

Designing innovative agri-environmental schemes

A guide for policymakers





preface

FOREWORD BY THE PROJECT COORDINATORS

contracts 2.0 has been funded by the Horizon-Europe programme as a research and innovation project to improve "Contracts for effective and lasting delivery of agri-environmental public goods" (Topic RUR-03-2018). In a contemporary context of a worldwide climate and biodiversity crisis, coupled with increasing inequalities and costs across the globe, the need for effective and sustainable agri-food systems is continually pressing. Agrienvironment schemes (AES) are a key instrument in the policy toolkit for supporting the agricultural sector to enhance the provision of biodiversity and other ecosystem services alongside agricultural production. Yet there remains continuing criticism of AES regarding their contested environmental effectiveness, practical application, economic acceptability among farmers, alongside their narrow focus and remit, calling further attention to the need for scheme design to be improved. The new strategic orientation of EU policy emphasises that we need agri-environment schemes which address the system from farm to fork. Such AES could also lead to an improved economic outcome and societal recognition for the farmers committed to the increased provision of ecosystem services. We identified payments by results, landscape-scale collaborative approaches, and value chain contracts as potential candidates for fostering the necessary novel dimensions of future AES.

In the contracts 2.0 project, we worked on the design of these different contracts, consistently in **cooperation between research and practice.** The contracts 2.0 team wanted to co-develop contract models that enhance the provision of such environmental public goods, while at the same time enabling economically viable agricultural production.

As the heart of our co-design approach, we have established 13 Contract Innovation Labs and 9 Policy Innovation Labs in 9 EU countries in 2019, inspired by the living lab approach. Here, famers and other stakeholders from the agri-food system, including policymakers and scientists, worked together for four years to develop new contract solutions, test parts of them directly and develop supportive policy frameworks for these contracts. The interaction between farming practice, policy and science meant that a vast variety of circumstances, farming types, landscapes and policy environments were considered. We fostered the exchange between stakeholders in our labs, as an important tool to inspire each other. This learning opportunity between countries was very much appreciated by Innovation Lab participants.

The work in our labs was supported by accompanying research, which generated knowledge based on analyses of existing contracts around Europe, as well as by testing new contract features in economic experiments. Issues arising from the labs formed the starting point of our investigations. Research gaps concerning the institutional design of contracts as well as the evaluation of different contract models were also incorporated in our studies. These results could feed directly into the labs and provide a basis to reflect on more general design principles.

It has been an exciting journey to synthesise, combine and design different research approaches, integrating them into a contemporary participatory approach in times of the Covid pandemic. We thank all partners in the project for their extraordinary commitment! In this guide, we summarise knowledge gained, and evidence generated on new contractual solutions. We are proud that we could support concrete implementation of novel contract types and features with the labs. In addition, we can use the experience gained in designing living labs in the agricultural context as a starting point for future collaboration between research, policy and practice.



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Among those are:

Adapting to and mitigating climate change, ensuring food security and safeguarding the natural resource base.

For example:

The EU Common Agricultural Policy and European Innovation Partnership for Agricultural Productivity and Sustainability (EIP AGRI), the EU Bioeconomy Strategy, the Circular Economy Package.

FOREWORD BY THE FUNDER

The Societal Challenge 2 (SC2) Work Programme for 2018-2020 funded a range of research & innovation activities to respond to some of the 21st century global challenges.

Guided by the political drivers of the European Commission – in line with the international commitments of the Sustainable Development Goals (SDGs) and the COP 21 Paris Climate Agreement – these activities help to implement important EU policies and initiatives.

Helping the agriculture, food systems and forestry sectors, as well as the rural and coastal areas, to meet the wide range of today's economic, environmental and social challenges is key. In fact, farmers often face trade-offs between sustainability and short-term profitability. Currently, farmers can participate in agri-environmental and climate schemes, and receive financial compensation for efforts to carry out conservation measures on their land. However, effective implementation and monitoring of these schemes can be complex as they require collective actions for the necessary scale and scope of the action and their continuation over time, which is hampering their wide adoption by farmers across the EU.

Research & innovation activities aim to better capitalise territorial assets, taking account of long term drivers to open new sustainable avenues for business, services and value chains in support of rural and coastal communities, promoting new partnerships between producers, processors, retailers and society.

In this framework, the research project contracts 2.0 has been funded to improve "Contracts for effective and lasting delivery of agri-environmental public goods" (Topic RUR-03-2018). Designing innovative policy instruments, approaches and governance models is essential to better understand the assets and long-term drivers of rural territories and land use and so to foster the necessary socio-economic contractual framework to enable farmers to reconcile agricultural production with the delivery of environmental public goods and services, including climate adaptation and mitigation benefits.

◆ Commentary by the contracts2.0 funding source: European Research Executive Agency, European Commission



content

→ 1 Preface			
→ ② Purpose			
→ ③ Introduction			
→ ② Contract design principles			
→ ⑤ Results-based schemes			
→ ⑤ Collective schemes			
→ ② Value chain schemes			
→ ③ Combining contract features			
Combination of action-based and results-based payments schemes 26			
Combination of results-based and collective payments schemes 27			
→ ⑤ Combining contract types			
Combination of governmental and private payments			
for ecosystem services			
Combination of governmental and/or private payments			
for ecosystem services with value chain schemes			
→ Contract design process			
→ ① Let's go contracting!			
→ Imprint & Contact			
→ Overview of links			





purpose

The main objective of contracts 2.0 was to co-design novel contract-based contract-based approaches for agrienvironmental schemes that reduce these trade-offs and incentivice farmers to increase provision of environmental public goods along with private goods.

In contracts 2.0, Contract and Policy Innovation Labs (CILs and PILs) co-designed, and where possible tested, innovative contracts to stimulate biodiversity-friendly farming. The project aimed to **improve** the attractiveness and positive ecological impacts of agri-environmental schemes for practitioners and policymakers in collaboration with researchers. New contracts were developed specifically for national, regional, or local contexts, either by building on existing contracts, or by designing novel solutions from scratch.

