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**<LIFE17 GIE/DE/000610>**

**Final Report**  
Covering the project activities from 01/08/2018<sup>1</sup> to 31/07/2022

Reporting Date<sup>2</sup>  
**<30/11/2022>**

LIFE17 GIE/DE/610  
**Clean Air Farming**

Data Project

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<b>Project location:</b>	Belgium (Bruxelles-Brussel), France (all regions); Germany (all regions)
<b>Project start date:</b>	01/08/2018
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Data Beneficiary

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<b>Name Beneficiary:</b>	Deutsche Umwelthilfe (Environmental Action Germany)
<b>Project Website:</b>	<a href="http://www.clean-air-farming.eu">www.clean-air-farming.eu</a>

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<sup>1</sup> Project start date

<sup>2</sup> Include the reporting date as foreseen in part C2 of Annex II of the Grant Agreement

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## 2. List of key-words and abbreviations

Abbreviation	Key-word
CAP	Common Agricultural Policy
CAF	Clean Air Farming
CH4	Methane
COP26/27	United Nations Framework Convention on Climate Change, 26th/27th Conference of the Parties
DG	Directorate General
DUH	Deutsche Umwelthilfe e.V. (Environmental Action Germany)
EASME	Executive Agency for Small and Medium-sized Enterprises
EEA	European Environmental Agency
EEB	European Environmental Bureau
ESR	Effort Sharing Regulation
FF55	Fit for Fifty Five Package
FNE	France Nature Environnement
IIASA	International Institute for Applied Systems Analysis
IMEO	International Methane Emissions Observatory
LCF	Lake Constance Foundation
LRTAP	Convention on Long-range Transboundary Air Pollution
LULUCF	Land use, Land use change and Forestry
MEP	Member of the European Parliament
MoT	LIFE Monitoring Team
MS	Member State
NAPCP	National Air Pollution and Control Programms
NECD	National Emission Ceilings Directive
NECP	National Emission Climate Plan
NGO	Non-Governmental-Organisation
NH3	Ammonia
PM2.5	Particulate matter
PNSE	Plan National Santé Environnement
PREPA	Reduction of atmospheric pollutants national plan - Plan National de reduction des émissions de polluants atmosphériques
SDG	UN Social Development Goals
SLCP	Short Lived Climate Pollutants
SME	small and medium enterprises
UBA	Umweltbundesamt (German Federal Environment Agency)
WGSR	Workging Group of Strategies and Review
ZPAP	Zero Pollution Action Plan

## 3. Executive Summary

The LIFE project Clean Air Farming LIFE17 GIE/DE/000610 (formerly: Air & Agriculture) ended successfully in July 2022 without significant technical, organisational or financial problems. The Covid pandemic briefly disrupted the process; in particular, travel regulations

restricted the conduct of events. But by offering a wide and flexible range of online events, the goals of the project could be pursued and fulfilled.

The project team consists of four non-governmental organisations: France Nature Environnement (FNE), European Environmental Bureau (EEB), Lake Constance Foundation (LCF) and Deutsche Umwelthilfe/Environmental Action Germany (DUH) as coordinating beneficiary. The project's main objective is the reduction of ammonia and methane emissions from agriculture in France, Germany and the definition of legal and policy tools to achieve reductions in all EU member states. Thus, Clean Air Farming contributes to the improvement of air quality, climate mitigation, health and biodiversity in Europe. It promotes knowledge and techniques that can reduce ammonia and methane emissions and encourages the appreciation of quality food and the reduction of food waste. The project approaches different stakeholders by applying various means, following four main project objectives:

The project improves the involvement of civil society in the relevant legislative procedures that directly affect the reduction of ammonia and methane emissions. Thanks to the project, more than 120 environmental and consumers associations, as well as health groups, had been provided with the necessary instruments to allow them to contribute to the implementation and revision processes different regulations, strategies and directives. A lot of effort was put into the National Emission Ceilings Directive (NEC), but also new strategies and regulations were focused on, especially work in the context of the Green Deal, such as the Methane Strategy, the Methane Regulation, the Zero Pollution Action Plan, Farm to Fork Strategy and the Gothenburg Protocol implementation and revision process and the Common Agricultural Policy (CAP). An important part of this coordinating work has been the transfer and search for synergies that can anchor agricultural emissions such as methane and ammonia in these windows of opportunities.

With the support of EEB and DUH, at least 30 NGOs participated in public consultations on their National Air Pollution Control Programs (where available) and demanded the in-time finalization of these. Clean Air Farming publications and a total of 54 events (e.g.: Workshops, Web conferences, conferences) in Brussels, Germany and France contributed to create skills and knowledge among more than 290 NGOs and decision makers about the relevance and effectiveness of NAPCPs as a new mandatory policy instrument for MS to combat air pollution. In Germany, the project partner DUH disseminated a detailed analysis of the shortcomings of the current NAPCP and is arguing for an update of the program to comply with the minimum requirements according to the NEC Directive.

In France, FNE strives for a better implementation and the improvement of current legislation, such as the PREPA (Plan de réduction des polluants atmosphériques – Reduction of atmospheric pollutants plan) and for a shift of agricultural practices. FNE examines different national plans with regard to air quality, health and agriculture. The lack of ambition in the national plans leads to a high risk that the NEC reduction commitments in 2020 and 2030 for ammonia will not be met. Therefore, FNE has played a key role in the “Plan for Lower-Emissions Equipment” in January 2021. And indeed, FNE and the CAF Project has been identified in this plan as key stakeholder for the sound implementation of the PREPA in the 13 regions.

FNE contributed to the improvement of knowledge among the FNE movement, the mobilization of local actors and territories, as well as the encouragement and support of the agricultural sector by the diffusion of good practices. FNE is now part of the interministerial working group (GENEM) that implements the PREPA in the agriculture sector and sensitise farmers towards less emissive practices. These meetings thus enabled FNE to integrate action

to raise awareness in the agricultural world of air quality and ammonia issues, to follow up on one of the PREPA actions, to get information from experts invited at the meetings and to share FNE views on ammonia issues and agricultural solutions. On behalf of the long-term process to a harmonization of regulations concerning Air Quality and Agriculture, also progress in the debate could be achieved.

The project team believes that ammonia and methane emissions, especially from agriculture, are poorly represented in the EU Clean Air and Climate Strategy, but even less so in national plans. Therefore, the team set out to change this, and in addition to the options that were already available at the beginning of the project, they have been given further windows of opportunity. In particular, the Green Deal and its many sub-strategies could be taken up by the project team. Often there was not the possibility to directly address agricultural emissions, but by looking at synergies, many important aspects could be brought into the political debate. The Farm to Fork strategy, the Zero Pollution Action Plan, methane strategy and following the methane regulation, health aspects, food waste and animal welfare are just a few of the issues that the project team in Europe, Germany and France have addressed in order to achieve the project's goals. Thanks to this work, the European Commission's roadmap towards the methane strategy, which was presented in July 2020, covered the three main sectors, also the agricultural sector. Project partners have called for binding measures during the next policy steps in action B.1.

In addition to the European Green Deal, the Climate Law's negotiations and the several Presidencies of the Council of the European Union were targeted with information and awareness raising actions. Especially the German presidency was used to advocate for binding emission reduction in Europe and sustainable food systems via letter, statements, press and social media work and feedbacks.

In an international context the project partners raised awareness about the need to further address ammonia and include a methane emissions reduction target in the Gothenburg Protocol. The Executive Body meeting in December 2019 was a key moment to highlight priorities to be considered during the ongoing review and possible revision of the Gothenburg Protocol. The EEB position was shared during the Executive Body meeting and included in the 'Report of the Executive Body on its thirty-ninth session'. NGO participation was possible thanks to the LIFE project. In particular, by having well-established contacts with relevant stakeholders in the Working group on strategies, the CAF team was able to advance information and the need for stricter emission levels for ammonia, as well as the inclusion of methane in the Gothenburg Protocol.

In the course of the project, the link between the proposal for a new Common Agricultural Policy (CAP) and air quality was highlighted towards the European NGO community as well as to policy decision makers. Like this, bridges between the agricultural and air quality advocacy strategies were built. Capacity building created the base for the development of national CAP strategic plans. By providing information to national groups and decision-makers with workshops and statements, while creating public pressure on the latest, the need for coherent national plans was enhanced. After the CAP is before the new CAP (2027), Even after the finalization of the current CAP, every opportunity was taken at national and international level to argue that climate protection and air pollution control in particular, along with biodiversity, must serve as an important basis for financial support in the new CAP.

Next to environmental NGOs and decision maker, the farming sector is addressed in the project. Significant progress towards the second objective sensitization of farmers associations

for meat and dairy production and of actors of the food sector was achieved by LCF. In surveys and during round tables more than 67 farmers' associations and 45 food companies and standards were informed about emission reduction measures. These important stakeholders started to get involved in the elaboration of a position paper with measures that can be implemented on farms for the mitigation of agricultural emissions and recommendations to improve guidelines in the food sector. The project has brought innovative and interested associations and standards to the table to discuss this issue together, this input has incorporated the views of these stakeholders and is also available to all stakeholders in this community as the relevance and social visibility of agricultural emissions increases.

To make agriculture vocational training fit for the future, responsible authorities in the regions have to be sensitized to integrate emission reduction measures in their educational system. DUH has hosted regional dialogue in Lower Saxony and Northern Rhineland Westphalia and has built a network with multipliers in two more regions in order to be able to facilitate capacity building among teachers, schools and influential institutions. In addition, young farmers are provided with a four best practice video with a high dissemination potential on social media. All preliminary activities were built around the goal to bring the network and the identified stakeholder together in a final high level conference, which brought together young agricultural practitioners, research representatives, as well as the German state secretary and authorities connected to vocational training issues. The debate with the participants from agriculture chambers of diverse regions which organise curricula for agriculture schools showed chances to improve the information quality and quantity – starting with this CAF Project.

Avoidable food waste causes unnecessary ammonia and methane emissions. Therefore, the reduction of food waste is the fourth objective in the project. Media and press work by DUH resulted in very high interest and was picked up by big newspapers and TV. Three successful petitions with more than 220.000 signatures augmented the pressure on policy makers. These two tools were very surely successful to raise awareness around the existing problems and simultaneously alert policy makers to the perceived need to act in this area across different groups of society. Social media campaigns created awareness among almost half a million consumers and motivated 5000 people to reduce food waste. DUH joined the NGO network "Bündnis Lebensmittelrettung" and plays a major role in facilitating a loud political voice of organisations directly contributing to the reduction of food waste. DUH work on food waste is also recognized by members of the Bundestag and the expertise is asked in public hearings. DUH has in 2021 been accepted as a member to the EU Platform on food waste and food loss, hosted by the European Commission

In total 56 events were organised by Clean Air Farming in Germany, France and Brussels. However, project messages have reached stakeholders also on the occasion of more than 100 external international networking events, which were mostly focusing on policy instruments. Project team members presented the project and participated at debates reaching over 6000 people from EU MS directly with the project messages (D.1).

Next to the networking aspect media and press work is highly relevant and demonstrated to be effective within the project. The project team use a wide range of tools. Starting with traditional means such as annual reports, printed magazines as well as newsletters. More than 3.2 million stakeholders in the project-relevant target groups have been reached in connection with the broad-based social media work, as well as more than 110 million stakeholders by 38 press releases and other project press work. In total, the project work reached more than 6,258 media representatives all over Europe and resulted in more than 120 articles in print and online media

and 14 TV, radio and podcast formats. International media in Bulgaria, Italy and Europe wide picked up information by the project and Highlight were articles in the main daily magazines in Germany "Frankfurter Allgemeine Zeitung" and in France in "Le Monde".

Even though the project started in 08/2018 successfully, since March 2020 the COVID-19 pandemic has severe impacts on the work of all project partners. All project countries faced a lockdown for two months, followed by travel restrictions and restrictions to host in-person events. In addition, there have been many changes in the project managers of almost all partners in the last 4 years, which certainly may have caused small delays in the process. But the whole team has absorbed this very well and was able to focus on the goals again and again. Further delays of the project progress were caused by a low stakeholder participation in the agricultural sector and deferrals of political processes such as the finalisations of National Air Pollution Control Programs.

The project team developed strategies to meet these challenges. In the agricultural sector a thorough communication plan helped to establish a network. The team also reacted to new political developments and contributed to new initiatives such as the European Green Deal and the EU Climate Law Regulation.

Despite the delays, significant progress has been achieved in the fields of legislation/legal compliance, change of behaviour, capacity building and awareness raising. The project team reach's the main project objectives until the end of the project. By extending the project to 4 years it was possible to accompany relevant processes with continuity and to benefit from the results of the project work.

## 4. Introduction

Ammonia (NH<sub>3</sub>) and methane (CH<sub>4</sub>) emissions in European agriculture need to be reduced. They have severe negative impacts on human health, the climate and ecosystems.

**Ammonia** forms secondary inorganic aerosols, which account for a significant share of fine particulate matter (PM<sub>2.5</sub>) in ambient air. In the EU, 307,000 premature deaths are estimated to result from the exposure to PM<sub>2.5</sub> (2019) (EEA). In addition, ammonia from agriculture contributes significantly to the excessive deposition of atmospheric nitrogen to natural ecosystems. Thus, it causes eutrophication, acidification and ultimately the loss of species. Especially low-nutrient landscape systems such as marshland and forests suffer from nitrogen input. As a third negative impact, the atmospheric deposition of ammonia also leads to the indirect formation of laughing gas, which is a strong greenhouse gas. According to the newest data by EEA for the year 2021, emissions of most air pollutants are decreasing, while emissions of ammonia continue to be on high levels all across the European Union and especially in France and Germany, which are among the top emitters. **Ammonia emissions from the agricultural sector account for approximately 95% of all emissions in EU.**

**Methane** is both a greenhouse gas, responsible for around 0.5 °C of yet temperature increase (IPCC AR6), and it is a precursor of air pollution; once released, it forms ground-level ozone, which causes several health and environmental issues. In 2019, it was responsible for 16,800 premature deaths in the EU (EEA Air Quality Report 2021). Ozone also damages vegetation, crops and forests.

In the EU, methane emissions from the energy sector account for around 12% of the total, 27% came from the waste sector while the major part of **55%, originates from agriculture**. Of this share, enteric fermentation of ruminants is responsible for about 80%, manure for 18%, while contributions from rice cultivation are about 1%.

In Europe, **89 billion kilos of good food are lost** every year. For the production of these discarded foods, over 15 billion kilos of nitrogen are used, resulting in unnecessary ammonia and methane emissions. Food waste is an ecological and climate problem. If food waste was a country, it would be the third largest emitter of greenhouse gases worldwide. Without food waste, 22 million tonnes of greenhouse gases could be saved in Germany alone. This corresponds to one third of the greenhouse gases in agriculture that could be avoided.

**Clean Air Farming operated for the goal to reduce agricultural emissions, in particular methane and ammonia.** The production of related food stuff should operate sustainably with livestock numbers that make it possible to stay within emission boundaries. Furthermore, the meat and dairy should be consumed with care and not thrown away as food waste. The project focused on capacity-building measures, improving the implementations of legislation such as the national emission ceilings directive and incorporation of the knowledge in the legislative process and in practice, promoting knowledge and techniques that can reduce ammonia and methane emissions while encouraging sustainable consumption and the reduction of food waste.

**The project goals are:**

- Raising awareness among **farmers associations and the food sector** and developing a common position
- Improving the involvement of **civil society organisations** in legislative processes and in the implementation of national air pollution control programmes
- Extending the **curriculum of agricultural training** to inform future farmers about emission reduction measures and the impact of ammonia and methane
- **Reducing food waste from meat and dairy products** along the supply chain to increase overall resource efficiency in food production and reduce absolute emissions of methane and ammonia

**Baseline:** Information and good practise to reduce emissions are available and come at low costs. The main challenge is the lack of implementation and integration of knowledge into legislative processes and into practise. Obligations to reduce CH<sub>4</sub> and NH<sub>3</sub> emissions are still rare, insufficient or, with regard to CH<sub>4</sub>, not existing. However, the application of technical solutions alone is not sufficient to reduce emissions to the required extent. This becomes clear in the context of climate protection. According to the 2021 Global Methane Assessment, methane emissions must be reduced globally by 45% by 2030 in order to comply with the Paris Agreement. This cannot be achieved with technological measures alone. A recent study by CE Delft underlines that the EU can only make its contribution to meeting the 1.5 C° target if it reduces its livestock numbers.

There is a lack of full range of information necessary for sound decision-making: politicians are strongly influenced by information from agricultural lobbyists focusing on the barriers and claiming a high economical risk for the sector instead of viable solutions. In addition, the lobbyist claim to advocate for the agricultural sector as a whole, including SME and to wanting to ensure food security. In reality, they only represent the economic interests of the agricultural industry, hence, not SME. Crises and conflicts are used by agricultural lobbyists to achieve regression in ecological progress in the EU agricultural sector. In particular, the war situation in Europe and the resulting supply shortages of agricultural inputs and goods in 2022 are used by these groups to push even harder for intensified and industrial production. The focus of industrial production in the EU is to produce quantity instead of quality products. Thus, great

environmental costs occur with production and developments have led to low food prices that do not reflect the environmental costs. Additionally, recent crises put pressures on prices and increase costs of foodstuff disproportionately to their environmental impact. Subsidies (Common Agricultural Policy) are distributed by just assuming that the code of good practice is realized in the whole sector.

The agricultural sector is a **main stakeholder** in the project. These include agricultural associations in the target countries as well as responsible actors of the agricultural training system in Germany. A connected sector is the food sector which is directly influencing the way food is produced, processed and treated (food waste). Therefore, retailers, food companies and food standards are addressed in the project. Other stakeholders on European level are the European Commission (DG Environment, DG Agriculture and DG Sante), the EU Presidency representatives and the EU Parliament and its members. On national, regional and local level, political decision makers are also addressed.

