

Resource Efficiency in Practice – Closing Mineral Cycles Brussels Conference Proceedings (18 Nov 2014)

1. Context and objectives

Inefficient use of fertilisers leads to the accumulation of nutrients in areas of intense agricultural activities and can cause serious environmental problems in these areas and beyond. Within the project “Resource Efficiency in Practice - Closing Mineral Cycles”, the most promising and cost-effective measures at the regional and farm levels were identified to increase the resource efficiency and use of nutrients (N, P, K) and help close mineral cycles, particularly in saturated areas in Europe. The findings have been translated into relevant practical measures for the farming community in these areas.

In order to communicate the information gathered to stakeholders, dissemination activities including leaflets, four regional conferences, as well as a final conference were carried out in the course of the project. Following the regional conferences¹, the final conference was held on 18 November 2014 in Brussels. Whereas the regional conferences targeted local and regional farmers, farmers’ associations, NGOs, and academics, the Brussels conference targeted instead policy makers, farmers’ associations, NGOs, and academics at the European and national levels. Around 70 people participated in the final conference, also including representatives from regional farmer associations and experts from the investigated case study regions.

The main objective of the conference was to stimulate discussion and exchanges between the different stakeholder groups about the issues related to nutrient surpluses in Europe, possible solutions at farm level, and barriers to those solutions as well as to embed these findings in the wider picture also addressing the legal framework and actions beyond the farm level.

The conference agenda was structured to favour active discussions among all participants, with the presentations providing context and a basis for the further exchanges among the audience members. Time was set aside for table discussions amongst the participants, as well as plenary feedback and discussion sessions. The conference was moderated by Peter Woodward, a professional moderator who focuses on subjects related to sustainability.

¹ 28 October 2014, Portlaoise, Ireland – <http://mineral-cycles.eu/ireland>;

4 November 2014, Murcia, Spain – <http://mineral-cycles.eu/spain>;

5 November 2014, Milan, Italy – <http://mineral-cycles.eu/italy>;

13 November 2014, Poznan, Poland – <http://mineral-cycles.eu/poland>.

2. Introductory presentations

2.1 Addressing the nutrient challenge – the EU perspective

Following welcoming remarks from moderator Peter Woodward and project director Shailendra Mudgal, Claudia Olazabal, Head of Unit B.1, DG Environment, European Commission, presented the history of the pilot project, the nutrient challenge in Europe, the importance of addressing nutrient losses, and the overall policy context.

Ms. Olazabal reminded the audience that “Resource Efficiency in Practice – Closing Mineral Cycles” is a project initiated by the European Parliament. The subject of nutrient cycles was chosen given its relevance to the economically important agricultural sector and its impacts on the European environment and, in particular, surface and groundwater.

Ms. Olazabal presented the basic facts of nutrient concentrations in Europe, and their trends in recent years. She then presented an overview of the various policy measures in place that address the issue of nutrient surpluses, including the 7th Environment Action Programme, the Nitrates Directive, the Water Framework Directive, the Urban Waste Water Treatment Directive, the Marine Strategy Framework Directive, the Air Quality Package, and the Fertilisers Regulation.

Ms. Olazabal concluded noting the challenges that remain to closing mineral cycles, namely a need for an integrated and holistic approach, taking all environmental media into account, an increased use of innovative practices and solutions, and the enhanced implementation of existing policies, aiming at reducing pollution at its source.

2.2 Aims and wider context of the study

Mr. Shailendra Mudgal, Partner at BIO by Deloitte and the project director, presented the aims and wider context of the project. Building on Ms. Olazabal’s presentation, Mr. Mudgal explained that the project focused on the agricultural sector given that it is a major source of nutrient emissions, run-off and leaching to the environment. The project concentrated on farm-level actions to provide a sufficient level of specificity, showing how local conditions such as landscape, climate conditions, soil conditions, and water availability influence the choice of particular measures.

Mr. Mudgal described how the economic realities of European farmers were taken into account, considering both the capital and operating costs of the measure, as well as any potential savings from the measure, and the typical financial capacities of farmers in the region.