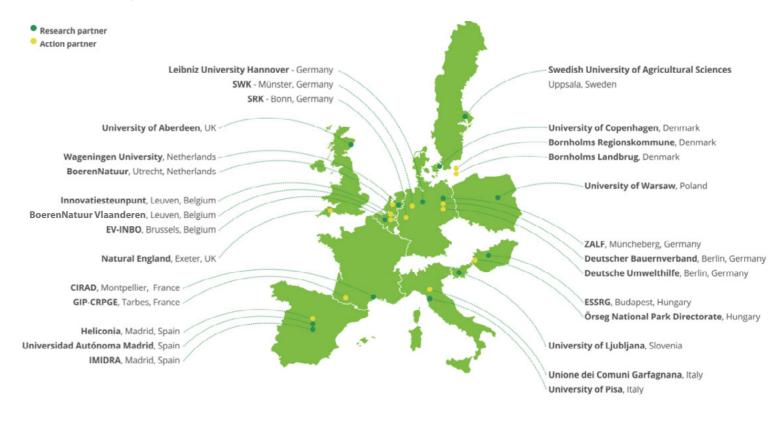
Many farmers are currently struggling to maintain the economic viability of their farms and face serious **trade-offs between short-term**profitability and sustainable production. Newly developed contract-based approaches should therefore be environmentally effective, economically viable for farmers and support the longevity of contractual arrangements. Additional incentives to produce a mix of private and public goods also better reflects society's preferences.

Co-designing and testing agri-environmental schemes in the Contract and Policy Innovation Labs has not only led to innovative local and regional solutions, but also brought several challenges to the surface. Many different barriers exist in Europe which create challenging policy framework conditions and hinder the effective implementation of contracts on the ground.

The implementation of novel contracts can be improved and possibly accelerated if key challenges are addressed. We show options and examples of how this implementation might look.

ABOUT THIS GUIDE

This guide is for policymakers who seek to improve the acceptance and effectiveness of agri-environmental schemes by designing and implementing innovative contractual solutions. We share insights on the international co-design process and our accompanying scientific research to outline general requirements for an enabling policy framework to implement novel contractual models successfully and effectively in practice.









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introduction

- ◆ All details on what we learned from ex-post contract analyses, interactions with stakeholders and experts as well as experimental ex-ante testing of novel approaches are summarised in our ► synthesis report and ► final report.
- Interested in our stakeholders' perspectives? The 10-part series Voices from the Field presents our practice stakeholders' perspectives.



- ◆ The Policy Green Paper summarises discussions held in Policy Innovation Labs and provide guidelines what a future **EU Common Agricultural Policy should** consider to support innovative contracts for the delivery of environmental public
- ► Read the Policy Green Paper
- ◆ Well-designed economic experiments can facilitate an evidence-based policy design of agri-environmental schemes. Our **Policy Brief** summarises insights from cross-country discrete choice experiments and public goods games.

► Read the Policy Brief

THE CONTRACTS 2.0 APPROACH

28 project partners produced and combined diverse types of knowledge from research, policy and practice.

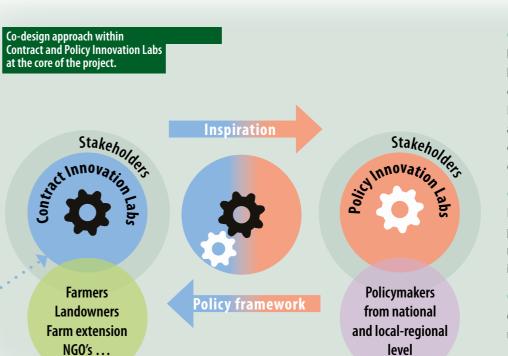
contracts 2.0 established 13 Contract Innovation Labs and 9 Policy Innovation Labs in 9 European countries to discuss existing agri-environmental contracts and co-design innovative contractual approaches with practitioners and policymakers respectively, supported by the accompanying scientific research. The innovation labs facilitated exchange and co-learning between multiple stakeholders. The Contract Innovation Labs focused on what practitioners suggest for agri-environmental contracts while Policy Innovation Labs assessed how the practitioners' suggestions can be integrated in current policies, inform new policies and what enabling policy frameworks could look like.

Project structure & nuÍti actor approach Communication, dissemination disseminat Project coordination estual analytical & synthesis frameworks

or existing cores analysis of existing cores and cores analysis of existing cores and cores analysis of existing cores and cores and cores and cores and cores analysis of existing cores and cores and cores and cores and cores analysis of existing cores and cores and cores and cores and cores analysis of existing cores and cores State Innovation of existing contracts

Our final results are based on two sets of knowledge generation:

- Exchange and fruitful discussion generated at multi-stakeholder meetings and field trips, bringing together insights from the practitioner and policymaker perspective,
- Scientific research results from experimental testing of novel approaches, and comprehensive analyses of existing contracts, their institutional settings, actors and governance.



- The Contract Innovation Labs developed ideal "dream contracts" for their landscapes based on a reflection of the current situation. The Policy Innovation Labs assessed the dream contracts' applicability and outlined the necessary changes to policy frameworks for these contracts to be realised.
- Both Contract and Policy Innovation Labs worked on envisioning the enabling policy framework conditions in which novel contracts based on practitioners input could be developed.
- Contract Innovation Labs then discussed and, as far as possible, tested novel approaches in real-life contexts.

Scientific Research

Review of existing contracts

- Institutional settings and governance of contracts
- Actor constellations and motivations
- Environmental effects of land management
- Monitoring of results

Economic and behavioural experiments to analyse

- Prototypes of new models
- Farmers' preferences for contract features the efficiency of contract features
- Consumer preferences and perceptions of label-based approaches

Monitoring should be designed in a way that not only serves as an extrinsic control mechanism

but also improves farmers'

Short communication

factors in stakeholder

relationships!

paths and transparency are important success

intrinsic motivation.

contract design principles

contracts 2.0 considered different contract design features (e.g. results-based payments and collective models) and contract types such as agri-environment-climate-measures (AECM), private Payments for Ecosystem Services (PES), and value chain schemes. While heterogeneous in their setup, certain similarities emerge.

Our stakeholders show clear preference for a combination of contract features to maximise the respective advantages. Thus, a certain flexibility of the surrounding policy framework is required to allow the practical implementation of these innovative approaches.

