EUROPEAN UNION

EUROPEAN MISSION SOIL WEEK 2025

under DK EU 2025 | Danish Presidency
Council of the European Union

Event report

5-6 November 2025

in coordination with

AARHUS UNIVERSITY

Ministeriet for Grøn Trepart
Styrelsen for Grøn Arealomlægning og Vandmiljø

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The European Mission Soil Week 2025 was organised by the European Commission, Directorate-General for Agriculture and Rural Development (DG AGRI) in collaboration with the Danish Ministry of Green Transition and Aarhus University (AU) under the auspices of the Danish Presidency of the Council of the EU. Hosted by AU on 5–6 November 2025, the event brought together the European soil community – researchers, policymakers, land managers, the private sector and civil society – to accelerate delivery on soil health. Around 300 participants attended in person and almost 900 followed online across both days.

Day 1 opened with plenaries highlighting soil health as central to climate resilience, biodiversity, competitiveness and food security, and framing the Mission Soil within Europe's green transition. Speakers set out a clear policy context, including the Soil Monitoring and Resilience Directive, and urged investment that makes sustainable practices the economic choice. The Mission Soil Secretariat reported on the state-of-play of the Mission Soil: its progress in the past four years across its four building blocks, with a portfolio of projects and a network of 45 Living Labs driving co-creation and deployment. A keynote linked landscape degradation and climate shocks, presenting long-term, partnership-led models and blended finance pathways to turn evidence into action. A high-level panel and breakout sessions explored agriculture, forestry, urban and industrial soils, underlining farmer-centred incentives, interoperable indicators, credible valuation of benefits, and the importance of showcasing these benefits. The engagement segment introduced Mission Soil Ambassadors and the testimonial of EIT Food as signatory of the Mission Soil Manifesto. The day concluded with a Living Labs ceremony recognising the network advancing healthy soils by 2050.

Day 2 placed soil health within the wider transition to sustainable, multifunctional land use, set against the Danish Presidency and Denmark's tripartite approach to engaging stakeholders. Opening remarks framed the need to co-produce knowledge, align policy and practice, and plan land-use transformations collectively at catchment scale. A policy segment reviewed EU measures for monitoring and improving soil health, highlighting the recent Soil Monitoring Law, the concept of soil districts and the importance of research-based advice working alongside Living Labs and Lighthouses. A scientific keynote examined lock-ins across agri-food systems and argued for coordinated, long-term strategies that involve all actors, with Living Labs as practical mechanisms to unlock change. A panel then explored how to move from division to dialogue, using Denmark's experience to discuss transferability, incentives and trust. Further sessions focused on soil monitoring and management, presenting data tools and citizen science, followed by a governance panel on combining regulation, support schemes and locally embedded planning. A market-incentives keynote and a final panel on co-creation in Living Labs stressed trust, practical relevance, economic signals and stronger networks. The day closed with reflections on multifunctionality, dialogue and next steps.

The programme also featured a tour of project stands covering seven thematic areas: circular economy, carbon farming, biodiversity, pollution and restoration, soil data, and awareness and engagement. Participants had the chance to hear from 15 Mission Soil-funded projects, enabling focused exchanges on methods, results and next steps.

More information, including presentations and recordings of plenaries, are available on the Mission Soil website[1].

[1] https://mission-soil-platform.ec.europa.eu/news-events/leading-transition-towards-healthy-soils-finance-and-landscape-perspectives

Plenary sessions

Day 1: Plenary sessions

1. High-level opening

Eskild Holm Nielsen, Dean of the Faculty of Technical Sciences at Aarhus University, opened the conference by welcoming participants to Aarhus University. He expressed the university's honour in hosting the event, thanking attendees for their commitment to protect and care for soil as a foundation of life on the planet. Mr Nielsen underlined Aarhus University's long-standing role as a Mission Soil partner from the outset, contributing through multiple research projects and collaborations.

He set out why soils matter – to science, to society and to our common future. Soil, he stressed, is a living system and a multifunctional resource that supports food production, biodiversity and climate action, while storing carbon and purifying water. Framing the Mission Soil as part of Europe's wider green transition, he encouraged participants to share progress, exchange ideas and learn from one another throughout the programme.