Mr. Mudgal then described the project’s structure, scope, stakeholders, and timeline. Concluding, he reminded the audience of the purposes of the conference, namely to present the results of the project, to discuss the findings with the stakeholders present, and to highlight the best practices and solutions at the regional and farm levels.

3. Challenges at the farm level and possible solutions

Following the context-setting presentations of the previous session, this session included substantive presentations of the results of the project as well as information from the covered regions.

3.1 The project results

The project manager, Mr. Kurt Muehmel from BIO by Deloitte, presented an overview of the methods and results of the project. This included the analytical framework of the study, which looked at impacts across environmental media against their cause by farming systems and agricultural practices and the environmental conditions that may have enhanced those conditions. Building on the framework of resource efficiency, three types of solutions were identified, those that reduce the sources of contamination, those that improve nutrient efficiency, and those that control contamination pathways.

The conditions for identifying the eight targeted regions were presented, as was an overview of the experts consulted in each of the regions. An example of the study's assessment of the impacts and causes of nutrient losses was given, considering the Weser-Ems region of Germany, followed by examples of the good practices that were identified in each of the eight regions. The four categories of costs² and examples of each were given.

Mr. Muehmel then reviewed the project deliverables which include the study report, the database of solutions, and leaflets for each of the eight regions. To conclude, Mr. Muehmel provided an overview of the outcomes of each of the regional conferences.

3.2 National perspectives

To complement the presentations from DG Environment and the project team, short presentations on the situations in several of the targeted regions were given.

3.2.1 Insights from Denmark

Dr. Tommy Dalgaard, Head of the dNmark Research Alliance, presented several insights into the subject from the Danish perspective. Despite the significant agricultural pressure and the nutrient pollution, in Denmark an overall decline in nitrogen leaching from agriculture is noted. Following a peak in the last decades of the 20th century, nitrogen emissions to environmental media and nitrate levels in groundwater have seen a steady decrease over the past 20 years.

3.2.2 Insights from Murcia, Spain

Dr. Francisco M. del Amor, of the Instituto Murciano de Investigación y Desarrollo Agrario y Alimentario (IMIDA) presented an overview of the situation in Murcia, Spain. Characterised by arid to semi-arid climate and low soil organic matter, farmers in the region have had to implement several advanced techniques to enable a productive agricultural sector. These include drip irrigation, which is

² Clean up and restoration costs, use value damages, non-use/passive-use value damages, policy action costs.

used on 84% of the irrigated farmland, the development of cultivars with shorter production cycles, *in situ* nutrient monitoring, among others.

3.2.3 Insights from Brittany, France

Mr. Thierry Coué, a farmer from Morbihan, France and the President of the Fédération Régionale des Syndicats d'Exploitants Agricoles (FRSEA) presented the situation in Brittany. As with Denmark, Brittany has seen a significant decrease in nitrate concentrations in water between 1993 and 2011. Several key factors were identified, namely support for farmers, commitment of all stakeholders, good match between the measures and the local conditions, achievable goals, and the recognition of efforts already made by operators. Among the persisting nutrients related issues in the region Mr. Coué mentioned the strong heterogeneity of nitrate concentrations across the region, as well as nitrate inputs from non-agricultural sources.

3.2.4 Insights from Lombardy, Italy

Prof. Giorgio Provolo of the Agricultural and Environmental Sciences Department at the University of Milan presented an overview of the situation in Lombardy. Key issues include crops with high nutrient requirements, intensive livestock, and limited cooperation among farmers. Priorities for the region include reducing the nutrient surplus in intensive livestock areas, increasing nitrogen efficiency (from manure and from mineral fertilisers), and better balancing nutrients with crop needs.

3.2.5 Challenges and solutions in the Baltic Sea region

Ms. Ottilia Thoreson, Manager of the WWF Baltic Ecoregion Programme, presented the challenges and solutions in the Baltic Sea region. Ms. Thoreson focused on the threat posed by eutrophication to the Baltic Sea. Half of the nutrients in the Baltic sea are coming from agricultural activities and actions to address the eutrophication have focused on farmers, including the publication of a leaflet on “Best Practices of ‘Baltic-friendly’ Agriculture” and an annual Award for farmers who are leading in innovative measures to reduce nutrients runoff from their farms.