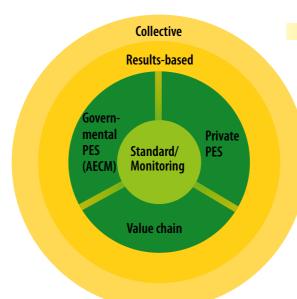
- A combination of different types of contracts (e.g. private payments for ecosystem services with AECM or value chain) or different design features (e.g. results-based or collective) could improve impact.
- Contracts should not only incentivise but also motivate farmers to provide public goods (extrinsic incentives and improvement of intrinsic motivation).
- Innovative contracts can improve the cost-effectiveness by reducing transaction costs and/or improving effectiveness!
- Local Intermediaries are key actors for achieving goals of innovative contracts, fulfil a broad range of roles (take over transaction costs) and build social capital.
- Flexibility in the management should be as high as possible for farmers.
- Risk for farmers and administration should be as low as possible.
- Strong policy interest and support are essential to develop and implement novel agri-environmental contracts.

their effectiveness. When monitoring involves the participants directly it can be highly valuable for both motivational and learning purposes. However, monitoring costs can be quite high and the timing of monitoring might interfere with the timing of agricultural practices. There are also challenges associated with identifying appropriate environmental (results) indicators.

environmental indicators and cost-effective monitoring tools that could be would support the combination of different approaches (for example AECM

The monitoring itself can be carried out in different ways: including a **self-assessment** by the farmer or through **third-party monitoring**. Using a third-party with defined indicators to carry out control checks is preferred over governmental control to reduce the transaction cost of the administration and increase trust.

 Monitoring requirements must not be a disproportionately high additional burden on farmers.



Contract design features

and contract types considered in contracts 2.0. All 3 contract types and the contract design features can be combined. See ▶ chapter 8 and ▶ chapter 9 for more information.

PES = payments for ecosystem services

High interest in hybrid approaches

Monitoring the results of agri-environmental schemes is essential to evaluate

Future research and innovation actions should focus on finding robust used by farmers and/or farm advisors. Common standards for contract types and value chain contracts) within a contract and reduce transaction costs.

results-based schemes

"It [a results-based scheme] has strong potential to change mindsets towards more environmentally friendly farming."

► Report of the international exchange meeting in Galway

Research based on the Irish Burren
Programme shows that results-based
payments deliver more value for
public money: they increase the costefficiency of payments, by delivering
better environmental quality (e.g. landscape, biodiversity). In Ireland, the results-based agri-environmental schemes
are supported with great commitment
at the political level.
More information on the inspiring pilot
programme under:

- ► Wild Atlantic Nature project
- ► The Results-based payment network offers inspiration from a variety of cases all over Europe.

Results-based schemes are gaining interest in Europe as a way to improve the effectiveness of agri-environmental schemes. Results-based schemes are an approach where farmers are paid for delivering environmental outcomes. They determine the management required to achieve the desired result, rather than following prescribed management actions (as in action- or practice-based payments). contracts 2.0 research shows that more than 50% of farmers claim they would implement more additional practices under results-based contracts than under practice-based contracts. Farmers' preferences for agri-environmental schemes

Results-based schemes can empower farmers and make better use of their own knowledge and experience by giving them more flexibility regarding management decisions and incentivise them to (learn more on how to) achieve environmental outcomes. It can decrease the administrative burden for individual farmers as well as the cost for fines and control. Results-based schemes can achieve a higher environmental impact, for example due to specific landscape elements and local adaption. We can confirm these advantages with our project results.

The design of results-based schemes must consider a balance between risk reduction for farmers and administration and the necessary flexibility for locally adapted management. Reimbursement of results-based measures should go beyond mere cost reimbursement to ensure the continued economic viability of farms.

A clear definition of the environmental objectives and **results indicators** are essential element for results-based schemes. They should be locally adapted and accommodate the variation in environmental conditions. Indicators work best when they are developed jointly with farmers and advisors, incorporate local knowledge, and are practical to measure and assess. By appealing to the self-interest and intrinsic motivation of farmers to perform well, results-based schemes can raise effectiveness and possibly efficiency.

To shift from an action-based to a results-based scheme initially implies initial increased administrative burden due to the substantial adaptations required within the authorising system. There is no one-size-fits-all results-based payment scheme and along with positive opportunities, a number of challenges must be anticipated.

Challenges to anticipate	Potential solution
Effects of the measures may notably appear in the long term.	Design long-duration contracts (>5 years):
	Contract length should reflect the time required to affect landscape dynamics and impact the biodiversity and ecosystem services state.
	The contract duration should be independent of CAP planning periods.
Long-term contracts may be a hindering factor	Provide flexibility to change or exit contractual agreements in necessary cases.
	Example: Include but limit contractual change opportunity to e.g. 1-2 x per contract period to not forgo the commitment to ecological effectiveness and avoid frequent alterations. Remember to adapt long-term contracts if the situation changes and affects the environmental goals in the region.
Higher financial risk for farmers, if outcomes are not achieved, particularly when fearing risks beyond control (e.g. climatic events, predation, damage by humans or animals)	Design scorecards* with habitat indicators that are within the farmers' control and supply appropriate advisory assistance.
	Adopt a hybrid scheme which incorporates a results-based element with a base payment for achieving minimum objectives (this can be action-based).
Organisation of monitoring	Indicator systems of results-based remuneration can support ecological monitoring in any case and, if necessary, also replace it.
	Depending on the type of indicators for results-based remuneration or the environmental goals, more extensive ecological monitoring may be required.
	Farmers should be more involved in monitoring.
There is a potential risk that lack of knowledge by farmers may lead to environmentally damaging practices (e.g. by creating ecological traps)	Facilitators such as advisors play an important role in assisting farmers on how to improve their results. Advice can be provided to groups and facilitate coordinated action.
	254

Examples of scorecards for grassland habitats.

- * A well designed scoring system is crucial for the success of results-based schemes. The following criteria are essential for the design of scorecards:
- Science-based: Scores reflect-desired outcomes.
- Clear goal statement: Understandable to farmers, advisors, auditors.
- Fair: Farmers are able to improve and maintain the score.
- **Ecosystem-based:** Focus on suitable habitat quality (e.g. ecological integrity, soil and water quality etc.), rather than number of specific species.

13 contracts2

"It is important to harness the full potential of scorecards which can act as more than just a payment calculator. They can be a multi-functional communication tool between farmer/advisor/delivery body, showing the farmer where they are on a scale, what management is benefitting their score and what is holding it back. This can be linked to relevant advice and guidance."

► Report of the international exchange meeting in Galway

Some indicators are less robust (e.g. climate change indicators), but proximate indicators can result in lower than expected impacts. Involving farmers in the monitoring of environmental outcomes will stimulate farmers' engagement and learning, ultimately increasing the effectiveness of agri-environmental schemes. Farmers must not only be involved in monitoring, but must also be adequately supported. Additional burdens due to monitoring requirements may reduce the acceptance of measures.