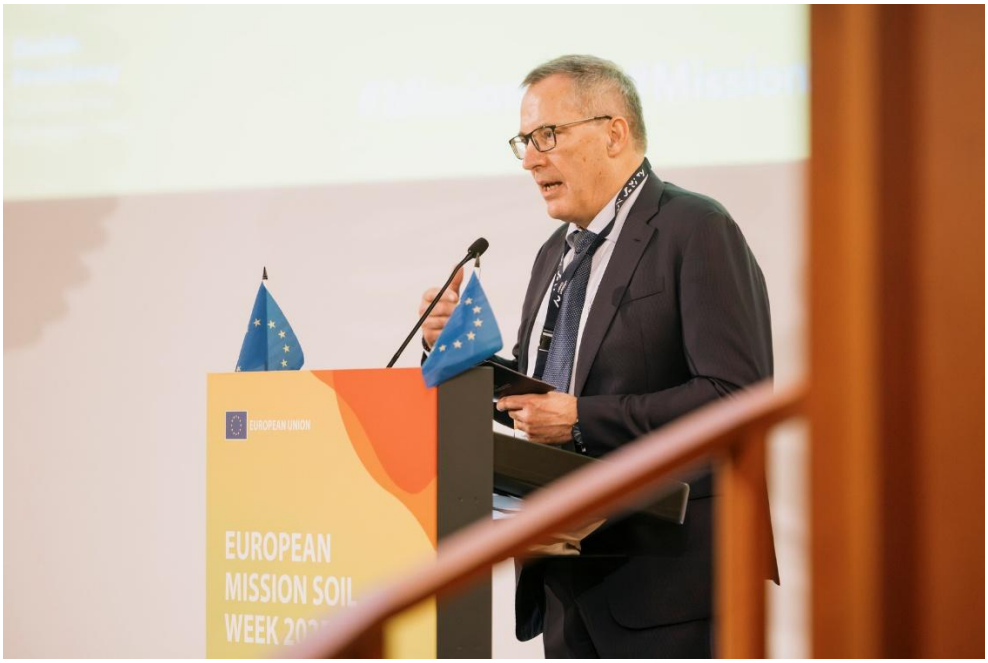

Figure 1. Eskild Holm Nielsen during the 'High-level opening' session

Mr Nielsen noted that the Mission Soil is a shared European goal that depends on cooperation between researchers, policymakers, citizens and the agri-food sector. He highlighted the university's tradition of working across disciplines – from agriculture and environmental sciences to social sciences and policy – as essential to addressing the complex challenges targeted by Mission Soil. He closed by inviting participants to use the week to forge new partnerships and strengthen a shared commitment to healthy soils for people, nature and future generations.

'The Mission is not only a scientific effort – it is a shared European goal that depends on cooperation between researchers, policymakers, citizens and the agri-food sector, from farmers to producers.' – Eskild Holm Nielsen

Diego Canga Fano, Acting Deputy Director-General and Mission Soil Manager at the European Commission's Directorate-General for Agriculture and Rural Development (DG AGRI), called soil a shared legacy whose stewardship will shape what future generations stand on. He underlined that the Mission Soil has evolved from an ambitious idea into a European movement that bridges science and practice to accelerate deployment, inform policy and stimulate investment. This year's programme, he noted, advances from alignment and monitoring to leading the transition through finance and landscape perspectives, with a strong focus on viable business models and action beyond the farm gate.

Mr Canga Fano set the policy context clearly: healthy soils are a strategic asset for Europe, essential to sustainable food production, biodiversity, water management and climate resilience. The EU Soil Strategy for 2030 charts the course towards healthy EU soils by 2050, with milestones for 2030, and the recent adoption of the Soil Monitoring and Resilience Directive on 23 October gives this vision legal force. He stressed the economics of soil health – soil degradation costs over EUR 50 billion each year, while every euro invested in restoration yields multiple euro in ecosystem benefits – and called for incentives and investment that make soil-friendly practices the evident economic choice.