3.3 Table and group discussions

Conference attendees then discussed the following question for 25 minutes: **How do we maximise the value of the project approach and regional/national solutions presented in delivering change at the farm level?** Following their reflection, they were asked to report back their conclusions to the wider group.

Much of the discussion focused on the **importance of specific, local contexts**. Given the variability of the climatic, landscape, economic, social and agronomic conditions across Europe, it is important that the recommendations and assessment that have been made in the context of the current project are translated to local conditions. This could be achieved through smaller-scale, more **locally-oriented projects** that seek to apply the learnings of this project to a particular local context. A first level of specific measures can be provided at the regional level. The participants mention the need for adapting the measures at smaller scale through discussion groups with farmers from the same cooperative or neighbouring towns for instance. They also outline the need for specific action at farm level through discussions between farmers and their advisors.

An important aspect of this adaptation to the local context is the messaging that is used to reach out to farmers. Emphasis was made on the need to **adapt the messages to the local context**, and to also present the messages in **economic terms**, showing how the best practices will improve the financial conditions of the farmers. Taking a **longer-term view**, using the findings of the study as a basis for the

education of the next generation of farmers by adapting courses in schools and colleges could also be an efficient solution.

Getting the messages out to the farmers who can use them may also benefit from the increased use of **information and communication technologies (ITC)**. For instance, several participants suggested the development of an application to allow the farmers to identify appropriate measures based on their individual context. The application also helps its implementation since farmers can access to the technical advices anytime on his phone. Another suggestion was to use the database of solutions as a basis for the development of **interactive tools** at the Member State level. Several comments suggested that adapting and communicating the findings of the study at the Member State (or even regional) level would be more effective than messages that appear to be emanating “from Brussels”. For instance, the results could be disseminated to regional agricultural public institutions, regional farmers unions, advisory services or even schools.

Much of the discussion was also centred on the need for finding appropriate ambassadors for the messages, as well as advisors to **build capacities**. In many regions, it was discussed that the level of knowledge about sustainable farming practices is not yet sufficient to allow for farmers to independently interpret the findings of the study in a way that would be quickly operational for them. As such, several participants recommended the identification and engagement of “**ambassadors**” in the regions to help pass the message. Ideally, these ambassadors would be fellow farmers who could also share their **success stories** with the sustainable practices, including how the measure affected them economically.

Building on the idea of ambassador farmers sharing their success stories, multiple ideas for **demonstration farms**, “Erasmus farms”, and pilot farms were also shared. The objective of these sites would be to both test new practices, to prove their efficacy, and to serve as learning and knowledge sharing sites. Another, on-the-ground approach to dissemination would be the financing and implementation of **pilot projects** to show the efficacy of the proposed measures in different locations across the EU. Effective communication and dissemination measures would be required to ensure that these projects would have the maximum impact. Finally, suggestions were made to hold **awards** for farmers who have successfully implemented the measure. This would have the double benefit of being a means to share such success stories, while also incentivising farmers to take the risk to try new methods.

4. Harnessing cooperation and joint actions to address nutrient surplus at the farm level

4.1 Cooperation and joint actions – principles and opportunities

Ms. Jane Mills, Senior Research Fellow at the Countryside and Community Research Institute (CCRI) of the University of Gloucestershire, presented the principles, opportunities, and barriers to joint actions and cooperation among farmers. Ms. Mills began by presenting reasons that farmers cooperate currently, including enabling investment in new equipment, sharing in labour-intensive tasks, learning from one another, developing new business connections, and increasing resilience to cope with changes (regulatory, climatic, market, etc.). The level of existing cooperation, as measured by the market share of farmer cooperatives is highly variable, ranging from greater than 50% in countries like France and Sweden, to less than 25% in countries like Poland.