Furthermore, different types of media are targeted, because the opinion of the society and political decision makers is strongly influenced by them. Next to that, environmental NGOs and consumer associations are target groups and stakeholder at the same time, because they need information for acting and they support the project by dissemination of activities in their countries. Consumers should be adequately informed about harmful emissions from agriculture and their impact on climate and air to be capable to change their consumption choices.

The project has several **long term socio-economic effects**. Both health and economic benefits result from the reduction of air pollution and climate change impacts. Air pollution as one of the biggest environmental health risk is not only causing chronic respiratory diseases, but is also affecting the human cardiovascular system and many other body functions (Thurston et al., ERJ 2017). Furthermore, a higher prevalence and Covid-19 lethality was found at high air pollution exposure levels (Conticini et al., 2020).

According to a study by CE Delft (2020), air pollution in 432 European cities has resulted in health-related costs of 166 billion euros in 2018 even before the COVID-19 pandemic. The project brings forward reduction measures for ammonia within the implementation of the NEC-Directive. When fully implemented, the NEC-Directive has the potential to cut negative health impacts due to air pollution by half by 2030 and bring substantial benefits for the environment and climate (Clean Air Outlook, 2018).

More than one third of the European Union's budget, €386,6 billion, will be spent on agricultural subsidies within the actual EU financial budget from 2021 until 2027, this is congruent with the actual CAP timeframe. Taxpayers' money goes directly to support agricultural production and the food sector. By 2030, greenhouse gases have to be reduced by 55 to 60% and ammonia by 19%. As more than half of methane emissions and more than 90% of ammonia emissions come from agriculture, the environmental and climate-friendly orientation of agriculture is necessary to make the sector sustainable and secure the employment of 9.5 million employees (Eurostat, 2013).

## 5. Technical part

### A.1. Stakeholder Analysis, Communication Strategy, Replication Plan

Foreseen start date: August 2018

Actual start date: August 2018

Foreseen end date: December 2018

Actual end date: August 2020

As a preparatory action, a **stakeholder analysis** was completed in October 2018 in order to evaluate members out of the three stakeholder categories political decision makers,

environmental non-governmental organisations and media. Those stakeholders with a high potential to influence the reduction of emissions are in the focus of the project. All together 70 actors were identified and analysed based on different criteria.

The analysis provided further insights and ideas for the **communication plan** (02/2019). The plan set adequate instruments to address the relevant actors and multipliers and describes the channels of communication. As a supportive action a part of the second project meeting in February 2019 was dedicated to a communication exercise (“Smart chart”) including an internal and external scan of current debates in the farming sector. The communication is evaluated and monitored regularly in evaluation reports (C.1 and D.2).

Additionally, the project team established a **revised communication plan** (08/2020) as requested by Ms Ettorre on 18 March 2020. This was also a result of the second advisory meeting in order to enhance the uptake of project messages in the farming sector. In the revised plan we used a new approach to identify obstacles in the communication. That is done by setting a clear vision of a future low-emission agriculture and understanding the motivation of the target groups, potential allies and strategic messages. In order to bridge gaps between farmers’ interests and environmental goals, the communication must contain the common understanding about the importance of farmers for rural areas and the regional food supply. The solutions for manure management, livestock housing and nutrient management often have multiple benefits for farmers, climate, clean air and animal welfare.

No	Deliverable	Deadline	Delivery	Report
A.1_1	Stakeholder analysis	10/2018	10/2018	MTR
A.1_2	Plan to Promote Replication	12/2018	04/2019	MTR
A.1_3	Communication Plan	11/2018	03/2019	MTR

## B.1 Coordination of NGOs’ involvement and contribution to the implementation phase of the NEC Directive

Foreseen start date: 1 August 2018

Actual start date: 1 August 2018

Foreseen end date: 31 July 2022

Actual end date: 31 July 2022

In the period 1 August 2018 until 31 July 2022 EEB closely monitored and contributed to the implementation of the National Emission Ceilings Directive, with a particular focus on agriculture emissions (ammonia and methane).

Public participation in the preparation and finalisation of NAPCPs has been generally evaluated as insufficient compared to the minimum standards established by EU law: more details can be found in the dedicated analysis. **Letters** were sent by EEB to all 28 Environment Ministers in August 2018 asking also for details about the timeline of the mandatory public consultations. Few answers were received, and even less information was shared regarding the timeline of the public consultation. EEB provided its members with a **draft letter** that they could use to address their Governments requiring ambitious NAPCPs based on effective public participation.

Once the 1 April 2019 deadline for the finalisation of the NAPCPs expired, EEB, together with its members based in 3 countries (IT, SK and RO), sent **letters** requiring the finalisation of the process. Based on the **organised workshops and on the information disseminated** (including the draft letter), national groups were in the position to contribute to the public consultations on their NAPCP highlighting the need to include effective measures to reduce ammonia (and which will also deliver methane emissions reduction) while also supporting the inclusion of a

methane emission reduction target.

Given that the majority of MS disregarded the timeline (and related deadline) to deliver their NAPCP, the only time reference present in the processes to produce NAPCPs got lost: it has therefore proven to be difficult to follow and understand what was happening at national level. EEB provided member organisations with a tailor-made **draft letter** (basic model is available in folder B1) to be addressed to their Environment Ministers regarding their NAPCPs. Organisations in CZ, PL, SK, IT, HU and PT decided to use the letter's content during in-person meetings or as part of their feedback to the national public consultations. Organisations in DE and DK have sent the letter to their Ministry.

The use of the **adjustment mechanism** by Member States (EEB Monitoring Report on the requests presented by MS) had been monitored and assessed. An **evaluation paper** has been produced to facilitate the monitoring of this Member States' activity during the project implementation period. A **joint letter** (partner NGOs) was sent to the Environmental Commissioner Karmenu Vella highlighting the need to limit the use of the adjustment mechanism. An answer was received on 24 September 2018: the Commissioner shared NGOs concerned about the level of emissions. Looking at the requests presented by MS in the period 2017-2019 it is evident that the adjustments which were first agreed on in the first year of possible submission (2017, covering the period 2010-2015) were going to be guaranteed also in the coming years. Several MS put forward the request to adjust their ammonia emissions inventories on agricultural sources for the period 2010-2017: AT, DE, DK, ES and FI (FI extended its request to agricultural ammonia in 2019). The request presented by ES in 2017 was rejected (the only case) and not re-presented. EEB and EEB members advocated for the rejection of the adjustment requests put forward by MS through **letters**, group exchanges during the **Clean Air Working Group meetings** (in which the responsible official in DG ENV always participated) and also raising [media attention](#) at EU and at national level.

A **in-person workshop** (financially covered by EEB Core Grant Sga year 2019 – agreed before the awarding of this LIFE project), was organised on 8-9 April 2019. **Another in-person workshop** was organised back-to-back with the methane conference on 6 November 2019. NGO representatives and experts participated. Updates on the NECD implementation, including on the pending adjustment requests, were shared by the European Commission representative.

After that physical meeting covid restrictions came in and meetings were therefore held online (budget underspent).

**Two online NGOs workshops** had been organised in the period April-May 2020. One meeting focused on updates by the European Commission representative managing the NECD related work, followed by an interactive exchange. The second one was aiming at building capacities of the NGOs community about how to assess the compliance of their MS with the NECD requirements, in particular, about the mandatory elements that a National Air Pollution Control Programme must include to be considered lawful and tips to assess the overall Programme.

A [Concept paper for NGOs capacity building workshop](#) had been prepared and distributed to national groups (not only EEB members, but also health organisations).

The initially planned **overview use of measures to reduce ammonia and methane emissions at farm level** through national farming associations proved to be impossible to deliver due to the difficulties in getting national farming associations' support. Deliverable B1\_3, in the form in which it was initially conceived, proved to be impossible to be delivered. Nevertheless, Member States willingness to put in place relevant measures to cut ammonia and methane

emissions was further investigated thanks to active EEB's members, and the outcome of this investigation is collected in the 'Overview' included in folder B1, which also includes an **evaluation of the involvement of NGOs in the national draft NAPCPs (B1\_1)**. In addition, giving the many difficulties in gathering the necessary information to elaborate the initially planned overview (B1\_3), EEB advocated towards the European Commission to promote its engagement in making this information available; this resulted in a dedicated workshop jointly organised by DG ENV and DG AGRI to which national farming associations and EEB (the only NGO) were invited to share available information on adopted measures and debate about possible bottlenecks.

EEB submitted an **access to information request** to the European Commission to get hold of any possible communication that the European Commission has had with Member States regarding their non-compliance or risk of non-compliance with the NEC Directive. The information received consisted of letters and was analysed by EEB (**a briefing was prepared**) and then shared with relevant NGO groups at national level for them to consider and use in any advocacy or legal action they were planning or could have planned. A **draft letter** to be addressed to national governments was also prepared and shared with EEB members, so they could have a basis for elaborating key demands regarding the NECD implementation gaps. The letter had been used by national groups in different times afterwards.

The need to reduce emissions of methane and ammonia from agriculture was promoted in several different settings: during the two European Commission's **Clean Air Forum** organised in November 2019 in Bratislava (500 participants), and in November 2021 in Madrid (hybrid, with a preparatory meeting organised for the NGOs participating). In both Clean Air Forum EEB contributed to the **panel debates** focusing on air pollution from agriculture. EEB gave input to **MEPs** during the drafting of the European Parliament's Communication "**Clean Air for all**", highlighting the need to put agricultural sector in the spotlight; providing support in the formulation **Parliamentary questions** on the EC Communication "Clean Air for all" with a question focused on agriculture and ammonia emissions, contributing to the definition of the framework for the **European Health Parliament's recommendations on air pollution** (pushing for widening its focus to also include air pollution from agriculture among the key sources to be covered); contributing to the definition of the Committee of the Regions' opinion on "**the Future of EU Clean Air policy in the framework of the zero-pollution ambition**", which reflected the need to highlight the role of agriculture and of the Common Agriculture Policy. EEB also cooperated with MEPs to draft the **Ambient Air Quality Implementation report** published in March 2021, especially pushing for it to duly highlight the responsibility of the agricultural sector in the concentrations of air pollution and the importance of the National Emission Ceilings Directive to deliver also on the Ambient Air Quality Directives' objectives.

EEB prepared and disseminated to the NGO community a **concept paper for NGOs capacity building workshop**.

An important milestone which EEB largely contributed to set (as the only Brussels based organisation covering methane emissions from agriculture) is the European Commission's **Methane Strategy**: initially focused only on energy-related methane emissions, EEB deeply engaged in the debate and managed to expand its scope to also cover methane emissions from waste and agriculture.

EEB and DUH participated in and contributed to several meetings organised by DG ENER, highlighting the need for an overall methane emissions reduction target, coupled with the

definition of [mandatory measures](#) to be adopted at farm level. DUH stated its concerns about the roadmap in letters to MEPs and European Commission Frans Timmermans. [FNE, DUH and EEB sent feedback](#) to the consultation on the roadmap for a methane strategy. EEB also contributed to the Energy Taxation Directive and Energy Efficiency Directive public consultations to highlight the importance of considering the environmental and health costs related to air pollution, including through methane emissions. Several bilateral meetings with MEPs and European Commission representatives in DG AGRI, DG CLIMA and DG ENV were held to advocate for a comprehensive strategy.

[EEB produced a Methane Strategy](#) which has been considered as a guiding document by several organisations and that managed to trigger interest and engagement by different stakeholders, including other NGOs and policy-makers, especially MEPs and MEPs' advisors, in relation to the topic of methane emissions from agriculture. Giving its expertise, EEB has been appointed by the college of European Parliament groups' coordinators as one of the two experts to cover the agriculture methane topic in a dedicated public hearing organised by the ENVI, ITRE and AGRI committees (**thank you letter by the European Parliament ENVI Committee President is uploaded in B1 folder**).

EEB's position on emissions from agriculture and the related implementation of the NECD had been regularly disseminated to its media channels and promoted towards [media articles](#) and [journalists](#) who regularly approached EEB to understand how the topic was evolving. EEB was invited to speak in several events about the topic of methane emissions from agriculture and will also seat in the NGO community Mirror Group providing input to the Advisory Council of the IMEO (International Methane Emissions Observatory) under the UN Environment Programme.

EEB promoted and pushed the European Parliament to adopt a [report focusing on methane emissions](#): EEB helped in drafting the text, to follow-up on the consequent amendments, it informed EEB members, advocated directly towards MEPs and assisted national groups in their own advocacy action to support the adoption of an ambitious report and promoted NGOs engagement also preparing and distributing a communication package to be used ahead of the vote in the European Parliament (EP). This effort resulted in a EP's report which clearly and properly address and emphasise the urgency of tackling methane emissions from agriculture, including the need for having specific measures at farm level to tackle it at source.

On 2 June 2022 EEB organised a **breakfast meeting for MEPs** focusing on agriculture methane emissions to which around 10 MEPs were invited to participate in. Initially accepting the invitation, the majority of them has then declined due to an overlapping meeting organised at a last minute by the ENVI Committee. The meeting then turned into a more intimate setting in which EEB and DUH representatives met with the rapporteur of the Methane Regulation, MEP Jutta Paulus, and the Green advisor covering the topic of methane emissions and were able to deeply discuss and promote the uptake of NGOs demands, while also touching on sensitive political aspects and insights.

A [video](#) with English, German and French subtitles was produced to collect experts' views on air pollution from agriculture. The video had also been displayed at the Clean Air Farming exposition booth during the Clean Air Forum in Slovakia in November 2019.

EEB prepared a [podcast interviewing several city representatives and experts](#) investigating about their awareness regarding the contribution that the agricultural sector was making to the air pollution levels in their area.

EEB is and will remain active on the issue of reducing air pollution from agriculture, also

through a proper implementation of the NECD, guiding national groups in the upcoming process of revision of their NAPCPs. This LIFE project allowed EEB to deeply investigate and engage on the links between air pollution and the agricultural sector and to promote this understanding towards national groups. The expertise acquired will serve, also in the future, as a .

Outside LIFE: During the project implementation period EEB regularly addressed EU Presidencies calling for swift action to reduce emissions of ammonia and methane from agriculture (in meetings and in written form).

EEB addressed the Working Party on International Environment Issues on the implementation of the **Aarhus Convention** on access to Information, Public Participation and Access to Justice (Environment Council formation) during a meeting on 15 May 2019. It was highlighted that insufficient action was taken to guarantee effective public participation in the decision-making process leading to the finalisation of the NAPCPs.

EEB advocated for the development of a EU Climate Law containing a dedicated reduction target for methane emissions.

EEB produced a report titled '[National Air Pollution Control Programmes: analysis and suggestions for the way forward](#)', investigating the first National Air Pollution Control Programmes in key countries and elaborating recommendations for the European Commission and national governments on how to deliver lawful Programmes. The next ones are expected by 1 April 2023.

No	Deliverable	Deadline	Delivery	Report
B.1_1	Overview and evaluation of the involvement of NGOs in the national draft NAPCPs	07/2022	12/2020	FR
B.1_2	7 NGOs from 7 MS send letters to Environment Ministries asking for stricter ammonia emissions and a cap on methane emissions	10/2018	12/2019	MTR
B.1_3	Collection of feedback from national farmers associations in EU MS on the use of measures to reduce ammonia and methane emissions	05/2019	12/2020	FR
B.1_4	EEB Monitoring Report on the requests presented by MS to the NEC Directive	03/2022	12/2021	FR
B.1_5	Proposal for a European Methane Strategy	10/2020	08/2020	FR
B.1_6	Guidelines and documentation of 4 NGO Workshops	11/2020	11/2020	MTR

## B.2 Contribute to the implementation of the revised NEC in Germany

Foreseen start date: 1 August 2018

Actual start date: 1 August 2018

Foreseen end date: 31 July 2022

Actual end date: 31 July 2022

**DUH contributed to the preparation and implementation of the NEC.** The process of elaboration was accompanied, e.g. through own stakeholder workshops together with responsible authorities and other stakeholders or the active participation in workshops of drafting authorities. Additionally, pressure was put through statements and comments on relevant ministries, especially as delays occurred. Also, EU Commission was pushed for to have a look after the appropriate implementation of the NEC Directive in Germany. Moreover, supportive information work, a position paper, and further workshops were provided.

The NAPCP was delayed but finalized in 2019. However, the plan was not ambitious enough, especially for agricultural NH<sub>3</sub> emissions. We conducted a continuous monitoring of the annual reporting and regular statements in exchange with the respective authority (within the framework of a law suit initiated by DUH (outside LIFE)). DUH submitted a detailed consultation statement to the German draft NAPCP in February 2019 to stress the lack of measures to reduce emissions. This was delayed due to the late proposal of the draft NAPCP in December 2018. We suggested to include strategies to reduce nitrogen surplus in the NAPCP. The consultation statement described DUH's proposal for a sound NAPCP and was therefore the **first milestone** of the action. It was also subject of a first **stakeholder workshop**, which was organised to exchange and multiply knowledge among German NGOs with in February 2019. As a result, several participated NGOs submitted statements to the draft NAPCP as well. Additionally, we expressed our concerns in a joint public letter towards the German environmental minister in April when the NAPCP was still not final. State secretary Mr Flasbarth answered and promised to decide on a strong NAPCP soon.

The **second stakeholder workshop** in January 2020 focused on the potential conflict of animal welfare and emission reduction. We invited farmers to explain the pig housing concept which emit less ammonia and give animals more space. A representative of pig farmers association outlined the regulatory obstacles whereas a speaker from the ministry explained the planned policy frameworks. The full seats in the venue and the extended discussion proved the high interest of the audience.

In 2020, the European Green Deal, the Farm to Fork Strategy and the German Presidency of the Council of the European Union provided windows of opportunity to advocate for binding emission reduction in Europe. We therefore elaborated a comprehensive position paper to demand an ecological future of the Agriculture in Germany (outside LIFE). Ammonia and methane emission reduction needs to be integrated in farming systems that sustain a farmers living as well as protecting soil, water and biodiversity.