▶ More information on monitoring in the contracts2.0 results

In principle, results-based schemes can be implemented for every land use and farm type but must be adapted to the local spatial and environmental circumstances.

Adapt to your individual circumstances and remember it is possible, because:

The effort is worth it – more value for public money, more value for the environment! Transaction costs decrease over time and a positive social impact is to be expected:

- Rewarding knowledge, skills and effort.
- Increased motivation, empowerment, and engagement of farmers for the uptake of AECM.
- Improved trust and collaboration among farmers and between stakeholder groups.
- Enhanced dialogue between policy and practice instead of communication based on control.

When building a results-based scheme, existing initiatives, and good experiences and examples for using indicators and monitoring should be utilised. The participatory development of indicators should be pro-actively promoted and funded by government agencies as an investment in this scheme.





collective schemes

◆ Biodiversity and ecosystem service provision should be considered at land-scape level. Regional management plans can be a tool to define landscape-level objectives which agri-envrionmental schemes can address. And through coordinated implementation across farms, the ecological impact of those can be increased to deliver these objectives.

- ◆ Examples include: efficient coordination of measures, specialisation of work and collective purchase of machinery, seeds or other material.
- ◆ 11 out of 13 Contract Innovation

Labs give an important role to farmer groups in future agri-environmental contracts. Most famously implemented in the Netherlands, collective schemes are also emerging in other countries, for example Belgium (Flanders), France and Germany.

- ◆ In 2014, the CAP opened possibilities to collective schemes by allowing groups of farmers to be beneficiaries of agri-environmental support.
- ◆ In the UK, facilitators can apply for funds to bring groups of farmers together for collective action via the ▶ Countryside Stewardship
- Countryside Stewardship

 Facilitation Fund

We experienced a high level of interest at different levels (including on part of farmers) around improving cooperation and spatially coordinating agri-environment-climate measures better to achieve regional environmental goals. This included interest in being able to implement measures more flexibly in the landscape.

Collective schemes have three major advantages:

- An ability to address environmental goals at landscape scale.
- Enhanced flexibility through regionally adapted implementation.
- Decrease transaction costs in particular for government administrations due to fewer contracts.

But:

- Regional collectives must be established and continuously managed according to shared goals. Extra funding will be incurred and skills needed to facilitate successful cooperation between farmers.
- Initial organisational costs for adapting the administrative system are to be expected as policy frameworks are not yet tailored specifically to collective contracts.

Despite any initial start-up costs, collective schemes may ultimately be more cost-efficient than individual approaches as they by create economies of scale and can better target measures.

Collective schemes create opportunities for higher awareness and ownership among farmers.

They provide a setting in which farmers to learn from each other and thus improve social cohesion, cooperation and trust. High levels of communication and collaboration between the collectives and actors such as policymakers are also perceived as a strength of collective schemes.



► Dutch collectives explained in 90 seconds

ACTORS

Land managers and the **contracting party** (until now typically a governmental actor) are considered to be at the core of the collective scheme. Collectives function as intermediaries between these two parties.

To achieve the desired environmental goals for a region, it is **crucial that** actors from agriculture, nature conservation and the administration (contracting party) work well together.

Collectives can be viewed as an intermediary level between policymakers and individual farmers and should be institutionalised in this innovative approach.

In the Netherlands, for example, regional governments have a contract with the collectives, and the collectives contract individual farmers. Farmers apply to participate jointly with other farmers based on a land-scape level plan but remain solely responsible for the implementation of measures on their own lands (Front-door-back-door principle).

According to our experiences, this model of a collective acting as an intermediary and holding individual contracts with farmers and one contract with the governmental administration is perceived as the most acceptable and promising amongst farmers.

THE IMPORTANCE OF FACILITATORS

Facilitators are intermediaries that play an important role for **building social cohesion** as well as

- supporting farmers with administrative tasks and providing practical advice on farm,
- good internal governance (guidance and mediation),
- knowledge exchange,
- developing a management plan,
- organising operational delivery,
- coordinating measures,
- managing payments and monitoring,
- improving participation in decision-making.





 In the Netherlands farmers consider themselves as a strong contract party because they are united as a collective.

Who are facilitators? Professional staff supported by volunteers such as lead farmers can facilitate groups. Including farmers as facilitators within collectives can increase the acceptance among practitioners.

◆ An example is the increased spatial flexibility for habitat management measures such as later mowing for meadow birds - within a managed group this may be moved more easily between plots and farmers during the contract duration, and be based on improved monitoring data from across the area managed overseen by the collective.

• Action-based payments can be topped-up with payments for results to boost the ecological effectiveness of the contract and make implementation economically viable.

The collective scheme is more than a group contract.

Farmer group contracts with joint applications are one way to approach spatial coordination of measures and decrease administrative effort but it does not include the additional benefits an intermediary provides.

Facilitators should be appointed for a long time and be highly familiar with the region. A high staff turnover turnover may threaten a collective's long-term vision and continuation. Policy frameworks must carefully consider how to enable good facilitation of collectives through intermediaries – this requires reliable funding, but also resources and capacity building.

In general, increased flexibility through the collective scheme may lead to a better customisation of farmers' management to suit local environmental circumstances. By agreeing on a common long-term objective for a collective, the type of contract and way of implementation can be tailored to the surrounding landscape and individual regional circumstances.

The local focus also allows:

- a catalogue of adapted measures and
- the flexibility to make short-term changes in times of climate and environmental crises and ever-changing policy frameworks.

MONITORING

A shared monitoring responsibility is necessary. Both internal monitoring (by the contracted party for learning and reflection) as well as external monitoring (third party control based on general indicators for comparability and credibility) are essential. If the progress is not monitored, there is no feedback and farmers can lack a sense of achievement.

Useful guidelines for monitoring:

- Simple and understandable criteria to check the progress towards goals must be developed.
- Record conditions both before and after the contract takes effect to ensure environmental effectiveness and cost-efficiency in implementation.

Substantial pre-financing and administrative effort is necessary to set up a collective scheme but transaction costs and workload are expected to decrease over time once the set-up phase is finished.