Reviewing progress, Mr Canga Fano cited nearly 100 Mission Soil projects including Work Programme 2025, with an EU investment of over EUR 600 million and 45 Living Labs already established, well on track to the goal of 100 by 2030. Looking forward, he flagged further funding under Horizon Europe – around EUR 225 million – to continue expanding the network of Living Labs, address the One Health approach, strengthen monitoring capacity, boost innovation in biotechnologies and agroforestry, and scale AI-supported decision tools. He highlighted Denmark's leadership and Aarhus University's contributions and urged cross-sector cooperation that brings together agriculture, forestry, urban planning and finance to turn knowledge into tools that farmers, foresters, land managers, business and policymakers can use.

Figure 2. Diego Canga Fano during the 'High-level opening' session

'We do not inherit the land from our ancestors – we borrow it from our children.' – Diego Canga Fano

2. The Mission Soil: state-of-play

'Between 60–70% of EU soils are unhealthy – our job now is to turn that evidence into action on the ground.' – Henri Delanghe

Figure 3. Henri Delanghe during 'The Mission Soil: state of play' session

Henri Delanghe, Head of the Research and Innovation Unit at the European Commission's Directorate-General for Agriculture and Rural Development (DG AGRI) and Head of the Mission Soil Secretariat, presented the state-of-play of the Mission, outlining a supportive framework built on three pillars: a strong policy architecture with the recently adopted Soil Monitoring Law, the EU Soil Observatory as the long-term data and knowledge repository, and the Mission as the implementation tool. He cited the EU Soil Strategy for 2030, the Common Agricultural Policy (CAP) 2023–2027, the Carbon Removals and Carbon Farming Regulation, the Nature Restoration Law, the Water Resilience Strategy and the new Vision for Agriculture and Food. The recently adopted Soil Monitoring and Resilience Directive gives legal force to the trajectory towards healthy soils by 2050, with the Mission contributing to design, implementation and future revision.

Mr Delanghe described four building blocks guiding delivery: research and innovation; a network of real-life sites for co-creation and scaling; soil health monitoring and reporting; and communication, training and advice. To date, EUR 469 million has been implemented through 63 grants involving 1 400 participations, with a cumulative work programme budget of EUR 561.5 million (2021–2025) and further opportunities to be published for 2026–27. Five collaboration clusters bring together 25–50 projects each on data and knowledge management, soil indicators and monitoring, communication and stakeholder engagement, business models and investment, and soil pollution and remediation.

On results, projects launched between 2022 and 2024 are expected by 2029 to deliver more than 300 publications, around 160 new tools for assessment and monitoring, and over 150 education resources, engaging more than 7 000 teachers and students while mobilising citizens, municipalities and regions. Living Labs remain central: 45 are already operating under nine Mission projects with EUR 107 million invested, progressing towards a balanced spread across land uses, pedo-climatic conditions and soil challenges. The EU Soil Observatory's Degradation Dashboard now synthesises harmonised data into 19 indicators, while over 25 projects advance methods and cost-efficient technologies to support Member States in implementing the Soil Monitoring and Resilience Directive and informing the CAP, including analysis of soil protection potential in CAP Strategic Plans for 2023–2027[2].

[2] https://mission-soil-platform.ec.europa.eu/news-events/latest-news/new-publication-rough-estimate-soil-protection-potential-cap-strategic

Mr Delanghe also announced a dedicated conference on soil health business models and investments to be held next year, separate from the Mission Soil Week. The event will bring together stakeholders across sectors to foster collaboration, share knowledge and drive action towards sustainable soil health investments.

Mr Delanghe highlighted outreach through the Mission's Ambassadors across Member States and associated countries, and the Manifesto, which currently counts over 3 500 signatories from 90 countries (including more than 700 organisations). Turning to finance, he stressed the need to mobilise billions per year beyond EU funding. Dedicated projects launched in 2023 – InBestSoil, NOVASOIL and SoilValues – are developing incentives and business models, with a 25-project cluster preparing guidance on typologies, valuation methods and enabling policy frameworks. The Mission Soil Board is working on a simple set of business-relevant indicators and a map of funding mechanisms. New services under the next Mission Soil Platform contract from 2026 will include an investor advisory pack, collaboration models with private funders, support for promoters to shape investment-ready projects, and a soil health investment tracker, alongside plans for an annual conference on soil health business models and investment.