The project messages were then presented at a **virtual press conference** shortly before the start of the German presidency on 30 June 2020. Several journalists registered for the event. Among them the Germany's main public-service broadcast. The project's messages were presented at the press conference by Annette Stolle and picked up by 31 articles, reaching 14.7 Mio people. In total, DUH sent out **20 press releases** to demand a strong policy measures to reduce emission from farming. More information can be found in the evaluation report (C1, D2 and D3).

Since there was very short time between the draft NAPCP and the agreed NAPCP a **position paper** was elaborated on the agreed NAPCP in August 2020. It explains the risk of the programme to fall short. Strong and binding measures have to be decided on instead of policy options that seem not to have funding nor responsible institutions in charge. As a **second milestone**, the position paper was disseminated widely to decision makers and accompanied with media work in the magazine "Umweltbriefe" and the online Media "klimareporter.org". 736 Articles and social media messages were published, reaching more than 110 Mio. people during the Project run time. In tweets and postings, we for instance rose awareness for air pollution by ammonia and methane. In addition, print magazines reported on the front page, newsletter were sent to 230,000 subscribers and the DUH website contributed to disseminate messages. Detailed information are described in action D.3.

In addition to the foreseen activities, we commented on several policy plans (outside LIFE). DUH urged to implement measures to reduce methane and ammonia emissions within the Climate Plan for the region of Baden Württemberg, the statement to the National Energy and Climate Plan and the EU Farm to Fork strategy.

For sustainable food production, the EU needs a transition to an agricultural system with fewer livestock numbers and a widespread adoption of measures to reduce ammonia and methane emissions from stables and fields. An important issue is also how to finance the transformation of the livestock sector. We therefore assigned the scientific institute “Green Budget Germany” with conducting a study investigating possible economic instruments to support such a transition. In advance, we organized the **fifth stakeholder workshop** in January 2021, “Economic instruments for air pollution control in agriculture” to gather information about the topic and define the focus of the research. Respective instruments should motivate farmers to implement emission control measures without having to bear all the costs, especially small farmers who are already struggling to survive. For this purpose, three different types of levies (animal welfare levy, ammonia levy, climate levy) have been compared and it was found that all have advantages and disadvantages depending on the objective to which they contribute to. From the results, DUH concluded that an ammonia levy which is charged above a certain number of animals in relation to available farm land, increasing progressively with animal density and which is channelled back to the farmers through a fund solution, is the most effective instrument to achieve ammonia and methane reduction at the same time, support farmers and induce the needed systems transformation. The gained knowledge about best practice was discussed at an international expert talk (**sixth stakeholder workshop**) in August 2021, where also knowledge, concepts and experience from various countries such as Denmark or the Netherlands were exchanged. DUH derived policy recommendations and from then on, disseminated the results and the identified levy type extensively, bringing them into scientific and political discourse. It has fed the German election campaigns as well as coalition negotiations and has been presented on several occasions such as COP26, discussions with ministries, EU COM and other groups.

Influencing the coalition negotiations with this and other project claims over the year 2021 has resulted in the uptake of key messages into the **Coalition Treaty of the Federal Government 2021**. In the document, the new government set itself the target to reduce agricultural ammonia and methane emissions through appropriate measures. In addition, it is stated, that air pollution control shall be improved by adjusting animal numbers (ammonia, particulate matter). It is important to mention that those points did not appear in the election programmes, but were recommended to the respective parties by DUH in the framework of the project. As an example, a letter to the working agricultural groups of the coalition treaty negotiations can be found in the annex. In addition, the appendix contains the German coalition agreement with the relevant parts marked. (row 1367–1377, 1413–1416, 1518–1523). To simultaneously increase awareness about the issues of agricultural emissions among the public, DUH ran a social media campaign a few weeks before the federal elections. Here, cooperating with known personalities increased outreach of project messages. High numbers of comments and reactions show that DUH had succeeded in initiating discussions and hence creating awareness.

Since the NEC at EU level is fixed the implementation and revision process at national level is every four years, we saw the potential of broadening the scope and using other windows of opportunity in the meantime. Meanwhile we conduct continuous monitoring of the annual national reporting (Germany) and stated out regular statements in exchange with the respective authority.

The Green Deal and its subordinate strategies were put into focus: Consultation statements on the Farm2fork Strategy, Methane Strategy/Regulation, or the Zero Pollution Action Plan (ZPAP) were submitted. While doing so, the need for NEC/NAPCP improvements has always been communicated and we continuously targeted the EU level for national implementation and thus increased pressure on national authorities. The revision by the EU COM in the end of 2021 revealed poor national NAPCPs. EU Com shares CAF opinion and sees increased risk of non-compliance with NEC requirements, coincides with our assessment. Therefore, we have put pressure on German national authority (BMUV) with press work and requests based on environmental information act. Additionally, the European Common Agricultural Policy (CAP) was addressed. In a **third stakeholder workshop** in march 2021, DUH discussed needs for change regarding the national plans of the CAP.

Synergies especially arise when combining air quality and climate protection aspects of emissions. Due to the rising recognition of methane’s relevance for climate change, we increasingly addressed climate aspects over the project duration while continuously communicating air pollution control demands. We for example, organized a **fourth stakeholder workshop** in May 2021 in the framework of the European Green Week to raise awareness about methane as a short lived climate pollutant (SLCP). With statements and letters, we pushed decision-makers to go for sustainable agriculture and concrete methane reduction targets. We particularly pointed out the synergy effects of measures for climate protection and air pollution control. More ambitious approaches in the dossiers of the FF55 package will also lead to improvements in air pollution control, on the one hand less CH<sub>4</sub>, less ozone, on the other hand effective measures to reduce CH<sub>4</sub> are synonymous with a reduction of NH<sub>3</sub>.

The NEC is not a coincidence, but a translation of the Gothenburg protocol (GP) requirements into EU law. The GP was ratified by all MS for the first time in 10/2019. It’s review is going on and to be finalized by the end of 2022. We therefore, continuously accompanied the process, for example by monitoring UNECE WGSR meetings and active participation, exchanging on the relevance of NH<sub>3</sub> and CH<sub>4</sub>, especially from agriculture. As **second roundtable for journalists**, we organized a press event in May 2022 together with the Environmental Agency and Chair of UNECE WGSR Air Convention raising awareness on the importance to especially take up methane into the protocol as part of the revision. We also maintained close contacts with stakeholders of the review process, for example via our project’s Advisory Board. UNECE has already stated that NH<sub>3</sub> must be given stricter targets after GP Review (biodiversity and health, most important drivers). We therefore exchanged with WGSR stakeholders to support progressive participants in setting and focussing topics.

DUH participated at more than 30 events that were organised externally or outside the LIFE project. At those occasions, we held presentations or talked to other participants directly. Thereby project messages reached roughly 5900 people. Especially personal contacts with at least six representatives of the German environmental and agricultural ministries were made like that and via phone calls. In a personal meeting commissioner Virginijus Sinkevičius was addressed and urged to take action for a strong implementation of the NEC Directive.

No	Deliverable	Deadline	Delivery	Report
B.2_1	Concept for six stakeholder workshops	08/2018	08/2019	MTR

B.2_2	Consultation statement to evaluate the governmental NAPCP proposal	10/2018	02/2019	MTR
B.2_3	Six press releases	02/2021	11/2021	MTR (5)
B.2_3	Six press releases	02/2021	11/2021	FR (1)
B.2_4	Documentation of six stakeholder workshops	02/2021	08/2021	MTR (2)
B.2_4	Documentation of six stakeholder workshops	02/2021	08/2021	FR (4)
B.2_5	Documentation of roundtables for journalists	03/2022	05/2022	MTR (1)
B.2_5	Documentation of roundtables for journalists	03/2022	05/2022	FR (1)
B.2_6	DUH Position paper on the German draft NAPCP	10/2018	08/2020	MTR

### B.3 Contribute to the implementation of the revised NEC in France

Foreseen start date: August 2018

Actual start date: August 2018

Foreseen end date: 31 July 2022

Actual (or anticipated) end date: 31 July 2022

The PREPA is an essential plan for the implementation of the NEC directive and draws on existing local plans, including regional climate, air and energy schemes and atmosphere protection plans. **In March 2019, FNE drew first proposals for effective measures for the implementation of the PREPA** (Plan National de réduction des émissions de polluants atmosphériques - French NAPCP) **in 13 regions** (See Annex B.3\_6).

The **FNE position paper on the French PREPA** was published on June 2019, and has been updated in 2021 during the revision process (See Annex B.3\_1). The note was brought to the decision-makers met (MPs, MEPs) within the framework of the Clean Air Farming project. The note was brought to relevant departments of both the Ministry of Agriculture and the Ministry of Ecology, as well as within the framework of consultation meetings at the National Air Council and the GENEM group (Managing nutrient substances and emissions into the environment).

The final public consultation of the next plan has not occurred during the Clean Air Farming project but is scheduled for the second half of 2022. In application of articles 6 and 10 of the NEC 2 directive, the PREPA must be updated on April 1, 2023 at the latest. Even though, FNE has played a key role in the “Plan for Lower-Emissions Equipment” in January 2021, Chapter: “Dissemination and counsel to the agriculture sector” for implementation of the PREPA actions. Indeed, FNE and the CAF Project has been identified in this plan on Axe1 – Action 2 (*Facilitate changes in scale and behaviour in the adoption of less emissive agricultural practices and application equipment less emissive*) **as key stakeholder for the sound implementation of the PREPA in the 13 regions** (milestone). NH<sub>3</sub> reduction emission targets were met during PREPA 2017-2021. But, to reach the -13% ammonia reduction by 2030, more ambitious measures are needed for the next PREPA (according to public scenarios). Thus, it has been established that nozzle/flapper system for manure spreading are planning to be forbidden in France by 2025 as FNE was requesting.

FNE has developed a strategy to join the working groups within the reference authorities: First, FNE was able to obtain information from the National Air Council (Conseil National de l'Air), whose mission is to communicate the PREPA Status Report. Anne Lassman-Trappier, FNE representative, has been proposed by Jean-Luc FUGIT (MP and Chairman of the National Air Council - CNAir) to coordinate CNAir's opinion on the PREPA proposal. CNAir opinion paper was adopted on 30th November 2021, including FNE position.

In 2018, the **Ministry of Agriculture and the Ministry of Ecology** set up a scientific and technical committee on "Managing nutrient substances and emissions into the environment (**GENEM**)". Initially focused on nitrates pollution, the scope was expanded to air quality in agricultural areas. FNE joined the consultation group, which monitors the progress of work on developing, implementing and evaluating the technical and regulatory framework for public policies. FNE attended the GENEM consultation group with researchers, agronomists, civil servants, elected officials, other associations and farmer representatives. The **meetings with experts talks** took place in 2020, on February 6, April 28, July 2, and September 20, and in 2021, on September 16 and October 21. France Nature Environnement representatives (Sylvie Platel, Thibault Leroux, Anna Cohen, Abelardo Zamorano) attended these meetings (See Annex B.3\_4). These meetings thus enabled FNE to integrate action to raise awareness in the agricultural world of air quality and ammonia issues, to follow up on one of the PREPA actions, to get information from experts invited at the meetings and to share FNE views on ammonia issues and agricultural solutions.

FNE has already held a several meetings and background talks at **events with different stakeholders**:

- technical workshop on 'Air quality and fertilisation: reducing ammonia emissions', COMIFER, 14 March 2019
- technical workshop on 'Interactions and benefits of actions for the climate, air quality and energy' CITEPA, 12 June 2019
- meeting with Ministry of Agriculture and Environmental Air Quality on March 2019
- meeting with Cédric Messier (December 2018 and December 2019). The Air Quality department from environment ministry is very interested in the CAF project and support FNE action on the topic.
- 26 February 2020: Conference "Agriculture et Air Quality by APCA". The conference brought together many actors from Lorraine region and elsewhere around the cross-cutting theme "Air Quality, Climate Change and Energy".
- On 6 March 2020, Sylvie PLATEL organised an expert talk with an agricultural air quality specialist who manages several components of the PREPA: Lionel Launois, Policy Officer, Assessment of environmental performance & air quality. (French Ministry of Agriculture, Agrifood, and Forestry).

Sylvie Platel and Thibault Leroux met **French Members of the Parliament** from 02/12/2019 to 07/07/2022 (See Annex B.3\_2). The MPs are Elisabeth Toutut-Picard (LREM), Sandrine Lefeur (LREM), Jean-Luc Fugit (LREM), Paul Mollac (LREM), Michèle Cruzet (LREM), Joël Labbé (EELV), Aurélie Trouvé (FI), Loïc Prud'homme (FI), Mathilde Hignet (FI) et Dominique Potier (PS). Many meetings were cancelled and postponed due to the social crisis and then the COVID-19 pandemic. The MPs have become intermediaries for FNE on French legislation process (climate and resilience law in 2021, Jean-Luc Fugit is the National Air Council Chairman, Elisabeth Toutut-Picard was the Chairwoman of the Steering committee for Health and Environment Plans – See Annex B.8\_3)

**Two trainings for FNE members** (See Annex B.3\_3) took place in Pontivy (Brittany, 10 December 2018) and in Montauban (Occitanie, 27 June 2019). They raised awareness among participants of issues involving air quality and emissions from the agricultural sector, and also helped to acquire field experience among the FNE network of environmental NGOs. Because of the COVID crisis, it was decided to replace these trainings in the field by e-trainings and webinars. In the end, **7 e-trainings has been organized** from 19th November 2020 to 17th May 2022. They have gathered in total 368 people. During the last months of the project, instead of building 4 additional e-trainings because of accumulated delays, it has been decided to prioritize the production of a video with Regional CIVAM Network from Pays de la Loire to raise awareness of best agricultural practices, as it was estimated that it would reach more people than through webinars. Indeed, the [video](#) was viewed by 400 people just a week after it was uploaded on July 27, 2022.

The key and only interlocutor to FNE at APCA (Assemblée Permanente des Chambres d’agriculture – Coordination body of the Chambers of Agriculture) left APCA in late 2019, and has not been replaced. It seemed that the subject was not an APCA priority any longer. Therefore, **roundtables with the agricultural chambers** were not possible to be organized till 2021. Eventually FNE co-organized roundtables with three other major agricultural players in France: the CIVAM network, INTERBEV and the CNIEL (See Annex. B.3\_5). In the roundtables organized by FNE, experts and members of other French environmental NGOs were invited to discuss with farmers and their representatives. Each roundtable was dedicated to a topic, a debate relating to emissions of agricultural atmospheric pollutants and possible changes in practices. The dates and topics discussed were:

- **12 April 2021** – Roundtable with CNIEL on protein autonomy for animal feed. *22 participants*
- **27 May 2021** – Roundtable with CIVAM Pays de la Loire farmers on best agricultural practices for air quality. *19 participants*
- **15 June 2021** – Roundtable with INTERBEV on environmental food labelling. *13 participants*
- **9 December 2021** – Roundtable with CNIEL stakeholders on climate roadmap for dairy sector. *9 participants*
- **31 May 2022** – Roundtable with INTERBEV on prospective scenarios on meat and dairy cattle in France by 2050. *15 participants*
- **13 July 2022** – Roundtable on tools to measure environmental impacts and air emissions from a dairy farm (CAP2ER), and field visit with CNIEL. *13 participants*

The dialogue between FNE and these stakeholders has been fruitful since FNE and INTERBEV have adopted a [common position](#) on the environmental food labelling (based on Life Cycle analysis data). The Civam network and a couple of farmers with excellent agricultural practices of this network worked on the script of the video in order to better convince the audience of farmers (first target audience) and hosted FNE on a farm for the production of the video in July 2022. CNIEL wishes to invite FNE again at the end of 2022 to build the CNIEL's CSR strategy.

No	Deliverable	Deadline	Delivery	Report
B.3_1	FNE position paper on the French PREPA	06/2019	12/2021	FR
B.3_2	Documentation of hearings with parliamentarians	09/2019	02/2020	FR
B.3_3	Documentation of 13 trainings of FNE members	12/2020	05/2022	MTR (2)

B.3_3	Documentation of 13 trainings of FNE members	12/2020	05/2022	FR (7)
B.3_4	Documentation of six expert talks with stakeholders	11/2021	06/2022	MTR (1)
B.3_4	Documentation of six expert talks with stakeholders	11/2021	06/2022	FR (5)
B.3_5	Documentation of six round tables co-organised with the agricultural chambers	11/2021	07/2022	FR
B.3_6	Proposals for effective measures for the implementation of the PREPA in 13 regions	03/2019	11/2021	MTR

#### **B.4 Contribution of NGOs to the revision of the Gothenburg Protocol.**

Foreseen start date: 1 August 2018

Actual start date: 1 August 2018

Foreseen end date: 31 July 2022

Actual end date: 31 July 2022

EEB submitted position papers ahead of key UNECE Air Convention meetings. They are available [here](#) (2019) and [here](#) (2020).

The entry into force of the Gothenburg Protocol, that EEB promoted and supported during the project period covered by this report, was highlighted to the media through the publication of a press releases in English by EEB and German by DUH. A **flyer** was created and distributed (hand delivery) to Party delegates during the Executive Body meeting in Geneva in December 2019. EEB and EEB representatives (AirClim and DUH) participated in two UNECE meetings in 2018, in five UNECE meetings in 2019 and in three UNECE meetings in 2020 and in all relevant meetings in 2021 and 2022 (2020, 2021 and 2022 meetings were held online due to covid restrictions – no travel budget used). The Executive Body meeting in December 2019 was a key moment to highlight priorities to be considered during the ongoing review and possible revision of the Gothenburg Protocol. EEB position was shared during the Executive Body meeting and included in the '[Report of the Executive Body on its thirty-ninth session](#)'. Many Party representatives thanked EEB for being there and for raising the expectations around the possible upcoming revision of the Gothenburg Protocol.