The new Common Agricultural Policy (CAP) provides opportunities for cooperation and joint action. These include the possibility for “collective implementation” of Ecological Focus Area (EFA) obligations, agri-environment-climate and organic farming measures under the RDP, among others. Altogether, Ms. Mills sees that support for collective approaches has been strengthened in the CAP 2014-2020, and that there is good scope to increase collaborative work at the landscape scale. That said, fear of complexity and/or change may encourage minimalist, conservative choices.

Barriers to cooperation must be addressed. These include:

- Lack of communication and mistrust, which can be overcome through establishing relationships in non-threatening, social situations.
- Lack of confidence in skills, or a lack of experience, which can be overcome by sharing experiences before bringing in outsiders or new ideas.
- Concerns about free-riders or exploitation, which can be overcome by identifying good facilitators such as independent third-parties or trusted local individuals, and by encouraging collective responsibility and peer-policing.
- Risk aversion, which can be overcome by focusing on issues where the urge to communicate and cooperate is greatest.
- Bureaucracy, which can be overcome through facilitation, promotion, and co-design of the cooperation schemes.

The investment in developing these cooperative structures must be seen as an investment in the future. Policy should therefore favour their development. This can be done through more innovative design and delivery of policy, moving beyond single measures, incentivising experimentation, and a long-term view that is willing to accept a period of learning and low return on investment at the beginning.

4.2 Water resources management in cooperation with agriculture

Hubertus Schültken representing the Lower Saxony Water Management, Coastal Defence and Nature Conservation Agency presented a view of the challenges and solutions found for water management in cooperation with agriculture in the Lower Saxony region of Germany. Mr. Schültken began by presenting the challenge that Lower Saxony faces, specifically the diffuse pollution from agriculture with the primary pollutant being nitrate. With 74 cooperatives in the region, numerous multi-

stakeholder cooperative actions have been enacted. Stakeholders include farmers, local water suppliers, local water authorities, advisory services, the Chamber of Agriculture, the local nature protection authority, among others. These organisations have led to voluntary agreements for water catchment areas, such as catch-crops, under-sown grass, reduced tillage, reduced nitrogen fertilization, and changing crop rotation.

There has been a measurable reduction in the diffuse pollution from the cooperatives, namely a reduction in farm gate and field plot nitrogen balances and decreasing nitrate concentrations in wells through improved organic fertiliser management and less mineral fertiliser input.

This achievement and the high-functioning cooperatives are partially the result of free consultancy services provided by the state to the farmers. Support includes a handbook on groundwater protection, diffusing the results of pilot projects, data collection and assessment, and annual reports. These consultancy services have been welcomed by the local stakeholders and have received wide acceptance.

While the consultancy services and the cooperative approach have found considerable success, there has been a low acceptance of agri-environmental measures. Measures that are co-financed by the EU often have administrative constraints, such as 5-year contracts, and the compensation payments often do not match the dynamic agricultural market. Despite the success, nitrates levels still seems to be high which may result from long-standing insufficient compliance with fertilisation requirements. Consequently, stricter controls must be introduced and the need for strict compliance with the fertilisation regulation be emphasized.

Mr. Schültken concluded by saying that the cooperative approach was a clear success in Lower Saxony, that there should be stronger focus on result-oriented measures, and that the goals of the WFD can only be reached by basic and supplementary measures being implemented conjointly.

4.3 Solving water problems in cooperation with the water board – trade-offs between agricultural efforts and gains

Wouter de Buck, Secretary of the Dutch Nutrient Platform, presented on how water problems can be solved in cooperation. Given the importance of water management in the low-lying Netherlands, close cooperation with the Water Board has been fostered through the Netherlands Water Partnership, a network organisation of actors on all water-quality issues. Furthermore, the intensive agriculture in the Netherlands has led to one of the highest level of nutrient concentrations in Europe. These issues together result in a particular context that creates a strong need for joint measures.