CONTRACT DURATION

Long-term duration of collective contracts is preferred. Public funding in congruence with the CAP usually follows the CAP funding periods while **private funding sources are more flexible.** The latter could also allow short-term contracts for experimentation, as well as facilitate long-term cooperation beyond CAP funding periods.

SET-UP AND FUNDING FRAMEWORK

A good way to start is the set-up of a new network of farmers with a high intrinsic motivation and then include more actors through *snow-balling*. This avoids high costs, complexity and increases trust among stakeholders. The overarching goals at landscape level must be clear to have stability and be kept in mind when re-negotiating or making necessary adaptations in the face of ongoing crises e.g., climate change. Collectives should follow core principles and goals on a broader scale while remaining flexible to allow smaller scale adaptations.

Ensure full transparency and explicit communication with and involvement of all stakeholders, as well as different governance levels where necessary.

Self-organisation of the whole network of actors increases ownership.

Funding sources should include in-kind support (help with monitoring, use of machinery), which could be provided through a collective network fostering knowledge exchange and team play. The lack of stable and sufficient funding to compensate for the extra costs of collective action is one of the key challenges of existing collectives to sustain and expand their activities and for new ones to arise.

This is not an easy process and requires forerunners and intrinsically motivated participants, which is why existing organisations can help build the collectives.

The policy framework needs to be reshaped to allow the multitude of ecological, administrative and practical advantages of collectives to take effect.



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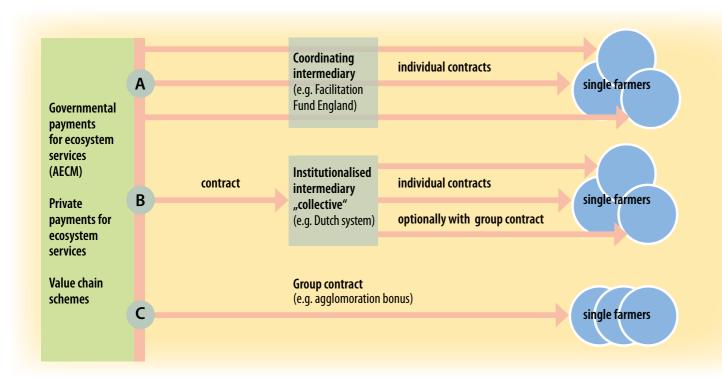
WAYS TO INSTITUTIONALISE COLLECTIVE SCHEMES

Collective agri-environmental contracts may refer to different contractual arrangements.

Option A: the contracts of individual farmer who are members of a group are aligned with an overarching objective by a facilitator or a coordinating intermediary. This is the principle of the ▶ Countryside Stewardship Facilitation Fund in England.

Option B: the role of the intermediary can be more institutionalised via a contract between the buyer (e.g. government agency) and the intermediary, who in turn concludes contracts with farmers. These contracts in turn realise coordination at the landscape level. This is the case with the front-door-back-door arrangements in the Netherlands.

Option C: a group contract, providing the strongest formalisation of the collective scheme. Here, an agglomeration bonus is often discussed in the literature to incentivise participation.







value chain schemes

Combining publicly funded agri-environment-climate measures (AECM) with market-based solutions, such as certifications, labelling, and other value chain contracts, offers ways to engage additional actors of the value chain in biodiversity friendly farming, and at the same time complements public incentives with private funds through price premiums. Value chain schemes are a possibility to offer economic rewards outside of the CAP from consumers to farmers for their additional efforts to promote biodiversity on their farms.

To ensure consumer trust, companies increasingly demand greater transparency about the management and delivery of public goods on supplier farms. Value chain contracts allow for tailored contracts between (single) producers and processors, a stronger bottom-up approach to defining measures, a longer-term perspective and the potential to use related activities for marketing purposes.

Two appoaches to value chain schemes were differentiated in contracts 2.0:



Bundled production of agricultural products and ecosystem services within the agricultural value chain

Contracts are based on conservation measures or outcomes linked, e.g., to biodiversity, water, soil or social benefits in addition to quantity and quality of raw materials. A catalogue of environmental measures adapted to the respective region linked to a score-card system could be the basis for such a contract. Supported by advisors, farmers could then choose those measures which fit well to their business as long as they achieve a minimum score.



Private Payments for Ecosystem Services outside the agricultural value chain

Marketplaces for ecosystem services like ▶ AgoraNatura offer a low threshold approach to get engaged with biodiversity and ecosystem services, in particular for companies without a clear value chain link to biodiversity. The marketplace links farmers, who want to implement conservation action with citizens or companies, who fund its implementation. The ecological impact is ensured through certification by nature conservation standards. ▶ Naturplus standard



ACTORS

Depending on the context, diverse actors are involved: producers (farmers), processors, retailers and even consumers. Also intermediaries such as farming associations, nature conservation organisations, advisory bodies or scientists may play an important role, for example, related to advice and monitoring. Outside the agricultural value chain, intermediaries are additionally needed as 'broker' between farmers providing ecosystem services and companies investing in natural capital. Governmental funding might be crucial for testing new schemes, while policies in general should encourage the adherence to the principles of value chains promoting biodiversity through guidelines and operation standards.

◆ Our research shows that consumers would be willing to contribute to fairer payments for farmers, especially when they engage in biodiversity conservation measures. Hence, it could be an interesting approach to link ecological criteria to fair payments to improve both social and ecological impacts — while at the same time benefitting the retailer's image.

MAKING IT WORK

To strengthen biodiversity and ecosystem services within the value chain, cooperation at eye level between all stakeholders is necessary. Communication and trust are key, including information and knowledge exchange, as well as education and the communication of ecological and economic values. Fair prices and price transparency are necessary, e.g. via base-price-models for long term pricing to counteract market fluctuations and granting farmers greater security. Value chain schemes also depend on the buying behaviour of consumers, who must be informed and convinced that products are worth an extra price. Consumer labels could be an option to communicate and market those additional product-related benefits.

Besides promoting additional environmental measures on poducts at the point of sale, it is important to communicate the ecological and economic benefits of products conserving and promoting biodiversity to all stakeholders of the agricultural value chain.

- ◆ Policy could promote developments by setting high criteria for product standards and corporate social responsibility, support a shift to product prices including externalities or impose taxes on non-sustainable products. Transparency on product origins and price setting should become the norm.
- ► Expert viewpoints on consumer labels for ecosystem services

contracts 20

◆ Yet, retailers will not act on their own: changes will need to be initiated by other actors such as farmer organisations, NGOs (e.g. ► Landwirtschaft für Artenvielfalt), consumer initiatives (e.g. ► Du bist hier der Chef), or processors (e.g. ► FrieslandCampina).