During the year 2020 and 2021 covid restrictions have had a tangible (negative) impact on NGOs capacities to directly approach Parties representatives in relation to the Gothenburg Protocol revision. In particular, meetings became impersonal and works developed much more slowly compared to expectations. In fact, the review report on the existing Gothenburg Protocol, which will be used for assessing the need for a revision, has not be adopted yet (to be adopted in Dec 2022, expected by the end of 2019 at the time when the proposal had been written). For this reason, EEB's position paper published in 2020 remained actual and relevant along the way and there was no need for it to be revised nor updated and remained in use until today.

Next to activities foreseen in the proposal (outside LIFE), EEB addressed all the European Presidencies occurring along the project implementation phase asking for a swift revision of the Gothenburg Protocol to also expand its scope to include black carbon, mercury and methane reduction targets. EEB took the opportunity, while attending the Long-Range Transboundary

Air Pollution meetings, to address the important issue of condensables, very relevant when it comes to inventory preparation and the counting of particulate matter and black carbon contributions from the domestic heating sector. This aspect is going to be even more relevant with the easily predictable increase of biomass and coal burning for domestic heating purposes in the coming winter.

The travel budget foreseen for this action had been underspent: mainly due to the COVID-19 pandemic in 2020/21/22, but also to the willingness of EEB representatives who participated in UNECE meetings covering their own participation costs.

No	Deliverable	Deadline	Delivery	Report
B.4_1	4 press releases about methane reduction in Europe and the importance of an ambitious new Gothenburg Protocol	07/2022	07/2021	MTR (2)
B.4_1	4 press releases about methane reduction in Europe and the importance of an ambitious new Gothenburg Protocol	07/2022	07/2021	FR (2)
B.4_2	NGO position papers for the CLRTAP meetings	12/2021	12/2021	MTR
B.4_3	Information material (guidelines, flyer, policy brief, etc.) for decision makers	11/2021	11/2021	MTR
B.4_4	NGO participation in official UNECE meetings	07/2022	07/2022	FR
B.4_5	German background / position paper including information on reduction measures	03/2022	07/2022	FR

## **B.5. Addressing methane and ammonia emissions from agriculture in Europe**

Foreseen start date: 1 August 2018

Actual start date: 1 August 2018

Foreseen end date: 31 July 2022

Actual end date: 31 July 2022

The online survey to address the agricultural and farmer's associations was conducted the end of 2018. 67 agricultural associations were informed about the project and invited to fill out the online survey. 30 organisations filled out the survey to some extent and 17 organisations filled out the survey completely. According to the results of the online survey, most agricultural associations conduct or have conducted measures to increase climate mitigation. These have mainly been events, and strategies/position papers on the topic. However, there was a strong heterogeneity in the rating of measures according to their reduction potential and practicability (see annex B5.1). We therefore saw the need to improve the expertise among agricultural associations.

To involve the agricultural associations in a discussion on the measures that can be implemented on farms, a first round table was organised the 21st of May 2019 to present the

results of the survey. Although the experts giving talks were from renowned institutions, only three participants registered so the roundtable had to be cancelled.

Two regional round tables were then planned for spring 2020, one in the South and one in the North of Germany, in order to present the draft of the position paper, written by LCF, and increase the participation of regional farmer's associations. Due to the spread of COVID-19, these face-to-face meetings could not be conducted. Therefore, a first online round table was organised on the 30th of June 2020 to present the draft of the position paper. Agricultural associations from various federal states were present at the online round table and gave feedback on the positions.

The position paper was completed with input given from the organisations and one of the advisory board members. A second online round table was organised for last inputs of the associations in March 2021. For certain measures, such as the acidification of manure or the fast incorporation of manure, big differences existed between agricultural associations and nature conservation organisations. This shows that discussion before the publication was highly necessary to try and come to a consent. A joint position paper with one farmer organisation was published in June 2021 (see annex B5.2). The position paper was spread to all farmers associations in Germany directly and via a press release.

After some of the topics presented in the position paper were taken up by the federal government (e.g. financing of measures that pose a high investment), a third online round table was conducted on the 12th of May 2022. For this round table, speakers were invited to take up the three main points outlined in the position paper: better collaboration between research and practical work concerning reduction measures, funding of high investment measures and an input from the political side. One of the speakers was from the German federal environmental agency. As the national air quality control programme is currently being reviewed by them, he gave an overview of the measures in the programme and the attending associations had the possibility to give feedback on the practicability of the presented measures.

Although the number of participants at the round tables were not very high (13, 7 and 13 participants), the same farmer's associations participated in both round tables and in commenting the position paper. This led to fruitful, constructive discussions and showed us that the topic is of interest to the participating associations. All major associations (70) were informed about the survey and the three round tables, so they were confronted with the topic several times per year. Some points of the position paper have become part of the new national strategy, such as the financing of high investment measures and the increase in research on several topics. A documentation of the three round tables is found in annex B5.3.

Not all points in the position paper have been addressed in Germany on how to reduce emissions. The points of the paper need to be taken up on state level, especially the training of advisors. This will be and already has been taken up in current projects the Lake Constance Foundation is working on, such as the project GeNIAL – where the focus is on training of farmers and advisors.

The online survey to address food companies was also conducted the end of 2018. 45 standards were informed about the project and invited to fill out the online survey as well as 302 food companies. 23 companies and standards filled out the survey to some extent and 15 filled out the complete survey on their climate change objectives. According to the results of the online survey, it seems that the companies are aware of the need to reduce methane and ammonia emissions. The measures that are integrated in some of the sourcing guidelines of the companies that participated in the survey, are a combination of measures with a high reduction potential (increase number of lactations/living day performance, injection method) and measures that are very practicable (cultivation of catch crops). There was a high heterogeneity in the type and number of measures concerning the reduction of ammonia and methane

emissions in the companies' sourcing guidelines (see annex B5.4). We therefore saw the need in producing recommendations for the improvement of sourcing guidelines/criteria on the topic of air pollution control.

Nine standards were picked for screening of their sourcing guidelines. These standards included regional, national and EU standards in organic and conventional production. The screening showed that some measures for the reduction of methane and ammonia were present in the screened standards but they did not have a high relevance or did not go into enough detail (see annex B5.5). While screening the standards, national standards in France could not be screened due to the language barrier.

Draft recommendations for the improvement of guidelines were presented at an online round table for Germany on the 26th of June 2020. The event was organised online due to the COVID-19 pandemic. As the topic is still not very present in the standard and food companies, only six participants joined the online round table. The stakeholders present, mainly from dairy companies, however gave valuable feedback on the recommendations.

The recommendations were finalised in German, English and French with the feedback from the round table (see annex B5.6). The recommendations were sent to all relevant food standards and companies in Germany (often also international standards, such as Global GAP, supermarkets, meat and dairy companies) and support was offered in helping them integrate the requirements. The dissemination included a press release on the recommendations. Feedback on the offering of support was that the recommendations are interesting but they are dealing with a lot of other topics at the moment (see annex B5.7). Getting 20 companies to improve their guidelines was therefore a very ambitious goal. Through our previous work with companies, it seemed possible to engage so many stakeholders in this sector. Although support was offered various times and the recommendations were sent out again and again, the milestone of 20 companies improving their guidelines could not be met. On the other hand, 347 companies were informed.

The round table in France could not be conducted. As the Lake Constance Foundation is not well-known in France, a face-to-face meeting was preferred to have a better reach out to the stakeholders as well as conducting the meeting with the French project partner, FNE. This face-to-face meeting could not be conducted in 2020 because of the COVID-19 pandemic. As the COVID-19 situation did not change in 2021, an online round table was planned in June 2021. The invitation was sent out in French over several organisations and federations for food companies as well as through a newsletter in France, but no registrations were made. This round table had to be cancelled. A second attempt at an online round table in France was made on the 19th of May 2022. The agricultural department of FNE was involved with the organisation of this round table and sent the invitation to French contacts of large food organisations. The registration of three participants, two from the same Organisation, made us cancel this round table as well. Instead, one-to-one meetings were offered and the recommendations in French were included. See annex B5.8 for the invitations to the round tables in Germany and France.

To quantify if there has been a change in food companies and standards regarding air pollution control measures, a second online survey was conducted in June 2022. Less stakeholders participated than in the first survey (eight filled out the complete survey compared to 15 in 2019). As the survey was anonymous, there was no way of controlling if the same companies filled out the survey. Unfortunately, we could not confirm the increase of knowledge on the topic for the food companies and standards. The participants were more pessimistic in 2022 in achieving the climate change goals of the German agricultural sector as well as setting a target for methane. At the beginning and end of the project the companies stated that the topic will

play a bigger role in the future but we could not see an increase in awareness through the survey (annex B5.9).

A joint consideration of all topics on sustainable agriculture is necessary in the future to generate a better reach out to farmers associations and the food sector e.g. how does a sustainable farm look like in 2030? The recommendations for the food sector will be used in future projects for promoting all aspects of sustainability when addressing food companies and standards. As the Lake Constance Foundation is working on the topic of promoting biodiversity on farm level as well as climate change mitigation and adaptation, air pollution control provides a further topic for the holistic approach.

No	Deliverable	Deadline	Delivery	Report
B.5_1	Documentation of 3 roundtables for agricultural and farmers associations	09/2021	07/2022	FR
B.5_2	Documentation of <del>two</del> <u>one</u> roundtables for the food sector in Germany and in France	10/2019	07/2022	FR
B.5_2	<i>Partly Deliverable change:</i> One position Paper instead of one roundtable Documentation ( <i>Documentation of two roundtables for the food sector in Germany and in France</i> )	10/2019	07/2022	FR
B.5_3	Signed agreed position regarding the reduction of methane and ammonia	06/2020	03/2021	FR
B.5_4	Screening of the current criteria for ammonia and methane emissions of food standards	12/2018	03/2020	FR
B.5_5	Documentation of support provided to companies regarding the improvement of sourcing guidelines	05/2022	07/2022	FR
B.5_6	Evaluation of survey among food companies on climate change objectives	12/2018	01/2019	MTR
B.5_7	Recommendations for effective criteria for ammonia and methane emissions	06/2019	01/2021	FR
B.5_8	Evaluation of online survey of German agricultural associations on agricultural methane and ammonia emissions	12/2018	01/2019	MTR

## B.6 Reduction of Food Waste

Foreseen start date: Jan 2019  
Foreseen end date: 31 July 2022

Actual start date: Jan 2019  
Actual end date: 31 July 2022

The EU has committed to SDG 12.3 and thereby halving its food waste at the retail and consumer level by 2030 and additionally reducing food waste and losses across the whole value chain. Proposed measures by the responsible ministry for food and agriculture (BMEL) in Germany are currently not sufficient to reach that goal. In fact, the government so far has only put in place a dialogue forum, asking industry players for voluntary commitments. The **first petition** (61,100 signatures, see Deliverable B.6\_2) successfully made that fact visible to the wider public, calling the ministry for binding measures and sanctions for industry players. At the same time, over 5.000 citizens participated in the **food waste fasting campaign** and got action mails with activities to reduce food waste individually.

The **second petition** was initiated during the COVID-19 pandemic and addressed a pressing topic, which was further exacerbated during the health crisis: legal insecurity for food donating and food saving organisations (see Deliverable B.6\_6). To date, there are no legal guidelines and frameworks available for food saving organisations in Germany (compared to France, Italy or Czech Republic). Based on **our legal study** we called for political actions in this important area. Overall, more than 131.549 people signed the petition.

**DUH recommendation for effective measures to reduce food waste** mainly address German politics and refer to good practices from other EU MS, e.g. France & Denmark. The document was delayed due to staff changes, but finished and published in 5/2019. The recommendations are based on our experiences in the field and were partly developed together with foodsharing as an important partner.

The **legal study** (04/2019 - see Deliverable B.6\_1) gives important insights into the legal framework of hygiene regulations, legal obligations and liability with regard to food donations and savings. Also, legal changes in other MS were analysed in order to deduct recommendations for changes in legislation in Germany. The study pointed to several hurdles for actors saving and donating food and identified the possible adjustments within the legal framework to overcome them.

The study was presented to and discussed with relevant experts and stakeholders (ministry, food sector, food saving organisations e.g. food bank) at the **second expert talk in 02/2020** (see Deliverable B.6\_5). Solutions for legal framework conditions around food donations were discussed with more than 50 participants.

The **first expert talk** (see Deliverable B.6\_5) took place during the foodsharing festival in 08/2019. A panel discussion with representatives from the agricultural ministry, the food industry, food banks, and food saving organisation, as well as DUH gave a general overview on policy gaps and ways forward to tackling food waste in Germany. Participants of the food sharing festival were able to join in on the discussion and receive first hand information from relevant stakeholders on the issue.

The **third expert talk** (see Deliverable B.6\_5) took place in 04/2021 on the topic of food losses at the primary production level due to aesthetic standards. Panel speakers included representatives from the German environmental agency (UBA), the German public agrarian research institute (Thünen Institute), a member of the German parliament (Bundestag), the German Food Retail Association and the start-up Querfeld. The event produced political recommendations to address the interface between agricultural production and retail trade to successfully curb food waste.

In 2019 and 2020 several internal meetings took place between DUH and three big retailers in Germany in order to initiate **pilot projects (see concept as part of Deliverable B.6\_4)**. Visits of individual markets were planned but the coronavirus put a stop to all activities. Furthermore, the discussions revealed that retailers are not ready for efficient measures against food waste, which is also related to the fact that political measures are voluntary for all actors along the supply chain.

Due to the mentioned challenges, the project teams has requested a deliverable change to a **third online petition** (financial planning and overview is delivered by B.6\_8), to contribute to the reduction of food waste in Germany, particularly at the interface between retailers and agricultural production. With this approach, we aim to go one step back & create pressure on decision makers and retailers. A corresponding information campaign aims to create a public debate about food waste caused by unfair trading practices by retailers, particularly of setting unnecessarily high aesthetic standards, as well as the need for legally binding reduction targets. The campaign was launched by DUH, foodsharing e.V. and Viktoria Heyn on the 2nd of May 2022 (The day against food waste). The campaign launch was supported by a handover of political recommendations and symbolic “ugly carrot” to Germanys State Secretary Manuela Rottmann. So far, the online petition has received approximately 59.000 signatures. It will be promoted further with regular updates by DUH and its wider network, beyond the project time period.

**Additionally, to the above mentioned project deliverables and milestones**, DUH created **information material** for consumers, particularly three factsheets: firstly a factsheet informing and giving recommendations for the best-before-date, secondly a factsheet informing about the impacts of food waste on environment and society, and lastly a factsheet about the relationship between aesthetic standards for fruits and vegetables leading to food waste at the agricultural level. Video statements have been published for the petitions and in order to raise awareness for certain topics, e.g. best-before-date.

As part of the project activities, DUH has done regular **press work**: By now 7 press releases were published at different occasions. Additionally, DUH is regularly approached by journalists to give its expert opinion on food waste related development in industry and politics. **Activities on social media** are regularly accompanying the press work (e.g. International day against food waste), to disseminate factsheets (#notmyMHD), or support the campaigning work.

In addition to foreseen LIFE activities, DUH **actively participates in relevant networks** at the national and EU level. DUH was a co-founder of a German-wide alliance of organisations and initiatives aiming to tackle food waste (Bündnis Lebensmittelrettung) and has in 2021 been accepted as a member to the EU Platform on food waste and food loss, hosted by the European Commission (for the period between 2021 and 2026). DUH furthermore contributed to several **workshops for educational purposes** on the issue of food waste and to **public consultations** to the European Commission.

In 2021, FNE and his partner l’ADEME have created a **training program unit** to reduce food waste in institutional catering. The training program, organized in 4 sessions, has gathered more than **30** participants from our member organisations. The trainings encouraged a few organisations to guide schools and help them reduce their food waste, according to the objective of a 50 % reduction in 2025 (regarding the waste of 2015) given by French law.

FNE also led remote four **working groups**, with local structures involved on food waste (e.g. REGAL, for French “networks to avoid food waste activities”). REGAL are communities that bring together actors from very diverse backgrounds: food professionals, organisations, institutional actors, project leaders, citizens, etc.

**Perspectives for continuing the action after the end of the project:** DUH became an important NGO working on the topic of food waste in Germany. This became visible e.g. through the invitation to speak as expert during a political discussion in the German parliament in 2020. DUH will continue the work in the course of another project and in an EU-wide campaign against food waste. FNE plans to follow up this topic at the national level on a new law in 2023-2024.

No	Deliverable	Deadline	Delivery	Report
B.6_1	Study on legal situation about hygiene regulation, dissemination of food and other relevant aspects in MS, Identification of practice examples. Recommendations for changes in legislation.	11/2018	04/2019	MTR
B.6_2	First online petition targeting on concrete demands to policy and responsible decision makers. + Video statements	03/2019	04/2019	MTR
B.6_3	Recommendations for effective measures to reduce food waste	03/2019	05/2019	MTR
B.6_4	Concepts for pilot projects with food retailers and industrial consumer	06/2019	08/2019	MTR
B.6_5	Implementation and documentation of three expert talks	03/2020	04/2021	MTR (2)
B.6_5	Implementation and documentation of three expert talks	03/2020	04/2021	FR (1)
B.6_6	Second online petition on the contribution of food retailers to avoid food waste. Video statement.	03/2020	09/2020	MTR
B.6_7	Documentation of social media activities	03/2021	03/2021	MTR
B.6_8	<u>NEW:</u> Documentation of third petition	07/2022	07/2022	FR

## **B.7 Low emission agriculture: Making agricultural vocational training fit for the future**

Foreseen start date: Dec 2018  
Foreseen end date: 31 July 2022

Actual start date: Feb 2019  
Actual end date: 31 July 2022

DUH conducted **two online surveys** (planned 12/2018 – 02/2019 slightly delayed 02/2019 – 04/2019 due to a change in the staff) as a first action, which addressed educational actors from universities and vocational schools in the field of agriculture. The survey was sent to 164 contact addresses, and 28 schools (17%) and six agricultural universities (9%) responded. The results were analysed and are presented online and during dialogues and events.

