



European Network for
Rural Development

Thematic Group on Resource-Efficient Rural Economy

FINAL REPORT

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1. Context and Objectives

Managing natural resources in an efficient way in an important part of the [‘Transition to the Green Economy’](#). Therefore, it was decided that the focus of the Thematic Group under this theme in 2016-17 should centre on how RDPs could help to improve the resource efficient use and management of resources fundamental to agricultural production: water and soils, carbon and nutrients. In response, the ENRD established a Thematic Group (TG) on [‘Resource-Efficient Rural Economy’](#) for its 3rd contractual year (16 Jul 2016 – 15 July 2017). The work of the TG throughout the year concentrated on how to **support the integration of resource efficient activities and thinking relating to soils and water into the implementation of rural development programmes** by: bringing together and facilitating discussion between key rural development stakeholders; undertaking case studies in selected Member States; and identifying good practice examples from which lessons could be learned and shared.

Soils and water underpin the functioning of European ecosystems and play an important role in the economies of rural areas and in-turn the role they play in supporting the economy as a whole and those living in urban areas. Pressure on these natural resources is increasing and remains a central challenge to the sustainable development of rural areas.

The importance of improving resource efficiency is recognised at both the global and EU level. Managing soils and water more efficiently is a strategic priority for Europe and society as a whole through its contribution to UN Sustainable Development Goals, EU legislation and long-term food security, as well as for those whose livelihoods depend on the effective functioning of rural land. Reinforced by the Cork Declaration, rural development policy has a key role to play in delivering these priorities through RDPs.

“... increased pressure on natural resources resulting from growing demand for food, feed, fibre and biomaterial must be met by coordinated cross-sectorial policy responses. These should ensure the sustainable management of natural resources such as water, soil, and biodiversity, being the very means of agricultural and forestry production.” (Cork 2.0 Declaration, Point 5¹)

A survey of potential members of the ENRD Thematic Group coupled with previous work on resource efficiency led to a potential list of sub-themes that the group could address:

- Improving soil and water quality through efficient land and nutrient management;
- Improving the efficiency of water use to reduce the pressure on water systems and improve water availability; and
- Carbon conservation and sequestration.

A number of cross-cutting themes also emerges in relation to these issues. Following the discussions of these cross-cutting themes in the first meeting the **Thematic Group** focused on the **motivation, knowledge** and **policy** challenges associated with taking action to improve soil and water management via RDPs and some of the solutions to address these.

¹ http://ec.europa.eu/agriculture/events/2016/rural-development/cork-declaration-2-0_en.pdf

2. Members

The TG on Resource Efficiency included around 40 members, which were selected on the basis of their knowledge on resource efficiency of soils, carbon, nutrients and water, the governance level they represent and geographic distribution across Europe. The membership of the TG included representatives of the EU Institutions/programmes, EU and national level stakeholder organisations representing farmers, national and regional Managing Authorities, National Rural Networks, private companies, research organisations and universities, advisory services and environmental NGOs. Not all of the TG members were able to join each meeting, however there were a consistent group of around 20 members who attended all four meetings and provided consistent input to the TG's work, including taking responsibility for undertaking research work in their respective countries and providing presentations etc.

TG members provided a wide spectrum of perspectives from across the EU covering multiple Member States from Northern (e.g. SE and FI) to Southern (e.g. IT, PT), and from Eastern (e.g. PL and RO) to Western (e.g. AT, DE, Benelux countries) Europe. The full list of TG members is provided in Annex 1.

3. The approach, methods and activities

The work of the Thematic Group is based on the active exchange of views, knowledge and experience among its members and the development of analysis, proposed actions, initiatives and solutions. This is mainly done through participating in face-to-face meetings, contributing to specific tasks and taking part in online discussions.

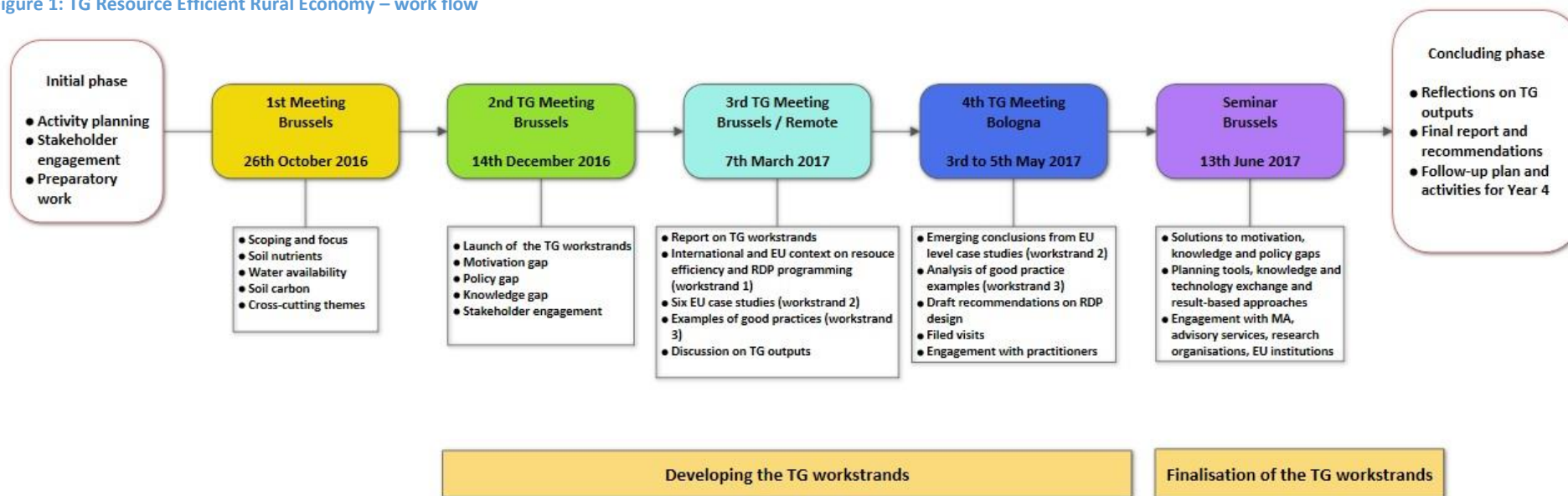
During its activities from July 2016 to July 2017, the members of the Thematic Group (TG) on Resource Efficient Rural Economy met at regular intervals through four meetings (one of which was hosted remotely using GoTo Meeting video conferencing with participants also present in the ENRD CP office in Brussels) and one final EU-level seminar. Between the meetings, the ENRD CP in cooperation with the TG members carried out a range of activities under three work strands (see below), including the screening of RDPs, case studies in six Member States and the collation of good practice examples. These have been brought together in a range of outputs of the group that can be found in section 4 of this report.