3. Keynote speech: Soil health as the foundation for thriving communities and sustainable businesses

'There is a business case for soil health and biodiversity – the question is how to make it happen.' –

Willem Ferwerda

Willem Ferwerda, Founder of Commonland, partner in the Mission Soil-funded project BENCHMARKS, argued in his keynote speech that climate shocks and landscape degradation are two sides of the same crisis, with direct economic consequences. Citing the Valencia floods in 2024, he noted losses exceeding EUR 14 billion, with around EUR 10 billion borne by the public and insurers, underscoring why soil health must be treated as a strategic investment. He identified five barriers to scaling restoration – the low valuation of biodiversity, ecosystem complexity, stakeholder complexity, landscape finance, and policy misalignment – and called for long-term, blended finance aligned with the Mission Soil's focus on business models and investments.

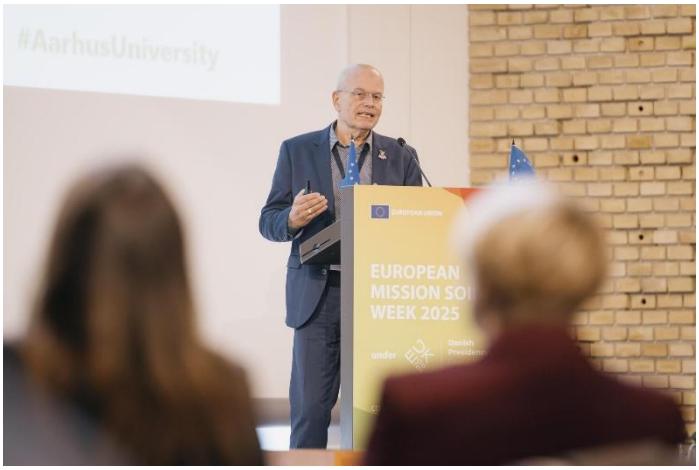

Figure 4. Willem Ferwerda during the 'Soil health as the foundation for thriving communities and sustainable businesses' session

Mr Ferwerda presented Commonland's Four Returns framework, which translates complexity into action: return of inspiration, social returns, natural returns and financial returns. He also framed the challenge through a practical lens of losses, risks and returns – noting that degraded landscapes suffer four losses (purpose, community and jobs, natural capital and sustainable income) which should be answered by four returns, beginning with a return of

inspiration, then social, natural and financial returns, each tied to clear indicators. This narrative, he argued, helps farmers, investors and public authorities align around long-term action and risk management at the landscape scale. The approach balances three landscape zones – natural, combined (regenerative agriculture) and economic – and works on a minimum 20-year horizon. Mr Ferwerda outlined five practical steps: build a local partnership, co-create a long-term vision, develop an integrated landscape management plan, establish monitoring, and then implement. He stressed that each landscape needs specific indicators linked to generic metrics so investors, farmers and public authorities can act with confidence.

Turning to finance, he argued for dedicated, patient funding of landscape partnerships – typically less than EUR 500 000 per landscape (between 100 000 and 500 000 hectares) per year, or about EUR 10 million over 20 years – to convene actors and de-risk investment. He pointed to emerging corporate interest from agriculture, insurance and beverage companies that are strategically exposed to soil and water risks and illustrated how restoration enterprises can scale when anchored in local partnerships. Above all, he emphasised that effective restoration starts with people – with profound listening and trust-building – so that technical solutions and capital can translate into lasting soil health on the ground.

4. Catalysing change from the ground up: innovation and investment for soil health across the value chain

This high-level panel examined how finance, business models and on-farm practice can accelerate the deployment of soil-friendly solutions, with a strong emphasis on approaches that work for farmers. The moderator, **Bridget Emmett (Principal Scientist at the UK Centre for Ecology and Hydrology and Mission Soil Board member),** framed the discussion around practical enablers – clear incentives, reliable metrics and faster scale-up – and invited audience questions via Slido.