Three main objectives for action were identified which contribute to resource efficiency: 1) use less, 2) recycle more, and 3) cooperation. Namely, using fewer nutrients more efficiently in agricultural production can reduce losses from the mineral cycle, as well as better recycling of those nutrients that are introduced into the system. Finally, these approaches are reinforced by cooperation between the Water Board and agricultural actors.

Specific tools for farmers have been developed, including the Delta Program on Agricultural Water Management, a web-based database for identifying appropriate practices based on local conditions, production systems and other variables.

Specific actions include the re-use of dredgings from canals, and precision farming techniques. Precision farming allows different quantities of nutrients to be applied to different parts of a parcel, based on the specific need. This can lead to an overall reduction in the quantity of nutrients that need to be applied. Manure processing allows for the nutrients to be extracted from manure, enabling more

efficient storage and transportation although a number of problems should be tackled, among which: supply of manure, obtaining the environment permit, market access for processed manure, identifying the right technology, and funding. Finally, more innovative solutions can be envisioned, such as combining manure processing and wastewater treatment plants (there are currently two examples of this kind in Netherlands).

4.4 Encouraging cooperation between multiple stakeholders in Ireland

Dr. David P Wall, Research Officer in the Environment Soils and Land-use Department of Teagasc (Irish Agriculture and Food Development Authority) gave a presentation on how cooperation has been encouraged among multiple stakeholders in Ireland. One form of cooperation has been the establishment of research partnerships with farmers. In addition to providing insight into farmers' practices, these partnerships also serve as an effective form of outreach. For example, 66% of the farmers perform soil testing. However, soil sampling is not used to make a more efficient use of nutrients since only 27% of the surveyed group have implemented a nutrient management plan.

In addition to the research partnerships, the Teagasc Sustainability Demo Farm aims to train and immerse the next generation of farmers in sustainable farming practice, as well as to provide a proof of various technologies. The farm and its practices aim to be transformational, going over and above compliance, and to anticipate future policies. Teagasc advisers have succeeded in earning a place of significant trust among farmers in the region. A survey has shown that they are uniquely well placed to motivate farmers and to transfer knowledge and advice, outpacing even family and other farmers.

Teagasc also provides useful tools to farmers, including spreadsheet-based calculators for nutrient application, as well as plot-level maps of nutrient saturation. Other tools, such as the Carbon Navigator, help farmers calculate their carbon emissions, identify opportunities to reduce them, while also reducing costs and increasing profits.

In supporting farmers in better nutrient management, Teagasc highlights win-wins, such as income benefits and benchmarking progress. An important message that Teagasc works to convey is that there will necessarily be lag times before the benefits of any particular measure are seen. It is important to therefore manage expectations so that farmers do not expect immediate results from changes in their practices that may require several seasons to have visible effects. Ultimately, the effects of these measures are best seen over decades, and not months or years.

5. Closing the nutrient cycles – future opportunities and challenges

5.1 Stakeholder panel discussion on future opportunities and challenges to close nutrient cycles

The following representatives of different stakeholder groups took part in a panel discussion on future opportunities and challenges for closing nutrient cycles:

- Andrea Vettori, Deputy Head of Unit B.1, DG Environment, European Commission
- Ignacio Seoane, Deputy Head of Unit H.4, DG Agriculture and Rural Development, European Commission
- Tania Runge, Senior Policy Advisor, COPA-COGECA
- Otilia Thoreson, WWF Baltic Ecoregion Programme

Mr. Seoane opened the discussion by emphasizing the importance of sustainable agriculture in the CAP. Specifically, the new CAP emphasises research and innovation, with a focus on technology transfer and the transfer of research results. Going from research to on-the-ground implementation is an important step.

Ms. Runge questioned the feasibility of completely closing mineral cycles, given that agricultural systems are inherently open systems. Furthermore, she raised the important question of who pays for such actions, noting that smaller farms might be pushed out of the market by new requirements and the expense of new equipment. Overall, challenges are increasing for farmers as more stakeholders are becoming involved in the discussions and debates.