The overarching aim of the TG was to engage rural stakeholders and identify ways to improve the resource-efficient use of soils and water through Rural Development Programmes (RDPs).

To maximise the opportunities for participation and interaction with TG members, the four TG meetings and the concluding seminar were designed in a way to be participatory and as stakeholder-driven as possible. Active engagement with TG members was ensured through:

- Involving TG members in primary thematic research and analysis (e.g. case studies);
- Designing interactive and participant-driven discussion sessions, including break-out groups; plenary discussion; and invited presentations from TG members.
- Facilitating exchange of knowledge and best practices among TG members and a broader range of relevant rural development stakeholders (see the fourth TG meeting);
- Creating opportunities to see resource efficiency projects in practice and discuss practical issues and opportunities with beneficiaries of RDP funding and those in charge of designing and delivering schemes on the ground (see the fourth TG meeting).

Figure 1: TG Resource Efficient Rural Economy – work flow



TG Meeting 1

As shown in the flowchart (Figure 1), the TG first met in Brussels on 26 October 2016 following circulation of the TG background paper setting the international and EU context for resource efficiency and the potential role of RDPs. With the aim of providing an introduction to the ENRD thematic work in the first TG, Edina Ocsko (ENRD Contact Point) presented the main purpose of the TG and the process foreseen to develop the work going forward.

Kaley Hart and Ben Allen (Institute for European Environmental Policy – European Network for Rural Development (ENRD) Contact Point) provided an overview of the resource efficiency theme as both a political and EAFRD-funded priority, focusing specifically on enhancing soil and water quality, water availability and carbon conservation and sequestration in soils. During discussions at this meeting, the TG honed the specific sub-themes to be the focus of the TG's work – soil nutrients, water availability and soil carbon – and discussed practical opportunities of efficient use of natural resources within RDPs. The report of the meeting was produced in a 'newsletter' format to provide a more engaging document summarising the outcomes of the discussions and to improve readership. This format was followed for the successive TG meetings.

Background documents

- [Agenda](#)
- [Event summary](#)
- [Leaflet](#)
- [Background Paper](#) (Working Draft)

Thematic Group briefing document

- [Improving the resource-efficient management of soils and water](#)

Presentations

- A full list of presentations for the event can be found [here](#).

TG Meeting 2

Following the definition of the three main sub-themes, the **second meeting**, held in Brussels on 14 December 2016, provided a forum to identify the main areas where improvements to the design and implementation of RDPs was required to improve the way measures could be used to support resource-efficiency in relation to soils and water.

The meeting opened with presentations by TG members on the recycling of nutrients from bio-wastes as opportunity for rural economy development (Kimo van Dijk, European Sustainable Phosphorus platform), opportunities from nutrient recovery and reuse in agriculture (Elisabet Nadeu), the LIFE+ EKOROB project (Wojciech Fratzczak, Katarzyna Izydorczyk, Maciej Zalewski) and the PACA project on supporting agro-environment-climate priorities in Italy (Maria Valentina Lasorella). Subsequent discussions led TG members to coalesce around three particular areas which were hindering more effective implementation: how to motivate farmers to take action on resource efficiency; improving

knowledge exchange; and achieving greater coherence and join up between different policies. These three areas of focus cut across all three sub-themes identified and it was agreed that there would be merit in organising the work of the TG around these issues.

Background documents

- [Agenda](#)
- [Event summary](#)

Presentations

A full list of presentations for the event can be found [here](#).

The ENRD launched three work strands with the aim to provide:

- An overview of RDP support to resource efficiency across Europe (Work Strand 1) led by Silvia Nanni (IEEP/ENRD CP);
- In-depth analysis of selected regional RDPs (Work Strand 2) led by Ben Allen (IEEP/ENRD CP) and Doris Marquart (ENRD CP) with case studies provided by both the ENRD CP as well as TG Members and external individuals (see section 4 for details of the case studies and authors);
- Compilation and analysis of a wide range of good practice examples (Work Strand 3) led by Alex Papakonstantinou (ENRD CP) with support from Carlos de la Plaz (LIFE).

TG Meeting 3

The emerging findings on the practical ways RDPs are designed and used to contribute to resource efficiency objectives were presented at the **third meeting** of the TG, held in Brussels and via remote connection on 7 March 2017². Three presentations were given on the preliminary findings. TG members discussed the cross cutting challenges emerging from the EU case studies, with the aim to guide the analysis and inform the conclusions of the TG work.

Background documents

- [Agenda](#)
- [Event summary](#)

Presentations

- A full list of presentations for the event can be found [here](#).