**Four expert talks** have successfully been organised. The first regional dialogue took place 9/2019 and the second is set to take place 11/2020. Regional dialogue three and four are anticipated to be completed by 09/2021 (section 6.2). There has been a very successful first regional dialogue in Lower Saxony, which has been a cooperation with the Chamber of Agriculture in Lower Saxony. The Chamber of Agriculture is the main institution responsible for vocational training. Therefore, even though participation was below the expectations of 20-30 participants, the regional dialogue had a widespread impact.

However, due to the low turn out of participants in the dialogue, we changed our strategy and decided to hold expert talks with a wider range of actors than just the state institutions. The second expert talk took place online on November 20th 2020. More than 30 participants were engaged, detailed protocol was shared. The third expert talk “animal welfare and pollution control – a dream team for the stable of the future” regarding pig farming took place on 8th December 2021. Lastly, the fourth “animal welfare and pollution control – a dream team for the stable of the future” regarding cattle farming took place on 21th April 2022.

We have requested a change in the **deliverable of articles in German educational and agricultural magazines** in order to improve the achievement of the project's objectives. Instead, four good practice examples to reduce greenhouse gas emissions in agriculture have been showcased in videos:

1. Ralf Remmert, Managing Director of Prignitzer Landschweine GmbH und Co KG.
2. Sabine Wichmann & Josephine Neubert, employees of the University of Greifswald in the joint project PaludiPRIMA.
3. Svenja Nette & Daniel Diehl, initiators of the pasture project Arensnester Klimaweide.
4. Helmut Querhammer, Managing Director of the family farm Döberitzer Heide - Galloways

The education videos successfully showcased state-of-the-art and future-proof examples of sustainable livestock farming and paludicultures in Germany.

All preliminary talks, regional dialogues, expert talks as well as good practice videos were built around the goal to bring the network and the identified stakeholder together in **a final high level conference, which took place 9<sup>th</sup> July 2022**. The conference had the title "Chancen nutzen - Krisen bewältigen: Für saubere Luft und Klimaschutz in der Landwirtschaft" and brought together young agricultural practitioners, research representatives, as well as the German **state secretary Silvia Bender**. One highlights of the conference was the panel discussion with three young farmers talking about their experience during the farmers education. They all reported that clean air and methane/ ammonia reduction were nearly no

issue in schools for agriculture. In addition, the debate with the participants from agriculture chambers of divers regions which organise curricula for agriculture schools showed chances to improve the information quality and quantity – starting with this CAF conference.

With 79 participants, the conference was a successful conclusion of project part B7.

Results and outcomes generated throughout the actions within B.7 and the final conference were gathered to be part of the **publication Guideline on efficient measures for ammonia and methane reduction** in form of a brochure for agricultural vocational schools. In this context, 12 vocational schools specifically asked to receive the brochure after the event. This shows that the project has gained acceptance for the topic, even if only to a certain extent, and that individual vocational schools are more intensively involved with the focus on reducing emissions from agriculture. Basically, this circumstance suggests that further successes in this direction can be expected if the focus is maintained.

In 2021, the debate on air protection increased because of political decisions on the TA Luft (germ: technical instructions on air) regulation on air pollution also for animal farming. Before the Bundesrat decided on the regulation, we sent press release, which demands for a regulation in line with EU laws because young farmers need to be sure for their investments that regulation can stand the EU approvals. In addition, we have written to the environment ministers of the federal states to draw their attention to relevant implementation priorities. Thus, in the course of the Bundesrat decision, we successfully exerted pressure on the development process of the TA-Luft by means of public opinion and by addressing the decision-makers.

With the second press release on 29.07.2022 on the project on the occasion of the cornerstones for a legal husbandry labelling presented by the Ministry of Agriculture, we explicitly referred to the husbandry systems with reduced emissions:

"Livestock labelling for pork moves forward: Deutsche Umwelthilfe calls for more speed and improvement of husbandry levels". We demand this speed up in the implementation of the label because it gives young farmers planning security.

Quote from the DUH-PM: "Planned husbandry level "barn+space" must give pigs twice as much space compared to the legal minimum standard in order to have positive effects on animal welfare and air pollution control".

At the end of July 2022, we sent out 600 brochures (20 to each of 30 schools) to agricultural vocational schools as guidelines for practice in reducing methane and ammonia. The brochures show principles of reduction possibilities and let practitioners report how exactly they have implemented this.

No	Deliverable	Deadline	Delivery	Report
B.7_1	Guideline on efficient measures for ammonia and methane reduction.	05/2022	07/2022	FR
B.7_2	<u>Deliverable change:</u> Documentation of published 4 videos <u>(instead of: Documentation of articles published)</u>	10/2021	05/2022	FR
B.7_3	Documentation of the status conference on relevance of	07/2022	06/2022	FR

	ammonia and methane reduction measures in vocational education and training			
B.7_4	Documentation of 4 expert talks	03/2022	04/2022	MTR (1)
B.7_4	Documentation of 4 expert talks	03/2022	04/2022	FR (3)
B.7_5	Two press releases	07/2022	07/2022	FR
B.7_6	Results and conclusion of survey on relevance of ammonia and methane reduction measures in vocational education and training	12/2018	04/2019	MTR

## B.8 Towards harmonization of different regulations concerning Air quality and Agriculture

Foreseen start date: Dec 2018

Actual start date: Dec 2018

Foreseen end date: 31 July 2022

Actual end date: 31 July 2022

An analysis on the **different regulations and how to harmonize them** (See Annex B.8\_1) has been elaborated. This basic document has been an essential resource in the prioritization of advocacy work at FNE related to this action, regarding political agenda. The recommendations of this document were refined during the project as meetings were held with stakeholders, researchers and decision-makers.

FNE then started regular **meetings with national and regional air surveillance agencies and the governmental authorities in charge of the plans and programs** (See Annex B.8\_6). An expert meeting with air-quality agencies in Brittany and with regional environmental stakeholders was conducted in January 2019. In addition, a call has been organised with the French official air surveillance agency (ATMO France) and their representatives on agriculture and air quality in February 2019. The two representatives are from different regions: Hauts-de-France and Grand-Est, one person from the head national office was also attending. Both meetings aimed to present the project and the implication of air monitoring agencies in each region. The state of relationships between farming sector, agencies and, NGOs has been discussed, as well as national and regional regulations application and efficiency. Through the GENEM group and regular meetings, FNE has been directly involved in the implementation of a PREPA activity (See Annex B.3\_4). These meetings allowed to capture first-hand information which was integrated afterwards into FNE's contributions and analyses, in order to adjust both advocacy work and content of FNE's proposals.

Based on these interviews and the analysis on the different regulations, FNE focused on five public policies of European, national or regional scope: (i) health and environment plans, (ii) atmosphere protection plans, (iii) the Common Agricultural Policy and its French implementation, (iv) the 2<sup>nd</sup> national low-carbon strategy and, (v) the road map for an EU methane Strategy.

First policy, FNE has been involved as stakeholder in **meetings on the 4<sup>th</sup> National Health and Environment Plan** ("Plan National Santé Environnement, or PNSE") (See Annex B.8\_3) and the Regional Health and Environment Plans ("Plans Régionaux Santé Environnement or PRSE")

revision processes. The third plan, PNSE3 (2014-2019), suffered from poor diagnosis, especially with regard to coordination between the national and regional levels. The steering committee of the plan ("Groupe Santé Environnement") in charge of the plan orientation suspended its activities and was relaunched in July 2020. FNE did several contributions and participated in this group at the forefront for monitoring its development. FNE recalled the importance of taking into consideration the regional version of the PNSE, to "reduce exposures that affect health", especially air pollution from the farming sector. On 20 July 2020, FNE participated at the launch of the PNSE4 co-steered by the Ministry of Ecological Transition and the Ministry of Health. However, in July 2022, the meetings for the revisions of the regional health and environment plans, related to the PNSE4, have still not taken place due to the political agenda: election of the French President, MP elections, new Prime minister and new Government.

Second policy, FNE has conducted **several meetings and an analysis related to the Atmosphere Protection Plans (PPA)** (See Annex B.8\_2). The atmosphere protection plans define the targets and measures for urban areas of over 250,000 inhabitants and areas where regulatory limit values are exceeded or likely to be exceeded. The link between ammonia and PM is not consistently highlighted. The difficulty is that this involves urban areas, where agriculture is not the first target to improve air quality.

Thanks to meeting with 6 regional experts from 12 January 2021 to 4 March 2021, a paper on the possibility to integrate inventory agricultural emissions measures (CH<sub>4</sub> and NH<sub>3</sub> in particular), preventive and corrective measures against excesses of these emissions in the specific regions that have an on-going PPA was drafted. In France, some regions have an Atmosphere Protection Plan (PPA). This paper was released to all FNE network: FNE members (NGOs) and FNE representatives following the implementation of each of the 35 PPAs, to support them in the integration of measures concerning agricultural emissions.

For the three last policies, FNE compiled an **analysis of impactful French legislations** (See Annex B.8\_4). Based on Annex B.8\_1, the analysis targeted three public policies that were considered to be truly transformative, given their regulatory, financial or media weight. Thus, the analysis focused on the Common Agricultural Policy and its French implementation, the 2<sup>nd</sup> national low-carbon strategy and the road map for an EU methane Strategy related to French agricultural stakes. Eventually, Air quality is taken into account by FNE in a holistic way, i.e., taking into account other environmental issues, foremost among which are biodiversity, climate, water and soil, or animal welfare, in a win-win rationale.

In parallel with this expertise in public policies and political initiatives, FNE got strongly engaged in the process of the agriculture research field. FNE takes part in different research programs ran by the Ministry of Environment and by the Agency of Environment and Energy Management (ADEME). They aim of FNE involvement is to provide the scientific basis and tools useful for decision-makers. Starting in 2020, ADEME is launching a new research program called AQACIA (Amélioration de la Qualité de l'Air: Comprendre, Innover, Agir) which gathers research issues on air quality, previously addressed through two different programs, the PRIMEQUAL and CORTEA programs. Sylvie Platel is part of the group and attended the meeting in March 2020. Thibault Leroux participated at the last presentation of the selected projects on 17<sup>th</sup> May 2022. FNE prepared an **overview of the research programs in France** related to these scientific dynamics (See Annex B.8\_5).

In order to present the outcomes of FNE analyses and proposals, FNE **met 10 French MEPs or their representatives** (See Annex B.8\_7) from 10/03/2021 to 06/06/2022: Irène Tolleret (RENEW Europe), Jérémy Decercle (RENEW Europe), Pascal Durand (RENEW Europe), Benoit Biteau (Verts/ALE), Claude Gruffat (Verts/ALE), Caroline Roose (Verts/ALE), Marie Toussaint (Verts/ALE), Eric Andrieu (S&D), Manuel Bompard (GUE/NGL) et Anne Sander (PPE).

Many meetings were cancelled and postponed due to the social crisis and then the COVID-19 pandemic. The meetings were useful to harmonize FNE positions on the different European policies (CAP, EU road map for methane strategy).

FNE has been advocating towards ministries in order to start a process to harmonize various regulations on air quality and agriculture (milestone): Ministry of the Environment: In February 2020, FNE met the advisor to the Minister of the Environment, Elisabeth Borne, and from 2018 to 2022, FNE regularly met the advisors of the successive Ministers of Agriculture for the CAP revision. However, with hindsight on the Clean Air Farming project, FNE advocacy works on the legislative building-process was pretty successful to harmonize the various regulations on air quality and agriculture. A climate and resilience law has been adopted in August 2021 including:

- at its Art. 2 the experimentation and implementation in 2023 of environmental labelling taking into account climate (GHG emissions) and environmental impacts (water consumption, biodiversity) of food and agricultural production
- at its Art. 268, yearly targets on NH<sub>3</sub> reduction emissions added in the **National Plan for the Reduction of Air Pollutant Emissions (PREPA)\***. If targets NH<sub>3</sub> are not met in 2022 and 2023, a synthetic nitrogen fertilizer national tax should be adopted in 2023/2024.

So far, various transferable documents, ideas and solutions have been widely disseminated (milestone): presentation at the annual event of FNE (05/03/2020), in Paris; zoom Meeting at the High Climate Council (Haut Conseil pour le Climat, 21/04/2020); zoom meeting with Professor Valerie Camel, Co responsible at the Paris Institute of technology for life, food and environmental sciences AGROPARISTECH (08/07/2020); interview by the General Inspectorate of Social Affairs (22/07/2020); mailing list of local environmental NGOs on air quality of FNE (06/06/2022). The video produced in July 2022 and released on July 27, 2022 with the FRCIVAM Pays de la Loire was an important vehicle for showing the concrete possibility of switching to new dairy systems. It has already had very good feedback from CIVAM network and ATMO France.

No	Deliverable	Deadline	Delivery	Report
B.8_1	Document on the different regulations regarding air quality and agriculture and recommendations how to harmonize them	12/2018	12/2018	MTR
B.8_2	Documentation of meetings related to the Atmosphere Protection Plans (PPA)	03/2018	06/2022	FR
B.8_3	Documentation of the regional meetings on the Health and Environment Plans (participants, outcomes, further steps)	11/2019	06/2021	FR
B.8_4	FNE analysis of French plans and legislations regarding Air and Agriculture	03/2020	06/2022	FR
B.8_5	Overview on research results air pollution from agriculture	11/2020	04/2022	FR
B.8_6	Documentation of meetings with national and regional air surveillance agencies and the governmental authorities in charge of the plans and programs	03/2019	03/2019	MTR
B.8_7	Documentation of meetings with 10 French representatives of the European Parliament	09/2019	06/2022	FR

## **B.9 Contribution of NGOs towards the revision of the Common Agricultural Policy (CAP)**

Foreseen start date: Sep 2018  
Foreseen end date: 31 July 2022

Actual start date: Aug 2018  
Actual end date: 31 July 2022

A **background paper** highlighting the link between the CAP proposal and air quality had been produced and was disseminated to the NGO community (EEB members and partner organisations). The paper explained how the proposed CAP was structured and to what extent air quality objectives had been considered. The paper was useful to build bridges between the agricultural and air quality advocacy strategies in EEB's network and to steer the discussion in the **October 2018 NGOs meeting**. A paper identifying **key measures to be included in the CAP** to reduce ammonia and methane emissions had been prepared.

**One in-person NGO workshop** had been organised on 16 October 2018. It was attended by 30 NGO representatives, including air quality, agriculture and health experts. Information about the most recent scientific evidence on the effects of air pollution on human health was shared.

Health groups and NGO representatives working on the Common Agricultural Policy reform had been invited to participate in the **Methane conference organised on 7 November 2019**, which also touched on CAP related issues.

One **online NGOs workshop** had been organised on Tuesday 16 June 2020 to share updates on the CAP negotiations and advocacy priorities: a specific session on eco-schemes (tools to deliver on environmental objectives through the CAP) focusing on air quality was held.

**Two letters** to Members of the European Parliament were sent: one in March 2019 and one in July 2019. **One webinar** was co-organised by EEB with and for MEPs and NGOs, with the aim of raising their interest and awareness regarding the relationship between agriculture (the CAP in particular) and air pollution. The webinar took place on 25 June 2020. One letter was sent to the Finnish Presidency in November 2019.

A **factsheet on air quality and the CAP** was prepared and disseminated both electronically and 'at hand delivery' while in official meetings.

**Two online NGOs workshops** were organised: one on 16 June 2021 to share highlights in relation to existing decision-making processes which were relevant to push for methane emissions targets and reduction measures; and one on 16 February 2022 in particular to build NGOs understanding and engagement towards the revision process of the Industrial Emissions Directive (IED). EEB deeply engaged in advocating towards the European Commission to make the IED delivers on what the new CAP failed to accomplish: the identification of binding and mandatory measures to cut ammonia and methane emissions at farm level. As a good result, the European Commission's proposal for a new IED contains several good initiatives: for the first time methane emissions from the cattle livestock industry above 150LSU (livestock unit) are regulated, and there is space for including additional detailed measures to cut ammonia emissions.

**3 briefings had been prepared:** the first one focusing on the National Air Pollution Control Programmes and the big gaps existing at Member States level hampering the achievement of 2020 and 2030 emission reduction targets; the second one on air pollution from the agricultural sector and advocacy opportunities for NGOs; and a third one focusing on the key advocacy demands to be supported during the IED negotiations (not yet available on Clean Air Farming website as it will have to be approved by EEB members interested on the topic – IED mailing list; but available in the folder B9).

Outside LIFE: After the publication of the **European Green Deal** Communication by the European Commission, EEB advocated towards the definition of a **Farm to Fork Strategy** which also delivers on air quality. The establishment of emission reduction targets for ammonia (more ambitious than the existing ones) and for methane was identified as a key priority. This specific input was both included in the feedback that EEB provided to the consultation on the roadmap opened by the European Commission and also in a dedicated position paper.

EEB participated as a speaker in the **Civil Dialogue Group meeting**, organised by DG AGRI, focusing on the CAP. A presentation focused on the relationship between agriculture and air pollution (ammonia and methane specifically) was delivered. The Clean Air Farming project was also presented there.

EEB actively followed and contributed to the development of the **Council Conclusions on air quality under the Croatian Presidency**, also through bilateral meetings with the responsible officers. EEB advocated for the role of the agricultural sector to reduce air pollution, also through the CAP, to be identified as a priority in the document. The Council Conclusions highlights the urgency for reducing emissions from agriculture.

No	Deliverable	Deadline	Delivery	Report
B.9_1	Background Information on the future CAP from an air quality point of view	09/2018	10/2018	MTR
B.9_2	Letter to the European Parliament on the CAP proposal	11/2018	03/2019	MTR
B.9_3	3 NGO briefings	05/2022	07/2022	MTR (1)
B.9_3	3 NGO briefings	05/2022	07/2022	FR (2)
B.9_4	3 follow-up strategy working groups for NGOs	05/2022	06/2022	FR
B.9_5	Letter to the Council on the CAP proposal	11/2018	11/2019	MTR
B.9_6	Factsheet on air quality and the CAP	12/2018	01/2019	MTR
B.9_7	NGO meeting (30 participants)	10/2018	10/2018	MTR

### C.1 Monitoring of impacts on the target groups and impacts on the environmental problem

The project partners have constantly monitored their activities and impacts. We **documented background talks** with experts, decision makers or other stakeholders, **articles** in newspaper, radio or online media, the uptake of Clean Air Farming on **external websites** (e.g.: vegan.si, an uptake of the COP26 presentation), and the active participation in **external events**.