Ms. Thoreson emphasised the need for cooperation, though she noted the challenge of motivating farmers to change practices that may have been in place for decades. Ms. Thoreson commented that voluntary measures, though useful, are often not sufficient, and that rural development plans often do not address all measures needed to tackle the nutrient problem. Ms. Thoreson commented that too often policies (e.g. the Water Framework Directive, the Nitrated Directive, etc.) are not well coordinated, nor are the activities of policy makers who focus on environment or on agriculture. Ms. Thoreson concluded by emphasizing the need to quantify and to measure inputs, outputs, and on-the-ground conditions.

Mr. Vettori emphasised DG Environment's role in working across environmental media, including air, soil, and water, as well as its objective to reduce environmental impacts and to adapt to climate change. He then discussed the need for appropriate incentives, both in the form of market-based measures, as well as through social recognition of farmers as having an important role in taking care of the environment. Mr. Vettori mentioned that there had been some missed opportunities, such as objectives in RDP being set too low. That said, the role of innovation remains important, especially in some cases where the level of surplus will exceed the resource efficient limits, given the scope of the agricultural production. Mr. Vettori emphasized the differences across Europe in terms of current practices, cultivations, climate, etc. and the inherent need for flexibility in policy that this imposes. It is for that reason that in the Nitrate Directive, it is left to Member States to define the measures related to the Directive.

5.2 Table discussion to identify recommendations for future action and feedback to plenary panel for discussion

The audience then discussed possible solutions. The group returned to its plenary and the discussion then opened to include questions and comments from the audience.

A first round of discussion focused on the **differences between organic and mineral fertilisers**, and the policy implications that this has on farmers' practices. Mr. Vettori responded saying that simply changing the legal status of mineral fertiliser does not change the pollution that the fertiliser will cause. He added though that processing manure can allow for better control of its application. The Danish model (polluter pays principle – Tax kg nitrogen in fertilizer under certain conditions) was suggested as a possible solution, though Mr. Seoane replied that simply because one approach works in one Member State, does not mean that it will work in other Member States. He underlined that the focus should be on using fertilisers in an efficient way. A further comment was made from an audience member who added that the Danish model is too much on the nutrient “input side” and that it is disconnected from outputs and the associated pollution.

The subject of an **equilibrium between mineral inputs and mineral outputs** was raised, specifically the number of livestock per area of agricultural land. Mr. Vettori replied saying that it is necessary for the EU to live within its physical limits, and that the carrying capacity of the land is necessarily limited. He added, though, that food is not a commodity like any other, and that agriculture and a healthy environment are both of great importance.

The discussion turned towards the importance of **mass media** and the role that they can play in promoting a sustainable way of life. Ms. Thoreson responded saying that it would be good to further engage both farmers and consumers with the need to change towards more sustainable practices. Ms. Thoreson cited, as an example, a trend towards over-consumption of certain food products and the need to change consumer perception of such practices. Ms. Thoreson concluded by saying that while food production is essential for Europe, we must be aware of its impacts.

A question was raised about the role of **innovative solutions** to engage consumers, such as product labelling, mentioning the current research into Product Environmental Footprint (PEF) and Carbon Footprint. Ms. Runge replied that PEF is particularly challenging for agricultural products. Mr. Vettori emphasised the roles of distributors, given that they can both impose prices on the producers, as well as serve as a central communicator for consumers.

The final subject of discussion was on the need of more **knowledge for farmers**, more exchanges amongst farmers, as well as a more direct connection between EU, national, and local authorities, and the farmers that they govern. Mr. Seoane replied that both the involvement of farmers and knowledge transfer amongst farmers are essential. Ms. Runge commented that farmers are on a journey and, while more can be done, it is better to work together with policy makers. Ms. Thoreson added that cooperation is needed and asked if financial incentives are the best way to ensure cooperation. Mr. Vettori concluded by saying that this is the final conference of the project, and that it will now be up to the regions to work with their farmers. He envisaged that the project findings will be useful to an enhanced management of nutrients in agriculture..