TG Meeting 4

The **fourth meeting** jointly organised by the ENRD Contact Point and the Italian Rural Network and hosted in Bologna (Italy) on 3rd to 5th May 2017, concluded the thematic work of the group by testing the emerging conclusions from the case studies and good practice example with TG members and participants from the Italian NRN. This provided the content to inform the development of final conclusions and recommendations from the TGs work (elaborated in Section 5 of this report). Field visits

² The meeting was hosted in the ENRD offices with the possibility of connecting remote members using GoTo Meeting.

on resource efficiency practices and projects relating to soil and water within the Emilia-Romagna region were also organised.

Background documents

- [Agenda and practical information](#)
- [RDP case studies](#)
- [Information on field visits](#)
- [International and EU policy surrounding soil and water resource efficiency](#)

Presentations

- A full list of presentations for the event can be found [here](#).

Seminar

Building on the activities and findings of the TG, a concluding **seminar** was held in Brussels on 13 June 2017. It aimed to build on the activities and findings of the Thematic Group to discuss the key factors enabling the resource efficient use and management of water and soils through RDPs and the implications for rural development policy design and delivery to 2020 and beyond. The specific objectives of the seminar were to:

- Highlight the value of the resource efficiency agenda with respect to rural economies and its relationship with EU policy priorities;
- Identify the role that rural development policy can play in harnessing the opportunities for promoting resource efficiency in rural areas, with a focus on water and soils;
- Present and discuss the findings, lessons learned and good practice examples from the ENRD Thematic Group on Resource Efficient Rural Economy and explore their applicability at European level;
- Consider the short and longer terms implications for rural development policy development, design and implementation.

Attended by ~90 rural development stakeholders from across the EU, it created a forum for discussion among farmers, researchers, Managing Authorities, policy experts, European institutions, National Rural Networks and the private sector.

Workshops explored how to increase farmers' and Managing Authorities' motivation to engage with resource efficiency, enhance knowledge and design RDPs to encourage greater synergies between policies. Also explored were some of the tools that could be used to enable a transition to a resource efficient rural economy – planning tools, knowledge and technology exchange and result-based approaches.

Framing the opportunities for resource efficiency in rural areas in the EU, Kaley Hart (IEEP – ENRD Contact Point) highlighted the international and EU policy context and priorities in relation to the resource efficiency agenda. Krzysztof Sulima (DG AGRI) provided an overview of the role of RDPs, while Silvia Nanni (IEEP – ENRD Contact Point) described how support for the resource efficient management

of soils and water is programmed and implemented in the RDPs. Future perspective for policy design and implementation of RDPs were provided by Tim Hess (Cranfield University) and Claudia Muresan (DG AGRI).



Recommendations from the seminar discussions are summarised in Section 5 of this report.

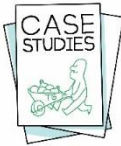


Background documents

- [Agenda](#)
- Priority 4: Restoring, Preserving and Enhancing Ecosystems [PDF](#)
 - Focus Area 4B: Improving water management [PDF](#)
 - Focus Area 4C: Preventing soil erosion and improving soil management [PDF](#)
- Priority 5: Resource-efficient, Climate-resilient Economy [PDF](#)
 - Focus Area 5A: Increasing efficiency in water use by agriculture [PDF](#)
 - Focus Area 5E: Fostering carbon conservation and sequestration in agriculture and forestry [PDF](#)
 - Measure 2: Advisory services, farm management and farm relief services [PDF](#)

A full list of presentations for the event can be found [here](#).

4. Summary of main outputs

<p>Scoping paper</p> 	<p>An initial survey to potential members of the ENRD Thematic Group highlighted some of the new challenges and opportunities regarding addressing resource efficient in rural areas was summarised in an initial scoping Paper.</p>
<p>Framing background analysis</p>	<ul style="list-style-type: none"> • In addition to the scoping paper, a framing and background analysis was undertaken to assess the broader policy context surrounding resource efficiency, as well as way in which Member States and Regions has used RDPs to deliver resource efficiency actions in practice. A slide deck outlining these findings is available here (INSERT LINK WHEN AVAILABLE).
<p>Four TG meetings</p> 	<ul style="list-style-type: none"> • The 1st TG meeting (26 October 2016) defined the specific focus of the TG's work for the year including three thematic priorities and three cross cutting areas for investigation (see meeting summary). • The 2nd TG meeting (14 December 2016) identified the main research strands (EU level RDP analysis, in depth regional case studies and collection of good practice examples) along with expected outputs the TG could produce to improve RDP implementation (see meeting summary). • The 3rd TG meeting (7 March 2017) provide a forum for discussion and exchange focused on presenting the progress made in the research work, highlight initial findings and seeking guidance on next steps (see meeting summary). • The 4th TG meeting (3-5 May 2017) was held in Bologna, Italy and was used to test the emerging conclusions and findings from the TG, and engage with farmers and regional stakeholders in Italy. (see meeting summary).
<p>ENRD Seminar</p>	<p>The Seminar on Resource efficient rural economy (13 June 2017) aimed to progress current thinking on the best local and strategic actions to promote resource</p>

	<p>efficiency in rural areas and how these can be supported effectively by the Rural Development Programmes. Details of the seminar can be found here.</p>
<p>Comparative regional analysis</p> 	<p>One of the key work strands of the TG's work was to explore the different approaches to addressing resource efficiency in different contexts in the EU. From this the TG developed recommendations on what has worked in practice and where there are common gaps to implementation. Case studies were undertaken in six Member States:</p> <ul style="list-style-type: none"> • Belgium (Flanders) • Finland • Germany (Lower Saxony) • Greece • Italy • Hungary <p>A summary report of these case studies can be found here along with the findings of the case studies summarised into a slide deck.</p>
<p>Good practice examples</p> 	<p>A comprehensive project screening exercise was undertaken to identify existing projects and examples of resource efficiency supported through EU funds (EAFRD, LIFE, etc.) involving mainly farmers as lead actors. Overall, more than 100 relevant projects from 22 Member States were identified and assessed for the common factors in relation to implementing resource efficiency of soils and water. A list of these projects and summary assessment can be found here.</p>
<p>Thematic Group Factsheet</p> 	<p>The TG factsheet provides the summary of the main lessons from the case studies, TG meetings and Seminar, and the review of best practice examples. It includes recommendations on how to improve rural development programme design and implementation to better address the resource efficiency of soils and water.</p>
	<p>Expected Publications</p> <ul style="list-style-type: none"> • Projects Brochure on Resource Efficient Rural Economy • EU Rural Review No 25

5. Summary of key findings and recommendations

The work of the TG explored how resource efficiency of soils and water could be improved through RDPs by considering three cross cutting issues relating to addressing the challenges of improving farmers' engagement and motivation to take action, raising awareness and knowledge and facilitating more coherent policy design and implementation.