In general, the goal for retailers should be to

- include sustainable products beyond organic in their range,
- improve conventional products,
- make farmers' efforts visible to consumers and justify appropriate remuneration,
- take over financial responsibility i.e. pay a higher price,
- offer improved conditions (e.g. guaranteed purchase of products from producers),
- and provide support (e.g. with investments, packaging, transformation).

CONTRACT DESIGN

Both **monitoring** of ecological impacts as well as control of contract compliance are important for companies to see what impact their 'investments' in ecosystem services have. Monitoring results may also help to prevent greenwashing accusations by knowing about the specific benefits achieved.

Contracts duration should be at least 5 years or as long as usual business contracts with farmers. To increase the ecological effectiveness of measures implemented and the planning security for farmers, longer term contracts are preferable.

Currently, most value chain schemes apply action-based payments, yet results-based or collective payments are also possible.

◆ In case of the marketplace
AgoraNatura, the funding of
conservation action is realised via nature
conservation certificates, each certificate
representing conservation action (linked
to specific results) on 100 m² per year.
A quantification of biodiversity and
ecosystem services is very difficult,
yet the certification including the
quantification of ecosystem services
is not sufficient, but necessary for
companies to invest in conservation

certificates, in particular outside the

agricultural value chain.



Ambitious, transparent **standards** are essential for value chain contracts. An EU wide standards that is flexible enough to fit local and regional conditions would be ideal. To ensure the credibility of standards, the policy framework should define minimum requirements and carry out checks to ensure compliance. It should also register or create institutions to certify products, organisations, companies, and projects according to these standards. Standards are also the foundation for prospective labels to market products fulfilling certain criteria. It is necessary to ensure that new labels are backed by strong organisations and that transparent criteria are applied for awarding them. These organisations can be bottom-up associations, such as organic farming associations like "Naturland" in Germany, or governmental bodies. Ecosystem services certification should be linked to the existing EU policy, similarly to the organic farming under the second pillar of the CAP. Integrating existing policy instruments would offer the chance to use available ecological criteria linked, for example, to AECMs, Natura 2000 or High-Nature-Value farmland as basis for quality standards of ecological targets.







combining contract features

 Beyond the CAP period and with the option to extend, but also appropriate opt-out options Individual, action-based, and preferably longer-term contracts are still considered to be very important. The prescribed management actions are derived from basic practices and are point-based, allowing flexibility with regard to what farmers want to sign up to.

Our scientific research as well as Contract and Policy Innovation Labs demonstrated that a combination of the different contract-based approaches within agri-environmental schemes is often promising in terms of ecological effectiveness, economic viability, help to save transaction costs but also acceptance and acceptability among farmers.

Core elements in all contracts are **standards** (standardised criteria as a prerequisite for payments or contracts) and **appropriate monitoring** that verifies compliance with the contracts and the results. The better the overall system develops in the direction of results orientation, the better the monitoring system can be set up.

① Combination of action-based and results-based payment schemes

The results-based component should be strengthened as much as possible. If it is not possible to use purely results-based contracts, a combination with action-based payments is a good option. The combination can be implemented via a **top-up bonus**. This way, results-based payments can also be made **for achieving development goals** (e.g. improvement of biodiversity). For these cases, the purely results-oriented payment is often not suitable since the improvement of an environmental situation depends on too many factors and thus a results-based contract is too risky for the farmer.

Design this contract in a way that the benefits of the results-based payment can be realised: with sufficient incentive to address the farmers' self-interest in proving the environmental service. In any case, the results-based bonus should result in measures taking place on the relevant area (spatial targeting).

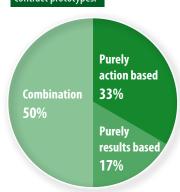
High interest in hybrid approaches:
 Our stakeholders show clear preference for a

A certain flexibility of the surrounding policy framework is required to allow the practical implementation of these innovative approaches.

combination of contract types to maximise

the respective advantages.

Preferences of Contract Innovation Labs as indicated in their developed ideal contract prototypes.



2 Combination of results-based and collective payment schemes

An idea is for administration to put intermediary services out for tender, to allow collectives to propose tailored ideas. A long-term commitment (from the government) is required to support the set-up and continuous work of collectives including professional facilitators. The advantages of a collective scheme can very well be combined with those of results-based remuneration.

An example of where to start:

Implement the collective scheme in the sense that the collective acts as an intermediary between the government and the individual farmers. The results-based scheme can be used for the contract between the collective and the government and to improve landscape level results of individual contracts with farmers. The spatial coordination is done within the collective scheme by management plans and advice of the collective. The results-based component can be used to intensify and reward farmers for an improvement of the environmental objectives.

How to do this:

Implement this through a collective **top-up group contract** on an action-based individual contract. Farmers receive this **bonus payment if certain environmental goals were met,** for example, species numbers on grassland increased or bird populations developed positively. The collective bonus payment could be integrated in the necessary environmental monitoring.

Although the collective component is optional there should be a strong incentive to join since agri-environmental issues require coordination beyond the farm level to achieve improvements. **The incentive to join a collective scheme could be enhanced via attractive group boni.** These kinds of incentives still need a practice check.

Facilitators view a combination of collective and results-based approaches favourably and most are ready to embrace the challenge of this innovation. Nevertheless, a number of design and administrative challenges remain to be tackled (Sonntag, 2021¹).

Combining-collective-contracts (Prager and Sattler, 2022)

 Collectives play a role in bridging between different levels of government and farmers, translating environmental targets for implementation at landscape and farm level.

Regional management plans define landscape-level objectives, which would serve as the basis for individual contracts, as well as for deriving environmental indicators for results-based schemes.

1) Sonntag, M. (2021) Combining a collaborative PES approach with a payments-by-results approach in England: Process Net-Map interviews with Countryside Stewardship Facilitation Fund's intermediaries. Master thesis, Humboldt University Berlin. Available upon request.

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combining contract types

◆ Additional funding could be sourced from water companies, fishing interests and river navigation, insurance companies and local authorities permitting environmentally damaging land use operations (e.g. large poultry

① Combination of governmental and private payments for ecosystem services

Public funding is expected to cover the core costs of hybrid contracts, including the intermediary. However, there is a role for private finance to pay for, for example, higher level results.

