommended to the European Commission to

<sup>14</sup> [Air pollution: Most EU Member States not on track to reduce air pollution and its related health impacts by 2030](#), European Commission;

<sup>15</sup> More details in the [Clean Air Farming LIFE project](#) website;

## Imperatives for system changes

Looking at future scenarios, the projections<sup>16</sup> based on the CAPRI model says that “in 2030 livestock will continue to be responsible for 99 % of all methane (CH<sub>4</sub>) emissions from agriculture, the biggest share (85%) coming from ruminants’ digestion”. “By 2030 agricultural CH<sub>4</sub> emissions are expected to decline moderately by 6% compared to 2008”<sup>17</sup>. Considering these forecasts, now is clearly the right time for the EU to support livestock farmers in transitioning: away from the current intensive livestock model, with all its adverse impacts on the environment, human health and animal welfare; towards extensive livestock production<sup>18</sup> as part of mixed agroecological farming systems<sup>19</sup>. This transition must be based on the principle of ‘less but better’: there is no way around reducing total EU consumption of animal products while increasing the quality of the products we will continue consuming, as the EEB has previously urged the Commission together with 20 other civil society and producers organisations<sup>20</sup>.

This will allow for significant mitigation of methane emissions and other negative impacts of the current model, while ensuring that the farmers earn a decent living and have more resilient production systems. Animal protein consumption is already starting to decrease in the EU: this is the right time to plan, supporting farmers to transition to sustainable models with products sold at the right price. Less meat, less milk and dairy products, higher quality and right price.

In New Zealand the Government and the farmers community agreed<sup>21</sup> on a set of steps to reduce methane emissions. One of them is methane pricing: this is the implementation of the polluter-pays principle, a pillar of the EU legal system and which, together with the pollution-prevention principle, should guide the elaboration of the EU methane strategy. Methane pricing in agriculture could also be set up considering a minimum floor, making sure that big livestock industries are the ones specifically targeted.

At international level, Parties to the UNECE Convention on Long-Range Transboundary Air Pollution (also known as the Air Convention) have recently adopted their 2020-2030 Long-term strategy<sup>22</sup>. The reduction of methane as an ozone precursor has been identified as a priority for this upcoming period. The ongoing review and expected revision of the Air Convention’s Gothenburg Protocol should also support the international community in taking measures to reduce methane emissions to achieve air quality objectives.

The CAP must be mobilised as a powerful policy to reduce methane emissions. As an immediate action, the Commission should amend its CAP proposal before co-legislators finalise their positions in order to align it with the EU Green Deal, and more specifically to integrate binding targets in the draft regulation,

<sup>16</sup> [As described in the European Commission’s ‘EU agricultural outlook - for the agricultural markets and income 2017-2030’;](#)

<sup>17</sup> [Global trends of methane emissions and their impacts on ozone concentrations, Joint research Centre;](#)

<sup>18</sup> [Future farming: a Romanian recipe for European livestock farming](#), META, EEB’s news channel, 22 June 2020;

<sup>19</sup> [Agroecology: farming for a better future?](#), META, EEB’s news channel, 24 March 2020;

<sup>20</sup> [Call for less and better meat, dairy and eggs in the Farm to Fork Strategy](#), 25 February 2020;

<sup>21</sup> [World-first plan for farmers to reduce emissions](#), New Zealand Government, 24 October 2019; [New Zealand reaches agreement with agricultural sector to price emissions from 2025](#);

<sup>22</sup> [Long-term strategy for the Convention on Long-range Transboundary Air Pollution for 2020–2030 and beyond](#);

including on GHG emissions and air pollution reduction<sup>23</sup>. In the medium-term, the Commission must commit to a strict assessment of CAP Strategic Plans – in particular proposed criteria and uses of VCS, investment support, basic income support, and eco-schemes, against the polluter-pays, pollution-prevention and do no harm principles and against its climate and environmental commitments. In the longer-term, the Commission must commit to close monitoring of the impacts of the new CAP on methane emissions and other environmental indicators and to review and improve the policy if and as needed.

Supporting livestock farmers to transition to “less but better” models should be a key priority also for EU-funded research and knowledge exchange projects (Horizon Europe, EIP-Agri, ENRD workshops).

## Conclusions

Pollution-prevention and polluter-pays principle must be guiding the development of the EU strategy on methane, having in mind the EU’s already existing commitments on climate, air quality and ecosystems protection. An action on agricultural methane just focusing on better monitoring, reporting and verification systems will be largely insufficient.

Enough data and scientific knowledge are available to formulate binding policies and regulations also for the agricultural sector. They should be set up through the EU methane strategy and the sectoral action that has been announced. Technical measures must be implemented at farm level while both behavioural changes and livestock farmers’ transition to a more sustainable and fairer model are supported.

## Contacts

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<sup>23</sup> EEB Op-Ed, [The Commission must not greenwash the Common Agricultural Policy](#).