The following key findings and recommendations are based on the work of the Thematic Group (with support from the ENRD CP), the information gathered in the case studies; the analysis of good practice examples; and the discussions and outputs from the resource efficient rural economy seminar. The recommendations that derive from the findings of the TG's work primarily concern the design and implementation of RDPs, and are therefore aimed at Managing Authorities, as well as environment and agriculture ministries.

Common findings across case study RDPs and from the Thematic Group meetings

The TG found that farmers tended to be risk averse and that this influenced their willingness to engage with new approaches. Issues identified included: the degree of fit with existing farm practices; impact on farm income; and fear of penalties if new practices are not correctly implemented. Motivating farmers to change their management if they cannot see a clear economic advantage, or do not understand fully the impact this could have on their farm business (positive and negative), is a challenge intrinsically linked to the need for better knowledge and communication. This is particularly the case where structural changes are required in the way farming systems operate to achieve resource efficiency outcomes (e.g. closer interaction between crop and livestock production or changes in crop types in different areas) or where changes may lead to an initial drop in yields in the first couple of years of implementation before then increasing. This finding highlighted the importance of providing a balanced picture to farmers of the impacts of engaging with new approaches, demonstrating where action to improve resource efficiency can have positive and tangible impacts on the farm business in the short, medium and longer term, alongside demonstrating where policy can help support the necessary changes.

The policy issues identified as influencing uptake of resource efficiency measures included: the extent to which the RDP measures are able to influence the changes in farming systems given that these changes are more market driven; and how restricted farmers feel given the level of the prescriptions and rules that have to be followed when implementing action on the ground. Other issues identified by the TG included: the level of payments for activities that farmers considered onerous or outside of their usual practice; fear of penalties if measures were not implemented correctly; the application procedure in order to receive support for implementing actions; having the right data on which to target action, deliver advice and monitor results; and the challenge of communicating and addressing the range of priorities (not just related to resource efficiency of soils and water) within an area.

Based on the findings across the TGs activities and the discussions during the seminar, recommendations of how to improve resource efficiency through RDPs have been grouped around five key priorities:

- Enabling farmers to make a transition towards greater resource efficiency;
- Targeting effort to deliver resource efficiency objectives;
- Delivering the right knowledge to the right people;
- Supporting those willing to change;
- Improved monitoring and trialling new approaches.

Annex 2 maps these recommendations out in relation to the EAFRD measures that can potentially support their implementation and to the cross-cutting motivation, knowledge and policy challenges which the TG addressed.

Enabling farmers to make a transition towards greater resource efficiency

For farms to become more resource efficient in their use of soils and water, the changes in farming practices required can be new and innovative, entail restructuring towards more mixed farming systems, or simply adopting new practices within the existing farm system. Even where these

approaches are supported under the RDP, the length of the commitment period can present a barrier for farmers, particularly when it is unclear how the adoption of these new approaches will affect the farm businesses. Having a better understanding of the impacts of past practices on resource efficiency is important to inform future RDP measure design and implementation. Farmers fear that they will be locked into commitments, with no flexibility to adapt as the effects become apparent. On the other hand, a 5-7-year commitment period provides a stable income stream and allows time for environmental actions to have an impact. Recommendations include:

- **Tailored advice packages** for measures/actions addressing soils, nutrients, carbon and water to convey the benefits and risks of adopting resource efficient practices; the implications for farm businesses, and encourage uptake. The TG noted that *“practices and approaches supported through RDPs, particularly through the agri-environment-climate measure (M10.1), should focus on land management actions where the potential impacts on farm businesses are understood and can be clearly communicated”*.
- **Demonstrate long-term impacts** of resource efficiency actions on the environment and sustainability of the farm business through case studies and the development of reliable indicators. This can help farmers to understand the potential long-term impacts on the farm business and help in the monitoring and development of RDPs and supported actions.
- **Transitional support** in terms of providing advice and capacity building as well as both capital investments as well as area payments for changing management practices in the early phases of transition. Providing transitional support may involve the consideration of how payment rates are calculated and whether they should include an element linked to the potential risk to farm businesses of adopting new approaches, such as transition support to compensate for any short-term costs and/or income losses.
- **Flexible support systems and measures** that allow farmers to adapt and tailor practices during implementation to the needs of their farm and to improve the delivery of results. Measures supporting innovative or new approaches may require more flexible rules to enable farmers to alter their practices, in liaison with an adviser, if those carried out lead to unforeseen detrimental impacts on the environment or their farm business.

Targeting effort to deliver resource efficiency objectives

The effects of RDPs can become very diffuse if measures are not sufficiently targeted and tailored to the needs and priorities of the local area. Effective targeting can also help to increase coherence between related policies and objectives, such as spatial targeting of resource efficiency action in areas that require action under the Water Framework Directive. Focussing RDP effort through targeting with tailored packages of actions and advice should help farmers choose the most appropriate actions to address the issues faced. Recommendations from the TG include:

- **Provide targeted support** to areas where improved resource efficiency is a priority and focus funding on priority actions to maximise impacts on the ground. Targeted support can be thematic— where resources, measures and actions are focussed towards specific objectives; and geographical –

where the areas are identified in which objectives should be delivered and used to focus measures and advice.