Privately funded payments for ecosystem services can complement governmental agri-environment-climate measures (AECM) well. They offer additional financial resources and the possibility to react individually to regional demands in a tailored manner (highly flexible). While a market for carbon credits has already been established in the climate sector, this development is just starting in the biodiversity sector and for other ecosystem services. However, it is becoming apparent that with increasing social and political pressure, companies in particular can also become more involved in this area. It would therefore make sense for politicians to consider private payments for ecosystem services as a strategic component in the further development of AECM or to actively promote it in the area of standard setting. This approach was not the focus of the contracts 2.0 project but can be integrated into the considerations with the ▶AgoraNatura Innovation Lab and connections to the value chain schemes could be established from the beginning. The main challenge for private payments for ecosystem sSerivces is to create a business case for companies where political pressure is lacking.

2 Combination of governmental and/or private payments for ecosystem services with value chain schemes

Approaches in the area of the value chain face the challenge of having to develop suitable standards and monitoring. So, there are very good reasons for **bundling capacities** here. A stronger linkage between agrienvironment-climate measures (AECM) and value chain approaches can create additional incentives to enter agri-environmental schemes. This would be particularly important for targeted measures around biodiversity. These measures often come with administrative and practical complexities for farmers.

Additional incentives via value chain contracts, combined with financial incentives, could help to integrate more demanding measures into agri-environmental schemes and ensure implementation by farmers.

WHAT CAN THIS LOOK LIKE?

Farmers who implement targeted, demanding AECM on a specific percentage of their arable and grassland (e.g. 10 % of the land under targeted AECM) receive state certification. Farmers can use this certification for contracts within the value chain, for example though a label that certifies these products.

We have tested this scenario experimentally in contracts 2.0 to analyse whether consumers are willing to pay for such products that demonstrably provide ecosystem services. The data indicate that this is indeed the case, both for conventionally and organically produced products.

The certification or the label could also be used for contracts with environmentally oriented processors (HIPP Innovation Lab), for example to realise advantages in the purchase of products and/or higher prices. Using elements of results-based payments or collective schemes can further increase the options for value chain contracts due to scale effects.

The approach of combining value chain contracts with AECM can be also implemented in the context of linking with private payments for ecosystem services if a certification system has already been implemented with it. In general, it seems to be worthwhile to use existing standards for integration in value chain contracts.

This approach requires cooperation between actors from the state administration of the AECM and value chain actors to build the certification system. Governments need to define which AECMs are eligible for this approach, for example during the programming of agri-environmental schemes.

Issuing certificates could also be directly integrated into the agricultural subsidy system. If the farmer participates in targeted measures with more than 10% of their land, they automatically receives the certificate. This would eliminate the need for additional control and monitoring.

- Can consumer labels help promote the Provision of Ecosystem Services?
- Read about our methodology and findings.

- Consumers show a strong preference for linking an ecosystem service label with the aspect of voluntary payments to farmers, which may be explored further in future research.
- ► HIPP Innovation Lab
- ► AgoraNatura Marketplace







contract design process

We identified 16 crucial roles to consider in process design:

- Sellers and buyers of ecosystem services,
- Design,
- Coordination,
- Recruitment,
- Funding,
- Monitoring,
- Controlling and sanctioning,
- Reporting,
- Evaluation
- Advice and extension,
- Payment administration,
- Spatial targeting,
- Knowledge pooling and exchange,
- Advocacy and
- Certification.
- ► More information on actors involved in novel contract governance.

The design of the process starts with problem definition and first ideas and ends with the implementation of a novel contract and its evaluation. The process has similarities with the policy cycle. The time and effort needed depend on whether existing schemes are being adapted or new schemes are to be rolled out as well as on overlaps and iterations between the stages. At a macro level, decision making will involve policy makers, administrators, government agencies as advisory bodies and payment agencies, however, well-functioning communication channels and links to actors involved at the regional and local level are important for the following stages of contract implementation.

Innovative contracts, in particular collective schemes, **involve more actors across different stages** of the process. Hence, higher effort for coordination and for building trust between actors is needed. Negotiations will take longer as there are more parties to consult and agree with, resolving possible tensions in norms and expectations. Reciprocity, a **relationship of trust** between all parties and clear, transparent communication throughout the process are fundamental. Time, lobbying and investing into building networks and trust are key requirements to overcome existing barriers, alongside supporting investment in building capacity and capability of farm advisors and farmers.

At least initially, this is likely to result in higher transaction cost. Thus, the compensation or **reward payment** for the land manager needs to be higher to incentivise participation, but also a compensation for the cost incurred for coordination (often by intermediaries) is required. **Impartial and trusted intermediaries** can play an important role at all stages, taking over multiple roles, for example, coordinating all actors involved, including governmental, non-governmental and land managers and 'translate' between policy and practice.

Participatory processes can inform policymaking and contract design more broadly!

Involving practitioners, tapping into existing networks and ensuring transparent communication during the process, as well as the development of a shared vision for the landscape, fostering social cohesion between stakeholders involved in the negotiation stage, has relevance in many agri-environmental settings.







Setting the Agenda

- Scope the main agri-environmental issues, objectives, application domain, and targeted farmers.
- Achieve consensus on the added-value of agri-environmental contracts given the governance contexts, the policy framework and the institutional setting.
- Widely communicate (proof of) concept of new contract towards agricultural and environmental NGOs, municipalities, relevant government departments, local groups, and potential funders.
- Get the right actors together decision makers from different organisations.
 (Taking the minister out to the field has been a successful strategy in Ireland)

CONTRACT DESIGN PROCESS

Monitoring and control / Evaluation

- Design processes, tools and systems for monitoring and run alongside contracts
- Generate data that can inform the evaluation of the effectiveness of individual contracts and the overall scheme
- Involve farmers, advisory services and possibly NGOs or volunteers for monitoring at the farm level (all to be trained accordingly)

Negotiating the contract / Designing the contract

- Focus on contract characteristics and objectives, payment modalities, targeting, budgets.
- Identify and engage relevant stakeholders.
- Design and run tests and pilots; adapt according to experiences. If successful,
 start roll-out and jointly design how pilots fit into existing or planned policy context.
- Acknowledge trade-offs, for example, between regional and national priorities or between different species or ecosystem services
 - → provide space to negotiate and revise related decisions during implementation.
- Understand perspectives of involved actors to enable a design that is sensitive to context, historical relationships and stakeholder interests.