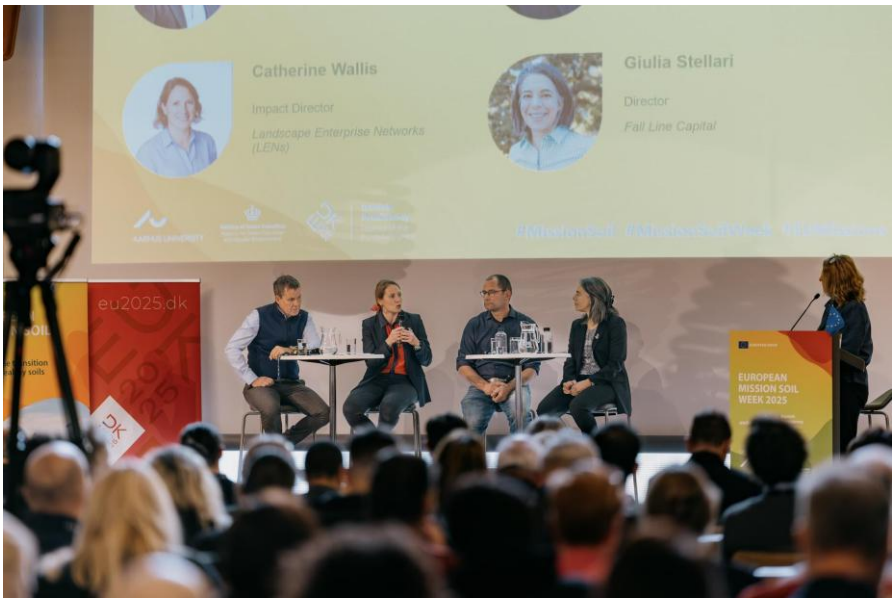

Figure 5. Panellists during the 'Catalysing change from the ground up: innovation and investment for soil health across the value chain' session

Catherine Wallis, Impact Director at Landscape Enterprise Networks (LENs), outlined LENs' model for pooling public and private funding to pay farmers for proven practices that improve soil health, cut erosion and build resilience. Operating since 2021 and now active across seven landscapes in England as well as sites in Poland, Hungary and Italy – with expansion to Wales, Scotland, Ireland and Spain – LENs has channelled around **EUR 24 million** to farmers, benefiting roughly **80 000 hectares**. She described a four-step method – convene willing partners, co-design interventions with farmers, align finance, measure outcomes – and noted a shift from an open menu of actions to clearer benchmarks and multi-year farmer cohorts. Around 80% of funds reach farmers directly. Looking ahead, she stressed interoperable, cost-effective monitoring, stacking public eco-schemes with private finance, and better alignment of contracts and MRV (monitoring, reporting and verification) to reduce administrative burden.

Speaking from farm and cooperative perspectives, **Klaus Kristensen, organic dairy farmer at Arla Foods,** described Arla's soil-centred approach, where a performance score can earn a premium on milk price. Priorities include feed efficiency, extending cow longevity and verified non-deforestation protein sourcing. On his organic farm, deeper-rooted swards, regular soil sampling and adjusted grazing heights are improving water retention and reducing run-off. He underlined that most farmers adopt change for stewardship as well as economics, and called for enabling regulation, practical tools and the courage to move faster.

Giulia Stellari, Director at Fall Line Capital, highlighted the investor view from Fall Line Capital, which invests both in agri-tech and farmland on **12–15-year** horizons. Infrastructure upgrades – drainage, irrigation and field layout – lower costs, reduce erosion and can cut tenants' energy use by up to **30%**. Practice changes such as reduced tillage, cover crops and diversified rotations are paired with financial incentives. She cited underwriting several years of canola to establish crop-insurance eligibility and break pest cycles. Robust, comparable metrics are pivotal: her team calculates crop-level emissions annually and seeks similarly practical tools for erosion, salinisation and compaction to guide decisions and benchmark progress. Demonstration at scale in real farms, she argued, is one of the most effective drivers of wider adoption.