- **Good governance frameworks** to provide coherence at the programming and implementation level to align environmental, economic and social objectives and outcomes. For example, ensuring that RDPs address the priorities and objectives identified within River Basin Management Plans (RBMPs) and similarly that those developing RBMPs considers the use of RDPs, the measures available and timescales for implementation.
- **Collective action** can help focus implementation and the achievement of objectives in a given area. Greater use of the cooperation measure should be considered to engage groups of farmers within geographically defined areas.

Delivering the right knowledge to the right people in the most effective way

The value and imperative need to increase knowledge exchange, co-learning and training has been a central theme throughout the TG's work, both to improve farmers' awareness about the benefits and importance of being more resource efficient with soils, nutrients, carbon and water and as the impacts of doing so on their farm business (positive or negative). The TG case studies found that providing the right type of advice and support and the way it is delivered to farmers was critical in improving motivation and delivering in practice. This requires advisors to develop and maintain their knowledge of the most effective approaches to improving resource efficiency of soils and water as well as considerations about who is best placed to deliver and receive advice and what the best method for deliver is (such as peer-to-peer engagement, demonstration farms, advisor 1:1, etc.). For example, advice delivery can be the role of both public and private advisors, such as machinery, seed and fertiliser suppliers, as well as considering who the right audience is to receive this advice, such as farm contractors who might have specific machinery of provide specific services (such as harvesting and bailing). Delivering advice to the right people should enable resource efficiency considerations to become more central in the advice provided and for land-manager decision-making. Recommendations from the TG include:

- **Compulsory training for advisors** through continuous professional development to maintain up-to-date knowledge on best practice and support holistic advice across the farm. This will enable farm advisors to become more familiar with new approaches and ideas around resource efficiency and convey these to land managers.
- **RDPs should include training/advisory** packages associated with particular measures and actions tailored to local conditions, which convey the environmental and economic benefits to the farm business as well as any potential risks and be tailored to the thematic and geographical targeting of RDPs. This could include training on new equipment and technologies as well as the importance of moving towards more resource efficient approaches.
- **The ratio of scheme/farm advisors to farmers should increase** in order to improve the frequency of support to those implementing resource efficiency actions and thus to be more responsive to any issues or opportunities that arise during implementation. The role of private advisors and channelling advice through private companies, such as machinery suppliers, contractors, seed

and fertiliser producers could also be considered, particularly where there is greater trust with the farmers.

- **New forms of engagement** could offer opportunities to engage with wider groups of farmers and rural actors, such as the use of social media, webinars, peer to peer learning, or group advisory approaches. The use of remote training resources could improve access to information for farmers by reducing time away from the farm and travel costs. However, it is important to support this engagement with regular visits by advisors and address the training needs and approaches that work best for different individuals.

Supporting those willing to change

Engaging farmers and stakeholders from the outset of the process of measure design and implementation is important to ensure buy in across the farming and rural sectors. The Thematic Group case studies (e.g. IF, FI, EL) and review of best practice examples found that motivation and willingness to adopt more resource efficient practices is generally higher in younger farmers, particularly those who have had more recent and up-to-date training and education. With the average age of farmers in the EU increasing, generational renewal is an important opportunity to change the way land is managed and to promote more resource efficient and climate friendly practices. Some of the case studies (e.g. IT) also showed that it is not just young farmers that are willing to change, therefore ensuring support, encouragement and training is available to all farmers, young and old, is crucial.

- **Proactive engagement** with farmers to communicate the benefits of resource efficiency through the use of demonstration, peer-to-peer engagement. The TG found that motivation to adopt new approaches on farms was driven by the potential for improvements in productivity or to reduce costs and time spent on farm operations, rather than the environmental benefits. Providing proactive engagement and increasing the number of farm advisors can help to highlight the co-benefits and synergies of resource efficiency for both economic and environmental objectives.
- **Support young and new farmers** through improved access to financial support, sharing ideas through cooperation (e.g. Operational Groups) and targeted advice/education packages. In many regions, young farmers and new entrants often have difficulty in accessing or purchasing land and therefore may be limited in their potential to make significant structural changes to improve resource efficiency. RDPs can be used to provide support for both the financial set-up costs as well as advice on the types of investments needed to deliver on resource efficiency objectives.
- **Multi-stakeholder engagement** between all actors within the rural economy, including farmers, agro-industry and local food supply chains from the start of the RDP measure design and implementation process to improve buy-in to the aims and objectives of the RDP and the measures used. This should lead to a greater understanding of what is required in practice and enable farmers to utilise their knowledge of the farm and local area to improve implementation and thus the impact over the longer-term. Understanding the needs and concerns of farmers and land managers when implementing resource efficiency activities is important to designing

schemes and measures that work in the local and regional context, as well as increasing the engagement of farmers in delivering resource efficiency objectives on the ground.

- **Improved accessibility** of schemes, support and projects to farmers whose skills are mainly in understanding how to manage the land rather than in how to draft scheme applications. The TG found that one of the major barriers to uptake of RDP measures for resource efficiency was around the application procedure for projects and schemes.

Improved monitoring and trying new approaches

Understanding the impact of current land management practices relating to the resource efficiency of soils and water can help to improve the way schemes and measures are designed to deliver real impacts on the ground. This should include not only the environmental impacts, but also the economic impacts on farms and the relative popularity of different measures with farmers along with the reasons. However, to do so requires reliable indicators and the issues of measuring impact that can take many years to become evident has to be recognised. Moving to a more results-oriented approach has potential and the identification of locally tied, reliable and measurable indicators becomes even more essential for such schemes.