Furthermore, table 1 in section 6.3 and in annex 6.3 provide a **detailed documentation of the achieved quantifiable results compared to the expected results** based on our documentation. In the first month of the project, DUH provided a template **feedback form** to all project partners for documenting the immediate impact that a Clean Air Farming event has on the participants. Questions are, if the event provided useful information and if any aspect of the event could have been improved. In total, 115 participants completed a feedback form. The **evaluation of the feedback** questionnaire for the assessment of events showed that the

participants rated all the criteria surveyed predominantly with the grades "very good" and "good" (see C.1\_3). In particular, a large majority of the respondents praised the contents of the discussions and found the information useful for their work.

Target group interviews were supposed to monitor the impact of the project on the target groups at the beginning, in the middle and at the end of the project. DUH developed a questionnaire and evaluation matrix. In 2019, the project team conducted 16 interviews with representatives of the target groups (see C.1\_3). Several problems occurred. On the one hand, the understanding among the interview partners was very low and the questions were not suitable to monitor the overall impact of the project. Many of the interview partners were also cooperation contacts. This is one of the reasons of why many interviews have not taken place. As a solution, we converted them into specific **follow-up interviews** with participants of our events. After an event we provided surveys to the participants, asking specifically:

- Did our activity proved you with new information?
- Is the new information relevant for you?
- Will you use the information in your future work?

Most of the events during the Covid19-pandemic have been conducted virtually. During that time, the surveys have been sent out via E-mail and used an online survey tool.

**Media work** is fully documented including download numbers, press clippings, activity on social media. The results of the monitoring are documented in the *Evaluation Report of articles published, project website and social media activities (D.3)*. In total, the project reached more than 3.2 million stakeholders, consumers and politicians. For this purpose, the project partners used various media tools (e.g.: Social Media channels, website, newsletter via institutional websites).

No	Deliverable	Deadline	Delivery	Report
C.1_1	Overview an the monitoring results of the website (Google Analytics tool)	07/2022	07/2022	FR
C.1_2	Press clippings and evaluation of articles published	07/2022	07/2022	FR
C.1_3	Three surveys and internal monitoring reports	07/2022	07/2022	FR
C.1_4	Feedback forms for participants of events	10/2018	10/2018	MTR
C.1_5	Questionnaire and evaluation matrix for interviews with representatives of the target groups	03/2019	03/2019	MTR

## C.2 Indicators to evaluate the project impact (indicators table)

In addition to feedback forms after events (C.1), feedback of website (D.2), press clipping (C.1), evaluation reports (C.1, D.2 and D.3), target group interviews (C.1) and the indicators/reports for the advisory board (E.2) the impact and output of this project is evaluated based on LIFE project performance indicators (KPIs). The baseline was first set in autumn 2019, but had to be adapted after revision by the databank expert. A thorough revision and restructuring of the overarching and specific contexts of the snapshot was carried out in order to provide only indicators that are quantifiable and measurable. Detailed comments on the calculation of the delivered values are provided in the comment functions of the individual indicator values. The final baseline was set in 11/2020. A snapshot of the KPI dataset is enclosed. A compilation of information for the indicator table was completed for the project duration (See [Table 1](#)). The final KPI Dataset is provided together with the final report.

No	Deliverable	Deadline	Delivery	Report
C.2	Three annual compilations of information for indicator tables	12/2021	07/2022	MTR (2)
C.2	Three annual compilations of information for indicator tables	12/2021	07/2022	FR (1)
C.2	KPI project data snapshot export 17_11_2020	-	11/2020	MTR

## D.1 Networking to spread the project on European level

While the project is mainly implemented in Germany, France and on European level, project messages have reached stakeholders from many European countries. **Via newsletters**, EEB regularly informs 70 European organisations about new research results, articles and policy initiatives with regard to agricultural emissions. In addition, DUH informed up to 230,000 consumers several times about the Clean Air Farming project goals in its Newsletter. In order to support the networking activities, a project flyer in English and German was developed.

**The project members were present at more than 100 international events with about 6,000 participants. We have actively presented the project at several external events reaching over 3,500 people directly with the project. To name a few**

- Border crossing event France/Germany on Air Quality and Agriculture, Kehl, 14.12.2018
- Civil Dialogue Group meeting on CAP - DG AGRI, 8.03.2019
- EU Green Week, Brussels, 15.05.2019
- Evenement CITEPA Air, France, 12.06.2019
- UNECE Expert Panel on Clean Air in Cities, Bratislava, 27.11.2019
- LIFE booth at the EU Clean Air Forum, Bratislava, 28.11.2019
- COP26 side event (presentation of CAF contents), 01/11/2021
- COP26 side event (participant of panel discussion), 08/11/2021
- LIFE networking conference Hungairy Project (November 2021)
- EU Clean Air Forum(participant of panel discussion), (November 2019 & 2021)
- UNECE Working Group on Strategies and Review, 58 – 60 session (CLRTAP)
- 4.- 6.BMUV Agriculture Conference, 2020 -2022
- Workshop on waste prevention by DG ENV, 05.04.2022
- LIFE food waste platform meeting to explore solutions for prevention, Budapest, 8.- 9.10.2018
- Handelsforum BMEL Lebensmittelverschwendung reduzieren, Berlin, 23.06.2020
- Öffentliche Anhörung Dt. Bundestag, Berlin, 29.06.2020

From March 2020 due to Corona-Pandemic, networking opportunities took place less frequently. Few face-to-face networking events happened. However, for example, we started to interact with TAPP Coalition in 2021 about meat and meat price, as well as the internalization of external costs in meat products. TAPP Coalition is a European NGO that aims at achieving true prices of meat. Furthermore, in the same year, in the context of methane mitigation we started to cooperate with Changing Markets Foundation who aim at shaping markets towards sustainability. Thereby we got new perspectives towards the global level and reached new stakeholders. Because of the fact that the EU Methane regulation did not establish targets for methane mitigation, we broadened our scope and started to network with further groups such as EEB working group on industrial production or the actors working on the EU Sustainable Food Systems Initiative. In February 2022, in the frame of a

German series, DUH engaged with the Deutschen Agrarforschungsallianz (DAFA) from the scientific Thünen-Institut. DUH and the project have been listed in a networking list (see supportive document in the Annex). Several interactions with scientist emerged from the events.

As a core activity of action D.1, EEB together with DUH organised the one-day **European conference “Reducing methane emissions – For cleaner air and climate”** in Brussels on 7 November 2019. Stakeholders from the European Commission, farmers’ associations, environmental associations as well as researchers from the EU JRC contributed to a fruitful event and lively debate. It became evident that additional technical mitigation potential for agricultural emissions are limited but inexpensive. Sustainable scenarios assume structural changes in the energy, waste and agricultural sectors, together with the implementation of all currently available emission abatement technologies to be on track for Paris Agreement.

In total, **10 international networking events** have taken place in the course of the project implementation period.

Since no budget was foreseen for these activities, savings in other activities had to be used to host them. As a first event, DUH offered a **Lunch Talk on 27 November 2019 in Bratislava**, reaching over 80 decision makers from 12 countries. The project presentation was integrated into the Expert Panel on Clean Air in Cities meeting (EPCAC), which was hosted by the advisory board member Rob Maas. Another networking event in Krakow, Poland, was planned by the project partners for April 2020, but had to be cancelled due to travel restrictions. From 2018 to 2020, several **Clean Air Working Groups** took place. In December 2021, DUH organised a **meeting** about the possible contribution of **EU policy to methane mitigation** in agriculture, which was enriched by presentations from EU parliament and EU commission. Later in June 2022, a **parliamentary breakfast** took place to establish and strengthen connections to EU parliamentarians. In order to align NGO efforts and power with focus on the German programme for climate protection, DUH conducted a **NGO-meeting** throughout Germany’s NGO landscape. With the **Clean Air Farming final conference on July 11 in Brussels**, the project partners EEB and DUH provided a final networking opportunity in the topic of agricultural methane, connecting stakeholders from politics, science, NGOs and European farmers Union.

No	Deliverable	Deadline	Delivery	Report
D.1_1	Documentation: 6 Newsletters sent out to min. 300 organisations	09/2021	09/2021	MTR
D.1_2	List of organisations and events for networking	09/2018	01/2019	MTR
D.1_3	Documentation of 10 networking events	07/2022	07/2022	MTR (6)
D.1_3	Documentation of 10 networking events	07/2022	07/2022	FR (4)
D.1_4	Programme and invitation to the European conference	08/2019	10/2019	MTR

## D.2 Dissemination Pack: Corporate Identity, Website and Layman’s Report

Based on the decisions of the project team, the **corporate design** manual and the **logo of Clean Air Farming** have been finalized in March 2019. The subject of Clean Air Farming is linked

to the previous LIFE project Clean Air and Clean Heat, in which DUH were involved. Therefore, we decided to choose a design that is partly based on the design elements of these projects. The logo and corporate design have frequently been used for the website, project flyers, factsheets, position papers, consultation statements, feedbacks and presentations.

The team agreed that **roll-ups** with the Notice Board and the promotion of project activities in social media are good instruments to draw the attention of the target groups, especially consumers and farmers' associations.

The **project website** is the starting point for stakeholders involved in agricultural emissions. The two domains [www.clean-air-farming.eu](http://www.clean-air-farming.eu) and [www.cleanairfarming.eu](http://www.cleanairfarming.eu) were reserved and the websites were launched in 03/2019 (German and English version). The French language version was completed in 05/2019.

To the final stage the project website provides information in **114 documents and seven videos**. Those were **downloaded about 38,000 times**, which shows the high interest of visitors. In addition, documents and links to the Clean Air Farming website were provided on the institutional websites. Project Content is spread also on institutional websites, this generates online traffic on this websites, but directed also interested visitors to the clean air farming website. With the monitoring tool **Google Analytics** we are monitoring the visitors on the Clean Air Farming Website. Due to technical problems, the tool started running only from February 2020. Since then, the project website has been visited by 15,000 unique visitors from 169 countries (see evaluation report D.3\_2). A geographical analysis of the visitors showed that the majority of the visitors came from the European area, which perfectly reflects the daily work of the project. More surprising, however, is the observation of a large regional interest from the United States of America, which is certainly related to the topics methane in general (e.g.: preparation of a methane strategy) and agricultural mitigation measures but also reflects a following trend on the project based work on behalf of the Gothenburg Protocol. As expected, there are peaks in visiting numbers during special events like in May 2020 (petition on food waste and a law suit on air quality, as well the campaign on the German national elections in autumn 2021. Like expect a substantial increase in the number of visitors due to active project presentation, for example “Wir haben es satt!” protest in January 2020, 2021 as well 2022 and occasion-related social media work across the various B Actions, was recognizable. In connection with the invited visit of the project to the second EU Clean Air Forum 2019, the project website is prominent mentioned in the brochure of the European Commission DG ENV “AGRICULTURE AND AIR QUALITY”. In addition, several external websites mention the LIFE project.

The Layman Report summarises the results of the project very well and underlines the relevance of the project with illustrative graphics in order to keep the focus on agricultural emissions high beyond the end of the project and to support the ongoing political but also social process towards a more climate-friendly and air quality improving agriculture.

No	Deliverable	Deadline	Delivery	Report
D.2_1	Layman's report in German, English and French and list of organisations which received the report	07/2022	07/2022	FR
D.2_2	Project website including notice board	01/2019	03/2019	MTR
D.2_3	Concept for the project website	11/2018	11/2018	MTR
D.2_4	Corporate design (CD) including guidelines and project logo	12/2018	03/2019	MTR
D.2_5	Report on regular evaluation of the website via surveys among the target groups (C1)	07/2022	07/2022	FR

### D.3 Media work

Due to the broad project approach, many different ways of project content presentation is used depending on the individual possibilities of the project partners and are explained in detail in annex D.3\_2. More than **3.2 million stakeholders** in the project-relevant target groups have been reached in connection with the broad-based **social media work**, as well as more than 110 million stakeholders by **38 press releases** and other project press work.

In printed DUH annual report (2018 & 2019), LCF annual report (2018-2021) and seasonal magazine DUHWelt (01/2019; 04/2019 (Title story); 01/2020) the project topics were presented in a traditional way. An article on mitigation measures at farm level was published in a printed regional farmer’s newspaper (Badische Bauernzeitung). The project partners (EEB, DUH as well FNE) make strong use of their institutional social media channels, using the hashtag #cleanairfarming and providing a link to the project website. During several political key occasion tweets and post with project messages were placed strategically. For example, during the campaign and protests “Wir haben es satt” (January 2020; 2021; 2022)) the attention of stakeholders reached a peak. This is shown, for example, by the mean engagement rates on Facebook (between 2.0 % and 8.7 %). Next to the social media work, the project messages have been disseminated in **printed newspaper, online newspaper, on TV and in the radio**. Especially the food waste topic is a popular topic on television. Here, the project team was able to present the topic and the project in reportages and interviews with the expertise of the team. Our demands to reduce food waste were shown on public television (ARD (07/2019), MDR (04/2019)) as well as on private television (RTL). As well the project partners address scandalous agro-industrial slaughtering system, the DUH passed criticism on the conflict of interest with regard to animal welfare and sustainability standards, climate emissions and air pollution (ARD 11/2021). Project topics are also distributed via local and national print media, as example an article in the “Frankfurter Allgemeine Zeitung”, one of Germany's biggest daily newspapers with a reach of 0.83 million readers. As well in one of Germany’s most notable newspapers that focuses on socio-ecological issues (TAZ), the DUH commented critically on corresponding (non-)policies of Germany’s former government – and the ministry for transportation and agriculture in particular (09/2021). In one of France’s most influential national newspapers (Le Monde, more than 300.000 printed and more than 2 Mio. potential online readers/day; 03/2022), an article was published that zeroes in on individual ways to tackle the issue of food waste, whilst it also references FNE as a meaningful and effective environmental NGO to volunteer with.

In total, the project work reached more than **6,258 media representatives**<sup>3</sup> all over Europe, **with at least 38 press releases**. As the majority of press releases are sent via the "OTS" and “Simple” press distribution list, access to the individual press releases can also be tracked there. This mailing list is mainly accessible to journalists and media representatives, but politicians also have access.

No	Deliverable	Deadline	Delivery	Report
D.3_1	Mailing list and press contacts	12/2018	12/2018	MTR
D.3_2	Three evaluation reports of feedback in social media	10/2021	11/2021	MTR (2)
D.3_2	Three evaluation reports of feedback in social media	07/2022	07/2022	FR (1)

<sup>3</sup> The number of media representatives reached in the current report is lower than in the mid-term report, as a typing error (one decimal place too many) occurred in the mid-term report. Therefore, a continuous increase in the number of media representatives reached was achieved during the project.

D.3_2	Three evaluation reports on articles/reports published	10/2021	10/2021	MTR (2)
D.3_2	Three evaluation reports on articles/reports published	07/2022	07/2022	FR (1)

## 6. Evaluation of Project Implementation

### Methodology applied

In most cases, the foreseen methodologies were effective. In some cases, changes had to be made according to the political agendas (see chapter 6.2). From March 2020 onwards, no physical meetings have been possible and had to be replaced by online formats. In 2022, personal meetings came partially back to the floor.

### Results achieved

A table was elaborated to compare the achieved results per action (Table 1) to the objectives and expected results as foreseen in the proposal (see annex 6.3). In relation to certain outputs, the efforts of the project partners did not achieve the results expected in the application. However, this statement must be considered in a differentiated way. Especially in the case of the decision-makers to be reached, quantity is not always decisive. In the context of the German parliamentary elections in 2021, or the development process of the EU methane strategy, it was more important to address the right decision-makers. To take these two processes as an example, in these cases we succeeded in getting the project content to the right people at the right time. In addition, expectations were exceeded in individual output categories, especially in public relations work.

Table 1 below shows a summary of all actions. The project **successfully informed consumers, European NGO's, decision makers, institutions of agricultural education and the farming sector**. The evaluation via feedback forms showed, that these target groups feel better informed. Especially European NGO's gained the skills, the knowledge and were motivated in order to contribute to their NAPCPs, the roadmap for an EU methane strategy, the Farm to Fork strategy, the new CAP and the Gothenburg Protocol. Consumers registered in the campaigns to reduce foodwaste at home as well as started to demand the improvement of policy frameworks in three petitions. Farmers and farming associations were widely informed in action B.5, B.7 and D.1 and started cooperation. Our press work resulted in 516 external articles, reports in European radio stations and on TV. Even though, efforts were undertaken to close the gaps to achieve the following targets:

- Farmers were informed about best practice via videos on social media and by improving the agricultural education (B.7)
- Networking events (D.1) and accompanying media work reached people in more European countries

Table 1 Expected results and reached outputs during the project Clean Air Farming (08/2018 until 07/2022)

output	Final Status 07/2022	Expected in proposal
<i>Legislation, legal compliance:</i>		
1.500 decision makers <b>informed</b>	918	1.500
300 decision makers in 5 countries considered recommendations in legislation process	296	300
200 NGOs in 27 countries informed	290	200
50 NGOs <b>initiated activities</b> in their countries	73	50

Sound NAPCP for Germany with measures to reduce ammonia emissions about 5% until 2020 and 29 % until 2030.	1	1
Sound implementation of PREPA in 13 regions of France with measures to reduce ammonia emissions by 13% in 2030.	1	1
<i>Change of behavior:</i>		
100.000 farmers <b>informed about best practice.</b>	33.454	100.000
<b>Position Paper</b> on ambitious targets and measures supported by farmers associations	1	1
20 food companies and standards <b>started improvement of requirements</b>	-	20
Reduction of food waste: <b>Proposal</b> for German government on regulations and supporting programs	1	1
2 - 3 successful projects with retailers and industrial consumers	-	2-3
20 organisations in 7 EU countries encouraged to act	90	20 in 7
<i>Capacity building:</i>		
40 authorities of agricultural education, agricultural chambers, institutes, associations, sensitized	160	40
163 vocational schools in Germany sensitized	175	163
30 improved training on methane and ammonia emissions.	12	30
<i>Awareness raising:</i>		
20 million inhabitants in Germany and France <b>reached</b>	110.266.209	20.000.000
1.000 articles and social media messages published	736	1.000
5000 media representatives interested in the topic	6.268	5000
<b>reaching</b> more than 50 million people all over Europe	113.466.530	50.000.000
150.000 people <b>received information</b> from websites	106.849	150.000
500.000 consumers <b>informed</b> by social media on food waste	573.098	500.000
150.000 German consumers <b>participated</b> in online petitions.	222.880	150.000
<i>Networking /Replicability:</i>		
500 consumer and environmental associations received transferable information and improved their knowledge.	463	500
50 of them <b>become active</b> in at least 5 EU countries.	20	50 in 5

### Visible project results in the future

All project activities will have lasting effects in the future. Especially, the impact of position papers (B.3, B.4, B.5) and recommendations for the food sector (B.5) will only become visible after a certain amount of time when farmers, companies and standards implemented some of the recommendations.