From a late-stage capital standpoint, **Anders Bendsen Spohr, Managing Partner and Head of Planetary Health Investments at Novo Holdings,** set out Novo Holdings' focus on scaling science-based solutions that help farmers earn while improving soil health – for example, combining plant genetics and microbial innovations or replacing persistent chemistries with biologicals. He called for speed – less discussion, more deployment – and for crowding mainstream capital into soil-positive investments. Drought risk and water availability were flagged as critical constraints, alongside the need to feed a growing global population sustainably.

Across the panel, common enablers emerged: blended finance with public and private funds pulling in the same direction, outcome-based incentives that are simple to access, interoperable monitoring frameworks, and large-scale demonstration through Living Labs and commercial farms. The speakers urged the Mission Soil to keep accelerating this shift from pilots to practice – turning evidence into action that farmers, supply chains and investors can sustain over the long term.

5. Reporting from breakout sessions

Breakout Session: Leveraging soil health for successful agricultural business models

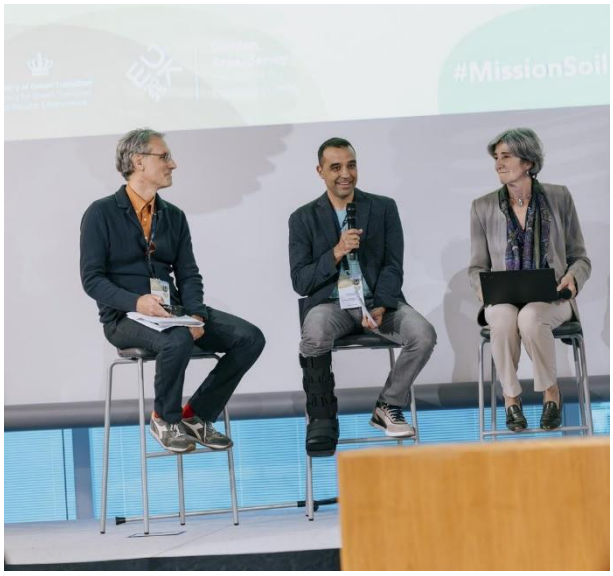

Figure 6. Diego Marazza, Adrián Ferrero and Teresa Pinto Correia during the reporting from the breakout sessions

Adrián Ferrero, Co-Founder and CEO at Biome Makers and Mission Soil Board member, reported a packed session that moved from an academic overview of business-model variables to practitioner insights. Participants agreed that farmers (especially newcomers) – together with their land – sit at the centre of any viable model, with corporations and consumers also shaping outcomes. The discussion underlined the need to translate soil science into a common language and measurable outcomes via harmonised indicators that consumers, farmers, researchers, policymakers and enterprises trust – being open to indicators that are 'good enough' – to track yield and farm resilience to changing conditions. The complexity of farming – from production under climate pressures to marketing, differentiation from conventional models, and building consumer trust – was highlighted as a hurdle. The group suggested that the Mission should showcase and amplify profitable case studies, fund field trials, and provide peer-to-peer training, including for farmers, agronomists, advisers and consumers. Consumer-facing labels alone were not seen as the route to scale, while an increased focus on soils in corporate sustainability reports was considered necessary.

Breakout Session: Innovative financial mechanisms for scaling soil health in forestry

Teresa Pinto Correia, Professor at the University of Évora and Mission Soil Board Vice-Chair, summarised a lively exchange on public, private and blended finance, including nature and carbon credits. Presentations covered market-based instruments and modelling in Europe, business models from the InBestSoil project, Finland's Luontoarvot service and digital marketplace for 260 000 forest owners, and public–private mechanisms at EU level. Key takeaways included the importance of transferability across regions, clear definitions of forest types and services, and addressing risks such as wildfire. Participants stressed governance and standards for credit integrity – especially biodiversity credits – and favoured some regulation to avoid greenwashing, calibrated at local or regional level. Public payments were judged essential to crowd-in private investment, reflecting diverse ownership patterns and socio-economic contexts.

Breakout Session: From soil sealing to regeneration – business models for sustainable soils in urban and industrial areas

Diego Marazza, Researcher at the University of Bologna and Mission Soil Board member, reported cases spanning innovative techniques (technosoils), circular use of biowaste in cities, de-sealing soils and spatial development, and urban regeneration plans. Urban and industrial sites were framed as Living Labs, with one of the gaps being the lack of robust metrics to evidence benefits and value creation over long time horizons. Participants stressed citizen engagement and creative actions – such as tile-flipping initiatives to de-seal paved areas – to build understanding and momentum. The replicability of business models and scale-up was discussed: while the process can be replicated, each case is particular. Clearer roles for public and private sectors were seen as important to de-risk long-term urban soil investments.