- **Piloting new approaches** by making the most of support under EAFRD, as well as other EU funds. The LIFE programme offers the opportunity to test and develop new approaches to delivering resource efficiency that can then be mainstreamed into RDPs if they are successful. With RDPs, much more could be done to utilise the cooperation measure and the opportunities to test new approaches through the European Innovation Partnership (EIP) Operational Groups, and new collaborations between farmers and with other rural actors.
- **Results-based approaches** offer an opportunity to combine improved monitoring of results with the flexibility for farmers to adapt to changing conditions and tailor approaches to their particular circumstances. However, most results-based approaches to date have focussed on biodiversity and there are inherent challenges to monitoring impacts on water (which moves throughout a landscape) and soils (which take a long time to change). In developing or testing approaches for resource efficiency it will be important to engage with managing authorities, advisors and farmers on controls and their implications. One approach relating to water might be to develop a hybrid approach involving management-based approach at the farm level, coupled with results-based rewards at the catchment level where environmental conditions improve.
- Another way of thinking about delivering resource efficiency in practice could be to consider delivery activities as **projects and not measures or individual actions**. This could encourage farmers and land managers to think about what they are trying to achieve from more of an outcome perspective and use their knowledge to deliver these outcomes in a given area through combining different measures and actions available through the RDP. This would require a more flexible approach to the way in which measures are implemented and how flexible the prescription based approach can be when changes are necessary part way through their implementation.

The recommendations from the TG's work have also been summarised into a four-page factsheet.

Annex 1: List of TG members from the meetings held in 2016-2017

Member	Organisation	Type of organisation	Region
Barbulescu Mihaela	Ministry of Agriculture	Managing Authority	Romania
Björnsson Sofia	Federation of Swedish Farmers (LRF)	National/regional stakeholder	Sweden
Bowyer Catherine	Institute for European Environmental Policy (iSQAPER H2020 project)	Research	EU
Cavicchi Bianca	Norwegian Institute of Bioeconomy Research (NIBIO)	Research	Norway
Correia Maria Custódia	Portuguese Rural Network		Portugal
Cossu Fabio	European Commission – DG Agriculture and Rural Development	EU Institution	EU
Crespin Jeremie	European Commission – DG Environment	EU Institution	EU
De La Paz Carlos	LIFE Programme	EU stakeholder	EU
Eyenga Pacome	EIP-AGRI	EU Institution	EU
Falter Christine	European Commission – DG Agriculture and Rural Development	EU Institution	EU
Forlín Valeria	European Commission – DG Climate Action	EU Institution	EU
Frątcak Wojciech	Regional Water Management Authority in Warsaw	Managing Authority	Poland
Freese Jan	German Rural Network		Germany
Gelencsér Géza	Vox Vallis Development Association	National/regional stakeholder	Hungary
Gutierrez-Teira Alfonso	European Commission – DG Agriculture and Rural Development	EU Institution	EU
Hagelberg Eija	Baltic Sea Action Group	National/regional stakeholder	Finland
Hernandez Luis	Ader La Palma		Spain
Hultgren Linda	European Commission – DG Agriculture and Rural Development	EU Institution	EU
Keelan Simon	German Rural Network		Germany
Koppelmäki Kari	University of Helsinki	Research / Farmer	Finland
La Sorella Valentina	CREA / Italian Rural Network		Italy
López Calero Pedro	GDR Los Pedroches	National/regional stakeholder	Spain
Marandola Danilo	CREA / Italian Rural Network		Italy
Maréchal Anne	Institute for European Environmental Policy (PEGASUS H2020 project)	Research	EU
Marques Gonçalo	European Commission – DG Environment	EU Institution	EU
Masson Josiane	European Commission – DG Environment	EU Institution	EU
Nadeu Puig-Pey Elisabet	RISE Foundation	National/regional stakeholder	EU
Phelps Jenny	Farming and Wildlife Action Group (FWAG)	National/regional stakeholder	UK
Pietola Lisa	COPA-COGECA	EU stakeholder	EU
Pottier Caroline	European Commission – DG Environment	EU Institution	EU
Ricardi di Nieto Francesca	Veneto Region	Managing Authority	Italy
Rodrigues Gonçalo	Centro Operative e de Tecnologia de Regadio	Advisory service	Portugal
Samargiu Nancy	Romanian Rural Network		Romania
Sandulescu Emil	Ministry of Agriculture	Managing Authority	Romania
Schoebinger Angelika	Austrian Rural Network		Austria
Someus Edward	Terra Humana Ltd.	EU stakeholder	Hungary
Van den Steen Ariane	Belgian Rural Network		Belgium
van Dijk Kimo	European Sustainable Phosphorous Platform	EU stakeholder	The Netherlands
Van Keer Koen	Yara International	Private company	Belgium
Viaggi Davide	University of Bologna	Research	Italy
Vysna Edita	European Environmental Bureau	EU stakeholder	EU

Annex 2: Mapping of Thematic Group recommendations to Rural Development Programmes and relevant measures

Table 1: Summary of recommendations - Improving motivation and engaging farmers for resource efficiency