The NAPCPs will all be updated according the NEC Directive in 2023. In DUH's stakeholder workshops shortcomings of the programme became clear. These can be corrected only in the second NAPCP that is planned for 2023.

In France, the NAPCP revision schedule is the same (1st semester 2023). Several contributions were made in different consultation spaces. On the other hand, the change of Members of the French Government in June 2022 again required sensitization and close contacts with Ministers and their cabinets.

### Results of the replication effort

Media representatives work as multipliers and pick up the projects activities. As a result of the Workshops in B.1 and B.2 and B.3 of our statements on NAPCPs, Methane strategy and regulation, other NGOs have taken up our points and submitted a statement themselves. Recommendations for companies and standards will be used in other EU countries (B.5). Also Tweets on measures and political statements were taken up and retweeted by other organisations beyond the regional project boundaries.

The educational landscape in Germany differs significantly from those in other European countries (B.7). Therefore, transference of achieved results within this action to other EU-Countries has been difficult. However, the added action of producing short-clips of best-practice examples for emission reduces agriculture are perfectly capable of transferring knowledge and measures between EU-countries. In addition, French practices have been captured in a film and been transferred to Germany and other European countries via a distribution on YouTube and our webpage.

### **Effectiveness of Dissemination**

Documents and messages have been disseminated during 51 Clean Air Farming events, by actively contributing to more than 100 external events, and in 38 press releases. In particular, at major events such as COP 26 (11/2021) and the EU Clean Air Forums in Bratislava (2019) and Madrid (2021), the presence of individual project partners at panel discussions and presentations has allowed the project's content and information to be disseminated far beyond the boundaries of the project application. Also the constant updating of information and the persistent contacts with MEPs and MPs brought us political successes on the national level (Germany (B2) and France (B3+B8)) but especially on the European level (B1+B9). Clean Air Farming documents have been downloaded from the project website alone more than 38,000 times by visitors from 169 countries. 70 European NGO's, consumers, decision makers and farmers are regularly informed about project activities.

One key instrument as part of the **B.6 food waste work package** was the awareness raising via social media activities and engaging the general public into petitions. These two tools very surely successful to raise awareness around the existing problems and simultaneously alert policy makers to the perceived need to act in this area across different groups of society. However, at the same time, it was difficult to directly pressure decision makers into taking action with this rather soft instrument.

Similarly, the conducting of a legal research, formulating policy recommendations, and discussing these at dedicated expert talks, have surely had a ripple effect, which however only slowly translated into concrete policy outputs, which are further discussed in the following section.

The project obligations in the area B.7 were adjusted in consultation with the project management and the project supervision due to current developments. All project obligations currently agreed in this way were fulfilled in full.

The exchange with the chambers of agriculture, agricultural vocational schools and agricultural faculties of the universities, which took place in the course of the workshops, is particularly valuable. Educational institutions have actively contributed to the project in the form of presentations during the workshops (e.g. Chamber of Agriculture NRW, Christian Wucherpennig).

Agricultural vocational school representatives, trainees and young farmers reported in flash light surveys in workshops that it was only through the project that awareness was created

about the need for better air pollution control in agriculture. In particular, the options for action to reduce methane and ammonia presented for farms were very much welcomed by the trainees and students. The project can therefore be considered a success.

## 7. Analysis of benefits

### **Environmental benefits, policy implications and impact on legislation on European level**

As a project focussing on information and governance, it is not possible to measure the direct quantitative environmental benefits of our activities (KPIs). However, since environmental impact is directly influenced by policy and societal systems, which in turn are impacted by the project, there are indirect environmental benefits.

The project has clear policy implications. Project activities have contributed significantly to raising awareness about agricultural emissions among the public and policy makers. Over the project duration we provided information, conducted events, and induced discussions around in the topic of agricultural methane and ammonia. As a result, we recognise and increasing interest in the public and among administrative and policy institutions. This manifests itself, among other things, in the fact that our team is increasingly being requested for media appearances on television or radio formats, for example (see document press clippings in the Annex). Discussions around ammonia and methane from agriculture or related topics take place more frequently over the project duration, which can be linked to our project activities. We also observed a higher frequency of organised events and conferences about the topic climate protection and livestock keeping on national and European level, which is another indicator for the growing popularity of these topics among politicians. This can hardly be monitored but in 2021 for example, scientific reports have increasingly addressed the issue of methane and ammonia from agriculture (e.g. IPCC report, UNEP Global Methane Assessment), COP26 put methane into focus (DUH was invited to contribute to side events), and the Global Methane Pledge was published at the conference. We also notice that more and more EU MEPs and NGOs address agricultural methane in particular after us engaging with them.

In Europe, civil society has become aware of the importance of cutting ammonia and methane emissions from agriculture and has full ownership of key advocacy arguments to push for action at national level. One of the main project objectives is the involvement of NGOs in legislation processes (B.1, B.2, B.3, B.4, B.8, B.9). NGOs actively contributed to the implementation of the NEC Directive, the National Energy and Climate Plans, the revision of the Common Agricultural Policy, the evolution of the European Green Deal, the Farm to Fork Strategy, the Aarhus Convention, the EU Climate Law, the EU methane strategy and regulation, the revisions of the IED directive, the ESR and LULUCF regulations, the revision of the Gothenburg Protocol and the preparation and accompaniment of the different EU presidencies over the project duration. Advocacy work was done during meetings, with letters and via consultation statements. Media work in combination with legal action for cleaner air (outside LIFE) increase the awareness of non-compliance with the NEC directive. New and unforeseen policy initiatives such as the Farm to Fork Strategy provided the opportunity to stress that emission reduction measures should be integrated horizontally in legislation and binding goals for the reduction of food waste are needed. However, the Green Deal initiatives remain without binding character for the reduction of agricultural methane. This undermines the need for a methane reduction framework for EU agriculture.

On the policy level also, changes can be observed. In 2021, the Global Methane Assessment and the IPCC published reports about the importance of methane for Climate protection,

showing also that reduction efforts in the agricultural sector are essential parts. In November 2021 at COP26, a big political momentum took place: With the Global Methane Pledge, initiated by the EU and the US, more than 110 countries agreed on reducing their methane footprint by 30% until 2030. This is a great progress for the recognition of the relevance of methane for climate protection. More than a half of methane emissions comes from agriculture in Europe. The increased interest in the topic is also manifested in the fact that DUH was invited to several COP26 events to present or discuss about agricultural emissions and fiscal policies. Here, DUH had the chance to present the project and disseminate project messages. Furthermore, EEB Policy Director Patrick Ten Brink has contributed as a panelist to the agriculture sessions organised during the two Clean Air Forum, which occurred during the project implementation period (Bratislava 2019 and Madrid 2021). Furthermore, EEB Senior Policy Officer Margherita Tolotto has been appointed by the European Parliament Advisors group to be one of the two experts informing MEPs and the public on the issue of methane emissions from agriculture during a joint public hearing for the ENVI, AGRI and ITRE Committees.

### **Impacts on legislation on European level**

As part of the European Green Deal, the EU Methane Strategy aims at reducing methane emissions in Europe. However, the EU Commission did not foresee to include agriculture in the strategy. We advocated heavily for the sector to be uptaken. As a result, EU COM has included methane emissions from agriculture in its EU Methane Strategy.

On the topic of **food waste**, Directive (EU) 2018/851 is asking the MS to take measures to reduce their food waste annually from 2020 onwards. The directive also requires the Commission to adopt a delegated act establishing a common methodology for the MS to measure their levels of food waste. It is essential to include harvest food waste in the methodology, as stated in a joint letter. Also, with respect to food waste, the farm to fork strategy has made a clear commitment to the UN Sustainability goal of halving food waste at the retail and consumer level by 2030 and simultaneously reducing it across the whole value chain (See Annex Other deliverables\_Farm to Fork Strategy\_highlighted). The project team as actively inputted into the two legislative proposals coming out of the strategy via the EU Platform, consultation, impact study interviews, NGO statements, etc.

Furthermore, the European Parliament has recognised the relevance of the topic of methane emissions, also as an air pollution precursor, with great relevance of agricultural methane. In 2022, the proposal by the European Commission for a new Industrial Emissions Directive includes specific requirements for agricultural methane (including thresholds on animal number and standards for methane emissions from cattle – before excluded).

Moreover, the Common Agricultural Policy has, among its objectives, the obligation to apply measures to reduce ammonia emissions – to be listed in MS national CSP

Agricultural emissions account for up to 50% of fine particles and contribute to ground-level ozone in urban areas. The **Ambient Air Quality Directive** (2008/50/EC) sets binding standards for PM<sub>2.5</sub>. By reducing the background concentrations compliance will be enhanced. In addition, emission reduction helps to protect aquatic ecosystems and ground water. The project contributed to achieving the objectives of the **EU Water Framework Directive** and the **Nitrate Directive** (91/676/EEC). Too much reactive nitrogen in the form of ammonia and nitrate are regionally caused by an excess of manure and slurry. Mitigation of the nitrogen surplus leads to both a reduction of ammonia and nitrate. This also results in the prevention of biodiversity loss due no critical loads of nitrogen deposition and ground-level ozone, which is the objective of the **EU Biodiversity Strategy** for 2030.

In France, the objective in the LIFE project to have ambitious measures in the next NAPCP cannot be measured. French NH<sub>3</sub> reduction emission targets were met during PREPA 2017-2021. However, the agricultural lobbies are strong and the risks of not achieving the 2030 objectives are real. It has been established that nozzle/flapper system for manure spreading are planning to be forbidden in France by 2025 as FNE was requesting.

FNE advocacy works on the legislative building-process has contributed to the adoption of important measures in a Climate and Resilience law in August 2021 including:

- The experimentation and implementation in 2023 of environmental food labelling taking into account climate (GHG emissions) and environmental impacts (water consumption, biodiversity) of food and agricultural production
- Yearly targets on NH<sub>3</sub> reduction emissions added in the NAPCP. If targets NH<sub>3</sub> are not met in 2022 and 2023, a synthetic nitrogen fertilizer national tax would be adopted in 2023/2024.

### **Impacts on legislation at International level**

The UNECE Long-Range Transboundary Air Pollution Convention work to review and possibly revise the Gothenburg Protocol is giving a lot of space to the issue of methane emissions, from agriculture – high probability that a revision will be agreed in December 2022, with methane. During the review process, the topic of methane has become more and more in the focus (IPCC, UNEP, Global Methane Pledge), also through the political work of the project and by the direct contacts (Advisory Board member) into the Working Group of strategies, the relevance of methane and in the case of the project increasingly agricultural methane emissions could be set in the discussion. In particular, the emphasis on the synergy effects of air pollution control and climate in the project public relations and information activities has helped to ensure that emissions from agriculture in particular have been taken into account in the international discussion on GP.

### **Impacts on legislation at national level**

From our perspective, Germany and France have failed to bring forward an effective NAPCP to comply with the new NEC Directive. More rigorous additional measures are necessary in order to keep track on the reductions pathways.

The legal action of DUH against Germany is aiming at an emission reduction of ammonia as soon as possible. If DUH is successful, the German government needs to provide a list of measures to be implemented. The timing and impact of these measures will reduce emissions and will also show the impact of this project, since these measures wouldn't be implemented without the legal action of DUH. After filing the lawsuit, DUH is in continuously exchange between the respective ministry.

The key objective of the food waste related work package was to help support relevant actors in Germany and the EU to halve food waste by 2030 and reducing it along the whole supply chain, thereby significantly reducing GHG emissions. While no quantitative food waste reductions can be reported in Germany as such, important changes within legislative processes and stakeholder perceptions were triggered, which will surely bear tangible results in due time. The project successfully developed information material for all relevant areas of food waste policy, developed key recommendations (see Deliverable B.6\_3) and disseminated them to decision makers, to the highest level of decision-making. The project team directly consulted the decision makers within the agricultural ministry from the head of department level to the state secretary level and additionally engaged with members of the parliament. For example, DUH was invited to the German parliament to give a statement on the motion of the Greens on

food waste (19/14358- Antrag: Lebensmittelverschwendung stoppen), which contains several proposals for potential legislative initiatives. In October 2020, the Greens submitted a small inquiry to the German ministry of agriculture (see Annex “Kleine Anfrage -19/23477”), taking up many of the issues that were raised in the statement of the DUH expert.

Germany faced federal elections in 2021. As a result of the project activities, key recommendations were taken up in the German coalition treaty (See Annex German coalition treaty 2021 – 2025, row 1437 – 1439). In the coalition agreement, the current government announced that it would “work together with all actors involved to bindingly reduce food waste in a sector-specific manner”. The states also have already demanded more firm commitment. In the decision of the Federal Council of September 3, 2021 the states determined that the “voluntary-based concepts [...] do not have sufficient effect to reduce food waste effectively”. Instead, the Federal Council advocates a legally binding commitment to reduce food waste. Simultaneously, the general public was informed, alerted and engaged at an overwhelmingly high rate in petitions and social media activities. Lastly, relevant stakeholders across the whole value chain were convinced of the importance of the issue. The issue of food waste was taken up by young climate activists in Germany and several retailers have launched tangible activities.

There were further successes with regard to the German federal elections. In the beginning of the year 2021, parties published their election programs. Since methane and ammonia from agriculture have not been part of any of the programs, DUH put focus on advocating for their reduction to be uptaken in the coalition treaty of the new Federal Government 2021. In the end, the agreement explicitly stated the objective of ammonia and methane reduction in agriculture. Additionally, it included Improvement of air pollution control by adjusting animal numbers (ammonia, particulate matter) as well as fundamental statements of DUHs study results.

Our project activities have contributed to these improvements in politics. This clearly shows the relevance of the project’s activities in the medium and long term. In addition, the project activities proved to have an influence on the target groups and on the key stakeholders which is leading to a reduction of air pollution in the EU MS. The work in this project has a great impact on the public awareness of health problems caused by air pollution, on the public debate and on concrete politics. The project partners kept the spotlight on the air quality problems and climate impact caused by agricultural activities.

However, regarding both, ammonia and methane mitigation there are still major challenges to overcome and changes to be initiated in order to effectively and efficiently reduce the emissions of the gases through the support of policy. The effects of the current European, German and French public policies are still inadequate in the light of the health and environmental stakes, and with regard to the (national, European, and international) objectives.

The Clean Air Outlook stated in January 2021 that Germany in the next two years has to reduce its ammonia emissions by 10% (until 2023). However, the country is far from achieving this goal. Strong efforts are needed to stay on the reduction path. Politics must be supported to in implementing the measures on this path.

Moreover, regarding methane, although there are significant advances in the awareness among the topic in science, politics and society notable, there is still no binding methane reduction target at the global, the European, nor the national level. However, a legal reduction framework is urgently needed to ensure that emissions are reduced on a sustainable basis. The Global

Methane Pledge from November 2021 was a big step in the direction towards methane mitigation. Since it is a voluntary agreement by the EU and more than 110 countries, the EU must translate it into binding law. Although efforts by the project have led to the inclusion of the agricultural sector in the EU methane strategy, the resulting EU methane regulation is limited to the energy sector. As an example, please see our letter to Vice-President Timmermans of the European Commission from 10/2020 in the Annex. This must change in the future and a methane reduction framework for European agriculture must be established. This requires the continuous pressure and support of NGOs. At the national level, a great achievement was the uptake of agricultural methane mitigation goals in the German government contract. Nevertheless, the intention lacks a reduction plan with precise targets, timetable and appropriate measures to achieve them. Here again, NGO lobbies are needed to ensure the achievement of the policy goals. Particularly regulatory and fiscal measures need to be strengthened at the EU and the national level.

The key objective of the B.6 food waste related work package was to help support relevant actors in Germany and the EU to halve food waste by 2030 and reducing it along the whole supply chain, thereby significantly reducing GHG emissions.

While no quantitative food waste reductions can be reported in Germany as such, important changes within legislative processes and stakeholder perceptions were triggered, which will surely bear tangible results in due time. The project successfully developed information material for all relevant areas of food waste policy, developed key recommendations and disseminated them to decision makers, to the highest level of decision-making. The project team directly consulted the decision makers within the agricultural ministry from the head of department level to the state secretary level and additionally engaged with members of the parliament. As a result, key recommendations were taken up in the German coalition treaty. The respective parts are marked in the document in the Annex (See Annex German coalition treaty 2021 – 2025, row 1437 – 1439).

In the coalition agreement, the current government announced that it would “work together with all actors involved to bindingly reduce food waste in a sector-specific manner”. The states also have already demanded more firm commitment. In the decision of the Federal Council of September 3, 2021 the states determined that the “voluntary-based concepts [...] do not have sufficient effect to reduce food waste effectively”. Instead, the Federal Council advocates a legally binding commitment to reduce food waste.