Implementation

- Clearly allocate roles
- Motivate farmers & offer advice
- Allow for flexibility and fine-tuning of contracts to adjust if necessary
- Certify intermediaries and secure them an appropriate funding to afford a continuous role in design process, as they often take over transaction costs that otherwise would be incurred by administratio or farmers





let's go contracting!

The road towards policy implementation is not unidirectional and can sometimes take unexpected turns. The establishment of innovative agrienvironment schemes that ensure the provision of ecosystem services requires time and effort. We need actors for initiating and leading the development process on both sites, public administration and the market or civil society sector. We have to think about how to support these pioneers.

contracts 2.0 was able to show that the many advantages that novel contractual solutions can bring are worth the effort! Many inspiring examples prove that motivated individuals are ready to take the plunge and rework the way we contract land management – for the benefit of nature and society.

"We needed courage for gaps, it does not need to be perfect to give it a try [...] and once established we believe it is "bound for success."

Irene Kirchner, Brandenburg Ministry for Agriculture, Environment and Climate Protection, co-created a collective scheme in Brandenburg, Germany.

With the CAP funding period starting 2023, collective AECM were introduced as an additional option for farmers in Brandenburg (Germany). The implementation of these contracts will happen through cooperatives following the Dutch model. This was supported by the integration of contracts 2.0 results on institutional design and actors' constellations.

- Institutional design and actors' constellations
- More information on the collective scheme in Brandenburg

Bring the minister to the field: contracts 2.0 demonstrated that the exchange of experiences on field trips is the greatest inspiration for the development of innovative solutions, especially to inspire policymakers for new ideas and solutions.

It is in our hands to create innovative policies to tackle societal challenges.

KEY ELEMENTS FOR DESIGNING INNOVATIVE AGRI-ENVIRONMENTAL CONTRACTS:

- Design contracts that target multiple ecosystem services according to regional management plans. – Strategic plans can increase the success of AECM and a high potential arises from a wise combination of different approaches.
- Start with what is already there: pilot projects, existing networks, motivated stakeholders, and actively involve them in the contract innovation journey.
- Build on solutions that integrate intermediaries to strengthen learning effects and social capital building!
- Use the flexibility payment calculation to remunerate farmers for ecosystem services delivered.

- Aim for long-term contracts, but do not neglect flexibility as a mean to reduce risks for farmers.
- Involve and certify intermediaries in the implementation of new contracts.
- Activate private funds as additional payments to farmers for delivering public goods.
- Facilitate synergies between the new contracts and other CAP measures such as geographical indications and eco-labelling, support for short supply chains and producer organisations.
- Include stakeholders in transparent policy creation to increase legitimacy and consequently uptake of measures.

"Don't let the perfect be the enemy of the good!"

Dr. James Moran, Atlantic Technological University, Ireland, and host of the UK Contract Innovation Lab field tip.

NOVEL OPTIONS THAT POINT TO MORE FUNDAMENTAL CHANGES OF THE CAP

- Allow and give resources for bottom-up landscape planning as a basis for designing agri-environmental-climate measures at the landscape level.
- Encourage regional governments to implement innovative approaches.
- Include the results that farmers deliver as an element in the calculation of payments.
- Allow structural funding of intermediaries as part of the CAP to create consistency and long-term stability in their engagement.
- Improve the inclusion of the private sector in the policy process to ensure common goals and coherence between public and private initiatives. A stronger integration of the private sector from the entire value-chain in the policy process could ensure common goals and coherence between public and private initiatives.

Coordination and communication are key to solving problems related to current agri-environmental-climate measures. Decrease of governmental control and bureaucratic burdens, and the active role of farmers and farmers' advisory services should be prioritised to use the potential of innovative schemes.

Innovative contracts are tailored to regional contexts, their implementation rests with the Member States. If innovative options are included in the general CAP framework, they create a push factor for the development of national CAP strategic plans, while positive experiences of early adopter countries are a pull factor for other Member States.

Focus on compliance with principles

rather than rigid rules to facilitates local priorities.

Where are we going?

Invite the people in your region to dream about the future together.

A "dreaming" approach aims to overcome complex barriers and create conditions for free thinking and envisioning without the limits of present regulations and constraints. Identifying desirable landscapes and contracts helps to guide a common understanding of the aspirations and wishes of practitioners and to find shared objectives.



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CO-CREATING CONTRACTS – a guide for policymakers

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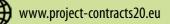




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Contact for the future







► All contracts 2.0 results





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Bornholms Landbrug







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not the end



- contracts 2.0 designed contractual solutions which provide effective incentives to farmers and land managers to produce more environmental public goods, and allow them to reconcile the profitability of their farms with environmental objectives. 28 partners throughout Europe worked on innovative contracts for farmers and nature, focussing on results-based payment schemes, collective schemes for the implementation of agri-environment-climate measures, value chain schemes and the innovative combination of different contract approaches.
- In this guide, we share insights on the co-design process developed in innovation labs across nine countries and our accompanying scientific research on existing and novel contracts. We outline the general requirements for an enabling policy framework to implement novel contractual models successfully and effectively in practice. We show options and examples of how innovative approaches can be implemented.
- This guide serves policymakers seeking to improve the acceptance and effectiveness of agri-environmental schemes by designing and implementing innovative contractual solutions. We aim to inspire policymakers and actors of the agriculture sector by showing how farmers may be incentivised to produce not only food but also biodiversity and ecosystem services.



OVERVIEW OF LINKS

age 4: ppic RUR-03-2018
age 8: oices from the field
age 12: eport of the international exchange meeting in Galway https://www.project-contracts20.eu/wp-content/uploads/2022/11/InterCIL-Ireland_workshop-report_Nov2022 /ild Atlantic Nature project
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age 16: utch collectives explained in 90 seconds
age 20: buntryside Stewardship Facilitation Fund
age 22/23: goraNatura
age 27: ombining-collective-contracts
age 28/29: goraNatura
age 34: nstitutional design and actors' constellations https://www.sciencedirect.com/science/article/pii/S0959378023000341?via=ihub lore information on collectives in Brandenburg ttps://mluk.brandenburg.de/mluk/de/landwirtschaft/agrarpolitik/neue-gap-foerderperiode-ab-2023/agrarumwelt-und-klimamassnahmen/
age 36: Il contracts2.0 results