Recommendations	Relevant RDP Measures / Comments
1. To help farmers to adopt new approaches, <i>schemes should be flexible enough to allow approaches to be tailored to work within the context of a specific farm, with the potential to adapt during implementation</i> , yet without undermining the schemes' objectives	<p>Measure specific: Use of M16.1 <i>Support for the establishment and operation of operational groups of the EIP for agricultural productivity and sustainability</i> and M16.2 <i>Support for pilot projects and for the development of new products, practices, processes and technologies to test new and flexible approaches</i>.</p> <p>Non-measure specific: Improved scheme and RDP design</p>
2. To improve the implementation of actions on the ground, <i>tailored advice packages should be developed and linked to particular measures or actions specific to geographic areas and the farms in question</i> .	<p>Measure specific: Develop packages of measures with advisory support linked to the objectives of the measure combination, e.g. combining M10.1 <i>Payment for agri-environment-climate commitments</i> with M4.4 <i>Support for non-productive investments linked to the achievement of agri-environment-climate objectives</i> and tailored advice and support through M1.1 <i>Support for vocational training and skills acquisition actions</i>; M1.2 <i>Support for demonstration activities and information actions</i></p>
3. To engage those farmers who are more willing to make changes, <i>RDPs should target support towards lifelong-learning, encouraging all farmers willing to be more resource efficient</i> ;	<p>Measure specific: Use of M1 <i>Knowledge transfer and information actions to support farmers</i>. Use of M2 <i>Advisory services, farm management and farm relief services</i> to build capacity within advisory services linked to resource efficiency and enable advisors to provide advice to farmers at different stages in their career.</p> <p>Non-measure specific: Increase the number of farm advisors within an RDP area.</p>
4. To support farmers and groups in making a significant shift in the way they manage their land for resource efficiency, <i>consideration should be given to the type of financial support and advice required through the transition period</i> .	<p>Measure specific: Use of M10.1 <i>payments for agri-environment-climate commitments</i>, or M15.1 <i>payment for forest-environmental and climate commitments</i> to improve the management of soils and water from a resource efficiency perspective and M4 <i>for investments</i> during the transition. Use of M11.1 and M11.2 <i>to convert and maintain organic production</i>. Making use of the cooperation measures (M16) to build capacity to change in a systemic way. This could involve Joint actions (M16.5) and support for cooperation between actors in the supply chain (M16.3 and M16.4), as well as utilising</p> <p>Non-measure specific: Development of new measures similar to organic farming that provide transitional support for conversion to new farming systems that benefit resource efficiency.</p>
5. To help farmers make informed decisions and understand the impact on their farm businesses – <i>long-term monitoring programmes and case studies should be developed to demonstrate the impacts on productivity and the environment of resource efficiency actions over time</i> .	<p>Measure specific: Use of demonstration measures M1.2 <i>Support for demonstration activities and information actions</i> M1.3 <i>Support for short-term farm and forest management exchange as well as farm and forest visits</i></p> <p>Non-measure specific: Improved reporting requirements at the Member State and regional level of the condition and availability of soils and water in the context of resource efficiency and sustainability. To consider the potential to require soil and water quality and availability reporting as part of the implementation requirement for selected measures, such as M10.1, M11, M15.1, etc.</p>
6. To improve monitoring and reporting of the results achieved through applying resource efficient practices requires reliable	<p>Measure specific: Use of M16.1 <i>Support for the establishment and operation of operational groups of the EIP for agricultural productivity and sustainability</i> and M16.2 <i>Support for pilot projects and for the</i></p>

<p>indicators that can be measured within programming periods. <i>RDPs should be used to test and develop reliable indicators to monitor implementation.</i></p>	<p><i>development of new products, practices, processes and technologies to test new and flexible approaches.</i></p> <p>Non-measure specific: Improved scheme and RDP design The development of reliable indicators that can be monitored and reported within a scheme or RDP period. – developed in a consistent way at the EU level and refined at the Member State / Regional level in respect of local conditions.</p>
<p>7. To help farmers access EAFRD support, <i>Managing Authorities should work with farmers to develop simpler ways of applying for schemes and projects.</i></p>	<p>Non-measure specific: Farmers should be present at the beginning of the RDP and scheme design process, particularly in relation to discussions about accessing and applying for support. For Managing Authorities to consider the design and accessibility of scheme and project application forms and procedures, from the perspective of farmers.</p>

Table 2: Summary of recommendations – Developing and sharing knowledge to improve resource efficiency

Recommendations	Relevant RDP Measures / Comments
<p>1. To make resource efficiency a central part of farmers' decision making - RDPs should include <i>training/advisory packages associated with particular measures or actions</i> that convey the <i>environmental and economic benefits/risks to the farm business.</i></p>	<p>Measure specific: Develop packages of measures with advisory support linked to the objectives of the measure combination, e.g. combining <i>M10.1 Payment for agri-environment-climate commitments</i> with <i>M4.4 Support for non-productive investments linked to the achievement of agri- environment-climate objectives</i> and tailored advice and support through <i>M1.1 Support for vocational training and skills acquisition actions</i>; <i>M1.2 Support for demonstration activities and information actions</i></p>
<p>2. To ensure farmers are aware of the long-term implications of soil and water management for the environment, tailored <i>advice packages should be developed and targeted to particular issues in particular areas.</i></p>	<p>Non-measure specific: Development of targeting approaches to the delivery of RDPs. This can be thematic targeting – where resources, measures and actions are focussed towards specific objectives; and geographical targeting – where the areas in which objectives should be delivered are identified and used to focus measures and advice.</p>
<p>3. To ensure farmer advice and support is more proactive – <i>the ratio of scheme advisors to farmers should increase.</i></p>	<p>n/a</p>
<p>4. To deliver better and more holistic advice, <i>advisors should undertake continuous professional development</i> to keep up to speed with new techniques, innovations, approaches, measures and priorities.</p>	<p>Measure specific: <i>M2.2 support for the setting up of farm management, farm relief and farm advisory services as well as forestry advisory services</i> <i>M2.3 support for training of advisors</i></p> <p>Non-measure specific: Establishment of Continuous Professional Development (CPD) requirements for advisors, regular assessments and reporting.</p>
<p>5. To help improve coherence between different policies and initiatives for resource efficiency, <i>RDPs should support specific advice packages that link objectives of different policies and the RDP measures</i> to achieve them.</p>	<p>Measure specific: Using Measures 1 and 2 to develop and provide advice to farmers.</p> <p>Non-measure specific: Ensure that the advice and materials provided to farmers and land managers includes the objectives of other related policies for resource efficiency, rather than just implementation advice for specific actions.</p>
<p>6. To ensure advice reaches individuals who manage the land, <i>targeted educational packages for farm contractors and other actors should be developed in parallel to those of farmers.</i></p>	<p>Measure specific: Using Measures 1 and 2 to develop and provide advice to farm contractors.</p> <p>Non-measure specific: Ensure that advice is provided to those who manage the land and not just the landowner / tenant. This may require changes to advisory materials and how and with whom farm advisors engage.</p>
<p>7. To aid in targeting advice and support to the right areas and issues, <i>better reporting of soil and water conditions in</i></p>	<p>Non-measure specific: Improved reporting requirements at the Member State and regional level of the condition and availability of soils and water in the context of resource efficiency and sustainability.</p>