Simultaneously, the general public was informed, alerted and engaged at an overwhelmingly high rate in petitions and social media activities. Lastly, relevant stakeholders across the whole value chain were convinced of the importance of the issue. The issue of food waste was taken up by young climate activists in Germany and several retailers have launched tangible activities (see Annex for B.6\_Other deliverable\_4 & B.6\_Other deliverable\_5).

At the EU level, the farm to fork strategy has made a clear commitment to the UN Sustainability goal of halving food waste at the retail and consumer level by 2030 and simultaneously reducing it across the whole value chain. The project team as actively inputted into the two legislative proposals coming out of the strategy via the EU Platform, consultation, impact study interviews, NGO statements, etc.

The main objective of this action was the integration of measures for ammonia and methane reduction in the agricultural vocational education and training. For this purpose, mainly the public educational institutions were addressed.

Our work and research concerning agricultural education and training has shown us that emissions-sensitization is on the rise in educational landscape for agricultural. Much is already being implemented on a small scale and at school level. The project accelerates these existing ambitions: The already active and motivated actors get engaged and are given a broader audience and attention. This way, the existing approaches develop a broader impact. Such adaptations in education and training will in turn have an impact on the entire agricultural practice and the reduction of methane and ammonia emissions. On the other hand, the results triggered by the measures of action B.7 will only be visible after some time. The educational landscape is a very rigid system, and rapid changes are unfortunately not to be expected here.

### **Economic and social benefits**

The project has indirect social benefits, which cannot be measured. However, the impact on public health is significant. In Germany, 53,800 premature deaths are estimated to result from the exposure to fine dust (PM2.5); in France 29,800 (2019) (EEA). Air pollutions annual cost to French society has been estimated at about 100 billion euros (Senate, 2015). Atmospheric pollutants are also responsible for damage to the health of animals, natural spaces and agro systems. With respect to methane, which is a precursor of tropospheric ozone, 16,800 premature deaths have been related to the latter air pollutant in the EU in 2019. Due to the gases damaging impact on crop harvest, the EU could save money yearly if the emissions were reduced. This is a further indirect benefit by the projects activities.

## **8. Key Project-level Indicators**

A baseline in the KPI database web tool was set and validated, the final snapshot will be set within the web tool. Further specifications are described in action C.2.

The envisaged geographical spread of the CAF information campaign could not be fully achieved, as more intensive cooperation could not be achieved in all targeted regions of Europe due to Covid 19 restrictions. However, our activities on the methane strategy in particular were able to arouse interest in parts of the US NGO and foundation community. Our activities to address and influence political decision-makers in particular have far exceeded the target with letters to EU and national decision-makers, as well as letters to decision-makers in the context of legislative developments (see indicator group 1.6). We also achieved a very good result with regard to the people who changed or adapted their behaviour based on the information prepared in the project. Especially through the petition participants, we were able to win over more than a quarter of a million people (1.6). Among other things, by adapting individual deliverables set out in the proposal, we have included additional videos in the project actions, as we have had good experience with this method of communicating content in the course of the project, so that we were able to produce 13 videos instead of the 5 we had planned, and to communicate information widely (11.2). The events developed and carried out by the project team under its own responsibility also exceed the targets set out in the proposal, as in addition to the planned events we are promoting interest in reducing agricultural emissions with demo events and additional workshops.

In addition to the KPIs, in order to give an overview of the project impact on the actual reduction of ammonia and methane from agriculture, it must be taken into account that these

figures are recorded on a national level and that our work has certainly only contributed to a part of the change in emissions. But project partners are optimistic that the impact of policy work, as well as broad outreach, has contributed to reductions. On the one hand, the increased awareness among policy makers has contributed to the focus on agriculture as an emitter of ammonia and methane. As a result, the pollutants are discussed and taken up in regulations and international agreements (EU Green Deal (Farm to Fork Strategy, Methane Strategy, ZPAP); in the NEC; in the revision of the Göteborg Protocol). But also on the national level, ambitious measures have been taken in the NAPCPs in Germany and France, even if these are not yet sufficient in the view of the project partners. On the other hand, scientific reports and our broad public relations work have contributed to the fact that the issue of the harmful effects of our lifestyle and the type of agriculture required for this has reached the public perception and a change in consumption has occurred among a part of the population. However, all these results and successes will only have their full effect in the next few years. Nevertheless, reductions in agricultural emissions can already be recognized and proven with the help of the latest data from the EEA statistics (table 2). A reduction of ammonia and methane emissions from the beginning of the project (2018) to the middle of the project (2020) is visible. Unfortunately, more recent data is not yet available, but the emission trend is downward and it is expected that lower emissions will be visible at the end of the project in 2022 than at the beginning of the project.

*Table 2 Yearly NH<sub>3</sub> (precursor for PM<sub>2.5</sub>) and CH<sub>4</sub> (precursor for Ozone) emissions from agricultural sector in EU-27, Germany and France (based on Air pollutants by source sector aggregated for indicator sets (EEA) and EEA greenhouse gases - data viewer)*

	Ammonia (NH <sub>3</sub> ) in Gg (kt)		Methane (CH <sub>4</sub> ) in CO <sub>2</sub> eq Gg (kt)	
	2018	2020	2018	2020
EU-27	3.327	3.230	207.404	205.897
Germany	567	512	32.280	31.651
France	568	534	38.099	36.999

A reduction in emissions has, of course, led to a reduction in premature deaths (table 3) over the same period. Since the emissions have a negative impact on the health of citizens.

*Table 3• Number of premature deaths due to PM<sub>2.5</sub> and Ozone (based on annual EEA Air Quality Reports, latest data available for year 2020)*

	Premature deaths due to PM <sub>2.5</sub>		Premature deaths due to Ozone	
	2018	2020	2018	2020
EU-27	347.100	306.700	18.400	16.800
Germany	63.100	53.800	4.000	3.350
France	33.100	29.800	2.300	2.050

## 9. Index deliverables

No	Deliverable	Deadline	Delivery	Report
A.1_1	Stakeholder analysis	10/2018	10/2018	MTR
A.1_2	Plan to Promote Replication	12/2018	04/2019	MTR

A.1_3	Communication Plan + revised Communication plan	11/2018	03/2019	MTR
B.1_1	Overview and evaluation of the involvement of NGOs in the national draft NAPCPs	07/2022	12/2020	FR
B.1_2	7 NGOs from 7 MS send letters to Environment Ministries asking for stricter ammonia emissions and a cap on methane emissions	10/2018	12/2019	MTR
B.1_3	Collection of feedback from national farmers associations in EU MS on the use of measures to reduce ammonia and methane emissions	05/2019	12/2020	FR
B.1_4	EEB Monitoring Report on the requests presented by MS to the NEC Directive	03/2022	12/2021	FR
B.1_5	Proposal for a European Methane Strategy	10/2020	08/2020	FR
B.1_6	Guidelines and documentation of 4 NGO Workshops	11/2020	11/2020	MTR
B.2_1	Concept for six stakeholder workshops	08/2018	08/2019	MTR
B.2_2	Consultation statement to evaluate the governmental NAPCP proposal	10/2018	02/2019	MTR
B.2_3	Six press releases	02/2021	11/2021	MTR (5)
B.2_3	Six press releases	02/2021	11/2021	FR (1)
B.2_4	Documentation of six stakeholder workshops	02/2021	08/2021	MTR (2)
B.2_4	Documentation of six stakeholder workshops	02/2021	08/2021	FR (4)
B.2_5	Documentation of roundtables for journalists	03/2022	05/2022	MTR (1)
B.2_5	Documentation of roundtables for journalists	03/2022	05/2022	FR (1)
B.2_6	DUH Position paper on the German draft NAPCP	10/2018	08/2020	MTR
B.3_1	FNE position paper on the French PREPA	06/2019	12/2021	FR
B.3_2	Documentation of hearings with parliamentarians	09/2019	02/2020	FR
B.3_3	Documentation of 13 trainings of FNE members	12/2020	05/2022	MTR (2)
B.3_3	Documentation of 13 trainings of FNE members	12/2020	05/2022	FR (7)
B.3_4	Documentation of six expert talks with stakeholders	11/2021	06/2022	MTR (1)
B.3_4	Documentation of six expert talks with stakeholders	11/2021	06/2022	FR (5)

B.3_5	Documentation of six round tables co-organised with the agricultural chambers	11/2021	07/2022	FR
B.3_6	Proposals for effective measures for the implementation of the PREPA in 13 regions	03/2019	11/2021	MTR
B.4_1	4 press releases about methane reduction in Europe and the importance of an ambitious new Gothenburg Protocol	07/2022	07/2021	MTR (2)
B.4_1	4 press releases about methane reduction in Europe and the importance of an ambitious new Gothenburg Protocol	07/2022	07/2021	FR (2)
B.4_2	NGO position papers for the CLRTAP meetings	12/2021	12/2021	MTR
B.4_3	Information material (guidelines, flyer, policy brief, etc.) for decision makers	11/2021	11/2021	MTR
B.4_4	NGO participation in official UNECE meetings	07/2022	07/2022	FR
B.4_5	German background / position paper including information on reduction measures	03/2022	07/2022	FR
B.5_1	Documentation of 3 roundtables for agricultural and farmers associations	09/2021	07/2022	FR
B.5_2	Documentation of <del>two</del> <i>one</i> roundtables for the food sector in Germany and in France	10/2019	07/2022	FR
B.5_2	<i>Partly Deliverable change:</i> One position Paper instead of one roundtable Documentation ( <i>Documentation of two roundtables for the food sector in Germany and in France</i> )	10/2019	07/2022	FR
B.5_3	Signed agreed position regarding the reduction of methane and ammonia	06/2020	03/2021	FR
B.5_4	Screening of the current criteria for ammonia and methane emissions of food standards	12/2018	03/2020	FR
B.5_5	Documentation of support provided to companies regarding the improvement of sourcing guidelines	05/2022	07/2022	FR
B.5_6	Evaluation of survey among food companies on climate change objectives	12/2018	01/2019	MTR
B.5_7	Recommendations for effective criteria for ammonia and methane emissions	06/2019	01/2021	FR

B.5_8	Evaluation of online survey of German agricultural associations on agricultural methane and ammonia emissions	12/2018	01/2019	MTR
B.6_1	Study on legal situation about hygiene regulation, dissemination of food and other relevant aspects in MS, Identification of practice examples. Recommendations for changes in legislation.	11/2018	04/2019	MTR
B.6_2	First online petition targeting on concrete demands to policy and responsible decision makers. + Video statements	03/2019	04/2019	MTR
B.6_3	Recommendations for effective measures to reduce food waste	03/2019	05/2019	MTR
B.6_4	Concepts for pilot projects with food retailers and industrial consumer	06/2019	08/2019	MTR
B.6_5	Implementation and documentation of three expert talks	03/2020	04/2021	MTR (2)
B.6_5	Implementation and documentation of three expert talks	03/2020	04/2021	FR (1)
B.6_6	Second online petition on the contribution of food retailers to avoid food waste. Video statement.	03/2020	09/2020	MTR
B.6_7	Documentation of social media activities	03/2021	03/2021	MTR
B.6_8	<u>NEW:</u> Documentation of third petition	07/2022	07/2022	FR
B.7_1	Guideline on efficient measures for ammonia and methane reduction.	05/2022	07/2022	FR
B.7_2	<u>Deliverable change:</u> Documentation of published 4 videos ( <u>instead of: Documentation of articles published</u> )	10/2021	05/2022	FR
B.7_3	Documentation of the status conference on relevance of ammonia and methane reduction measures in vocational education and training	07/2022	06/2022	FR
B.7_4	Documentation of 4 expert talks	03/2022	04/2022	MTR (1)
B.7_4	Documentation of 4 expert talks	03/2022	04/2022	FR (3)
B.7_5	Two press releases	07/2022	07/2022	FR
B.7_6	Results and conclusion of survey on relevance of ammonia and methane reduction measures in vocational education and training	12/2018	04/2019	MTR
B.8_1	Document on the different regulations regarding air quality and agriculture	12/2018	12/2018	MTR

	and recommendations how to harmonize them			
B.8_2	Documentation of meetings related to the Atmosphere Protection Plans (PPA)	03/2018	06/2022	FR
B.8_3	Documentation of the regional meetings on the Health and Environment Plans (participants, outcomes, further steps)	11/2019	06/2021	FR
B.8_4	FNE analysis of French plans and legislations regarding Air and Agriculture	03/2020	06/2022	FR
B.8_5	Overview on research results air pollution from agriculture	11/2020	04/2022	FR
B.8_6	Documentation of meetings with national and regional air surveillance agencies and the governmental authorities in charge of the plans and programs	03/2019	03/2019	MTR
B.8_7	Documentation of meetings with 10 French representatives of European Parliament	09/2019	06/2022	FR
B.9_1	Background Information on the future CAP from an air quality point of view	09/2018	10/2018	MTR
B.9_2	Letter to the European Parliament on the CAP proposal	11/2018	03/2019	MTR
B.9_3	3 NGO briefings	05/2022	07/2022	MTR (1)
B.9_3	3 NGO briefings	05/2022	07/2022	FR (2)
B.9_4	3 follow-up strategy working groups for NGOs	05/2022	06/2022	FR
B.9_5	Letter to the Council on the CAP proposal	11/2018	11/2019	MTR
B.9_6	Factsheet on air quality and the CAP	12/2018	01/2019	MTR
B.9_7	NGO meeting (30 participants)	10/2018	10/2018	MTR
C.1_1	Overview an the monitoring results of the website (Google Analytics tool)	07/2022	07/2022	FR
C.1_2	Press clippings and evaluation of articles published	07/2022	07/2022	FR
C.1_3	Three surveys and internal monitoring reports	07/2022	07/2022	FR
C.1_4	Feedback forms for participants of events	10/2018	10/2018	MTR
C.1_5	Questionnaire and evaluation matrix for interviews with representatives of the target groups	03/2019	03/2019	MTR
C.2	Three annual compilations of information for indicator tables	12/2021	07/2022	MTR (2)

C.2	Three annual compilations of information for indicator tables	12/2021	07/2022	FR (1)
C.2	KPI project data snapshot export 17_11_2020	-	11/2020	MTR
D.1_1	Documentation: 6 Newsletters sent out to min. 300 organisations	09/2021	09/2021	MTR
D.1_2	List of organisations and events for networking	09/2018	01/2019	MTR
D.1_3	Documentation of 10 networking events	07/2022	07/2022	MTR (6)
D.1_3	Documentation of 10 networking events	07/2022	07/2022	FR (4)
D.1_4	Programme and invitation to the European conference	08/2019	10/2019	MTR
D.2_1	Layman's report in German, English and French and list of organisations which received the report	07/2022	07/2022	FR
D.2_2	Project website including notice board	01/2019	03/2019	MTR
D.2_3	Concept for the project website	11/2018	11/2018	MTR
D.2_4	Corporate design (CD) including guidelines and project logo	12/2018	03/2019	MTR
D.2_5	Report on regular evaluation of the website via surveys among the target groups (C1)	07/2022	07/2022	FR
D.3_1	Mailing list and press contacts	12/2018	12/2018	MTR
D.3_2	Three evaluation reports of feedback in social media	10/2021	11/2021	MTR (2)
D.3_2	Three evaluation reports of feedback in social media	07/2022	07/2022	FR (1)
D.3_2	Three evaluation reports on articles/reports published	10/2021	10/2021	MTR (2)
D.3_2	Three evaluation reports on articles/reports published	07/2022	07/2022	FR (1)
E.1_1	Signed Agreements between DUH and the Associated Beneficiaries (FNF, EEB, LCF)	09/2018	09/2018	MTR
E.1_2	Minutes of seven project team meetings	09/2021	09/2021	MTR (4)
E.1_2	Minutes of seven project team meetings	09/2021	07/2022	FR (3)
E.1_3	After-LIFE Plan included in the Final Report (PDF file and print in German, English and French)	10/2022	10/2022	FR
E.2_1	List of Advisory Board members	11/2018	02/2019	MTR
E.2_2	Four internal evaluation reports for the AB meetings	11/2021	11/2021	MTR (1)
E.2_2	Four internal evaluation reports for the AB meetings	11/2021	06/2022	FR (3)

E.2_3	List of qualitative indicators for the evaluation of the project agreed by the Advisory Board	12/2018	04/2019	MTR
E.2_4	Evaluation Report of the Advisory Board as part of the Final Report	10/2022	10/2022	FR
E.2_5	Minutes of four Advisory Board meetings	11/2021	11/2021	MTR (2)
E.2_5	Minutes of four Advisory Board meetings	11/2021	06/2022	FR (2)

## 10. Index other annexed documents

No	Name
1.	5. Updated organigramme 2022
2.	Laymans Report
3.	After LIFE Plan
4.	B.2_b_official Statement on EU ZPAP
5.	B.2_beyond Study on CleanAir farming levy
6.	B.2_beyond Summery Study on CleanAir farming levy_EN
8.	B.2_c_official letter to Timmermanns_EU_MethaneStrategy
9.	B.2_d_Revision of TA Luft useable for clean air in agriculture
10.	B.2_e_Wahl BuReg_Landwirtschaftspolitik der SPD für Luftreinhaltung und Klimaschutz
11.	B.2_f_KOAV_Emission levy_Agri
12.	B.2_g_Networking_DAFSA WS Klima-Rinder-Umfrage Interesse
13.	B.2_h_FarmToFork Strategy
14.	B.3_QA rap senat 2020
15.	B5.10_Additional support recommendations
16.	B.6_Other deliverable_1_Campaign Start
17.	B.6_Other deliverable_2_DUH_Ackern für die Tonne_Demands
18.	B.6_Other deliverable_3_Factsheet Asthetic Standards
19.	B.6_Other deliverable_4_Lidl Rettertüte_BR Article
20.	B.6_Other deliverable_5_TAZ Article Aufstand der letzten Generation
21.	B.6_Other deliverable_6_Positionspapier Buendnis-Lebensmittelrettung
22.	B.7_beyond_Contribution_EU_Konsultation