6. Annex – List of participants

Name	First name	Institution
Adamczyk	Leszek	ATMOTERM S.A.
Adita	Alia	European Commission
Amery	Fien	Institute for Agricultural and Fisheries Research
Bonetti	Marco	European Commission
Bonmati	August	Institute for Food and Agricultural Research and Technology
Brandsma	Jeanet	Land- en Tuinbouw Organisatie
Callanan	Bill	Department of Agriculture, IE
Catala	Ariane	European Commission
Cherrier	Victoria	AMEC
Coué	Thierry	Fédération Régionale des Syndicats d'Exploitants Agricoles, Bretagne
Dalgaard	Tommy	Aarhus University, Dept. Agroecology
Damen	Servaas	Ministry of Infrastructure and the Environment, The Netherlands
de Buck	Wouter	Netherlands Water Partnership
del Amor Saavedra	Francisco	Instituto Murciano de Investigación y Desarrollo Agrario y Alimentario
Dooley	Elizabeth	Ecologic Institute
Dousset	Emma	Ministry of Agriculture, France
Duggan	Pat	Department of the Environment Community and Local Government, Custom House, DUBLIN 1
Dunn	Nicola	National Farmers Union, United Kingdom
Foged	Henning Lyngsø	enAgro
Godinho Tavares	Teresa	Direção Geral de Agricultura e Desenvolvimento Rural
Grauwels	Kevin	Vlaamse Landmaatschappij
Grebot	Ben	AMEC
Hendrickx	Charles	Service Public de Wallonie - Direction générale Agriculture, Ressources naturelles et Environnement
Hofman	Georges	Ghent University
Innamorati	Angelo	European Commission
Lehtinen	Taru	Agency for Health and Food Safety, Austria
Leip	Adrian	European Commission, Joint Research Centre
Liive	Enn	Ministry of the Environment, Estonia
Linderhof	Vincent	LEI Wageningen UR
Lukat	Evelyn	Ecologic Institute
Mantovi	Paolo	Research Centre on Animal Production
Megyery	Szandra	Permanent Representation of Hungary to the EU

Name	First name	Institution
Mills	Jane	University of Gloucestershire, Countryside and Community Research Institute
Mudgal	Shailendra	BIO by Deloitte
Muehmel	Kurt	BIO by Deloitte
Naumann	Sandra	Ecologic Institute
Nolan	Jack	Department of Agriculture Food and the Marine
Olazabal	Claudia	European Commission
Onderka	Milan	Water Research Institute
Panagiotopoulos	Ermis	Fertilizers Europe
Passenier	Arnoud	Ministry of Infrastructure and the Environment, The Netherlands
Petitguyot	Thomas	European Commission
Põlma	Merje	Ministry of Agriculture, Estonia
Presicce	Francesco	European Commission
Provolo	Giorgio	University of Milan, Department of Agricultural and Environmental Sciences
Runge	Tania	COPA-COGECA
Salomez	Joost	Flemish Government
Sarteel	Marion	BIO by Deloitte
Schültken	Hubertus	Lower Saxony Water Management, Coastal Defence and Nature Conservation Agency
Seoane	Ignacio	European Commission
Servonnat	Emmanuel	Invivo Agrosolutions
Šinkovec	Marjan	Agricultural Institute of Slovenia
Smit	Harm	Ministry of Economic Affairs, The Netherlands
Sommariva	Flavio	Associazione Regionale Allevatori Lombardia
Sušin	Janez	Agricultural Institute of Slovenia
Tavares	Teresa	DG ADR
Thoreson	Otilia	WWF Baltic Ecoregion Programme
Toft	Morten	Biocover
Tostivint	Clément	BIO by Deloitte
van Zeventer	Wilbert	Ministry of Infrastructure and the Environment, The Netherlands
Vettori	Andrea	DG Environment
Wall	David P.	Teagasc Crops, Environment and Land Use Programme
Walthaus	Herman	Ministry of Infrastructure and the Environment, The Netherlands
Williams	Annabelle	RISE Foundation
Woodward	Peter	Quest Associates
Zabrzeńska-Chaterera	Monika	MRiRW