<i>local and regional areas should be incorporated into RDP monitoring.</i>	To consider the potential to require soil and water condition reporting as part of the implementation requirement for selected measures, such as M10.1, M11, M15.1, etc.
8. To improve trust between advisors and farmers, <i>frequent visits/co-learning opportunities should be encouraged, as well as ensuring advice covers the benefits to farm businesses.</i>	<p>Measure specific: Using opportunities in Measures 1, 2 and 16 to develop and provide co-learning opportunities for farmers and advisors.</p> <p>Non-measure specific: Increase the number of farm advisors within an RDP area.</p>

Table 3: Summary of recommendations – Using RDPs to ensure policies work together for resource efficiency

Recommendations	Relevant RDP Measures / Comments
1. To ensure coherence between different policies and priorities in an RDP, particularly where implementation timescales are different to those of programming periods, <i>RDPs should be updated when necessary and flexible enough to be ready to respond to new objectives.</i>	<p>Measure specific: Measures 7.1, 12 and 13 already provide some read-across to the priorities and objectives of Natura2000 sites and the Water Framework Directive. – where designations overlap – but greater consideration should be made by Managing Authorities with regards the objectives of the designation and the related policies.</p> <p>Non-measure specific: During the RDP design phase, the SWOT analysis should ensure that priorities from other plans and policies (such as RBMPs) are reflected and then translated through into measure design and targeting. Ensure that regular monitoring and reporting is undertaken to report on the effectiveness of schemes and approaches. This can be improved through ad-hoc feedback where there are frequent farm visits from advisors. Schemes (such as those developed through M10.1 and 15.1) should include the flexibility necessary to adapt to changing conditions without compromising delivery of objectives or increasing burden on farmers.</p>
2. To ensure resource-efficiency is addressed in regions where it has been identified as a high priority, a) <i>RDPs could be resource-efficiency proofed during the ex-ante evaluation process.</i> This would be a novel and challenging undertaking, but with significant potential benefits in the longer term. b) <i>stringent sustainability criteria to be applied when implementing measures</i> - building on the example of rules for water as set out in the EAFRD	<p>Non-measure specific: a) For example, a separate SWOT analysis could be undertaken in the Member State or Region, that identifies the resource efficiency challenges for the RDP and then assesses if these are covered by the RDP SWOT and sufficiently addressed by the programmed measures and level of expenditure. Particular attention should be given to the coherence of programmed RDP expenditure and available measures to the priorities of other policies and objectives within the Region or Member State relating to resource efficiency. b) To ensure that the implementation of RDP measures always contribute to soil and water resource efficiency objectives, sustainability criteria should be developed to reflect both good practices and approaches that should be adopted and identify detrimental practices that should be avoided. These criteria should be communicated clearly to farmers so they understand that soil and water resource efficiency is something that is mainstreamed in RDP delivery rather than only the subject of specific measures.</p>
3. To improve flexibility for farmers to adapt to new and changing priorities as they arise, <i>the cooperation pilot sub-measure (M16.2) and LIFE funding could be used to test results-based approaches for resource efficiency objectives</i> before being mainstreamed.	<p>Measure specific: Use of <i>M16.1 Support for the establishment and operation of operational groups of the EIP for agricultural productivity and sustainability</i> and <i>M16.2 Support for pilot projects and for the development of new products, practices, processes and technologies</i> to test new and flexible approaches.</p> <p>Non-measure specific: Scheme and RDP design, in particular the potential for reliable indicators that can be monitored and reported within a scheme or RDP period.</p>
4. To enable different rural actors to work together to address issues relating to soils and water, <i>RDPs should make greater use of the cooperation measure (M16) to engage ‘groups’ of farmers within geographically defined areas;</i>	<p>Measure specific <i>Encourage joint actions between farmers and others in the supply chain through (M16.3-5) linked to the implementation of other measures, such as agri-environment-climate (M10.1); Organic (M11.1 and 2) and forest-environment (M15.1).</i></p>

<p><i>improve interaction between crop and livestock producers; and with the wider supply chain, for example to enhance recycling of resources.</i></p>	
<p>5. To improve clarity for farmers and scheme advisors, when taking account of multiple resource efficiency priorities, <i>packages of RDP measures (and specific land management actions) should be designed to address resource efficiency within an RDP area. These should be accompanied by tailored advice and support.</i></p>	<p>Measure specific: Develop packages of measures with advisory support linked to the objectives of the measure combination, e.g. combining <i>M10.1 Payment for agri-environment-climate commitments</i> with <i>M4.4 Support for non-productive investments linked to the achievement of agri- environment-climate objectives</i> and tailored advice and support through <i>M1.1 Support for vocational training and skills acquisition actions</i>; <i>M1.2 Support for demonstration activities and information actions</i></p> <p>Non-measure specific: Development of targeting approaches to the delivery of RDPs. This can be thematic targeting – where resources, measures and actions are focussed towards specific objectives; and geographical targeting – where the areas in which objectives should be delivered are identified and used to focus measures and advice.</p>