6. Engaging in the Mission Soil: new Mission Ambassadors and EIT Food as a Manifesto signatory

In the next session, two of the Mission Soil's latest Ambassadors talked about how they will act as bridges between farmers, researchers, investors and wider society to deepen engagement with the Mission Soil.

Figure 7. Mission Soil Ambassadors Anna Danylczenko (on the left) and Perrine Bulgheroni (in the centre)

Perrine Bulgheroni, farmer and co-founder of La Ferme du Bec Hellouin, now consultant and teacher from France, described moving from running her own 20-hectare farm to supporting newcomers and now guiding the transition of a 200-hectare cereal farm towards an agroecological and cooperative model – pairing technical change with new governance. She underlined the human stakes, citing the farmer's father whose leukaemia was linked by doctors to years of spraying, and stressed that innovation is not only technological but also about understanding living soils and building cooperative systems where vegetable, fruit, poultry, meat and dairy enterprises can co-exist.

Anna Danylczenko, Founder of Grunt od Nowa, has worked with farmers and advisers in Poland for 15 years and has a background in education. She emphasised the need to translate scientific and business language into farm-ready practice. She highlighted the scale of her networks – direct access to almost 10 000 farmers and a 60 000-member online community – and shared survey findings: the top needs are an adviser within 15 kilometres, an accessible lighthouse farm within 50 kilometres, and clear, low-risk finance. Both Ambassadors stressed trust and loneliness as real barriers, noting that farmers often need help deciphering project contracts that affect whole family livelihoods. As priorities, Anna highlighted two free, local-language programmes she leads: a 12-episode online course introducing regenerative practices and a practitioner-led training for advisers. Perrine argued for early-years soil literacy, so that society understands why soil life matters as much as air and water.

In a video message, Julie Karl Skovgaard, Chief Operating Officer and Co-Founder of Agreena, explained how aligning policy and private capital can broaden the scope of the Mission. Operating in more than 20 European

countries with thousands of farmers across millions of hectares, Agreena measures the impact of reduced tillage, cover crops and diversified rotations, converting outcomes into high-quality soil-carbon certificates purchased by climate-focused companies – channelling private finance directly to land managers. She called for cross-border clarity on methodologies, verification and recognition, so that a tonne of CO_2 sequestered in Denmark has the same value as a tonne sequestered CO_2 in France or Poland, stressing that perfect should not block the good while the EU's carbon removal certification framework matures. Beyond subsidies, she argued, capital must also flow from outside agri-food, so that ecosystem services become investable assets, making soil a scalable climate solution grounded in policy, finance and trust – not just agronomy.

Representing EIT Food, a Mission Soil Manifesto signatory, **Alicia Abendroth Vosloo**, **Senior Partnership Manager**, announced a Resilient Agriculture Academy to close skills gaps and connect policy with practice. Building on Living Labs and a regenerative innovation portfolio, the Academy will offer modular, accredited training for farmers, advisers and the agri-food workforce, underpinned by dynamic learning that gathers market intelligence from industry and the wider community. EIT Food aims to reach 100 000 learners over 5–7 years, leveraging a think-and-do tank of 32 strategic partners, established links such as the Soil Innovation Partnership and the Pact for Skills in agri-food, and a network of more than 20 000 farmers across 17 countries. Tools like the Future Farm Lab digital twin will support hands-on learning. Her three-part invitation was clear: co-develop curricula, support regional cohorts on the ground, and co-fund adoption through blended models to spread tested practices and ensure broader engagement.

7. Living Labs ceremony

In a celebratory ceremony recognising the expanding network of Living Labs, managers came on stage to receive a wooden plaque designed by SOILL-Startup in acknowledgement of their contribution to the Mission Soil. The awards were presented by **Diego Canga Fano, Acting Deputy Director-General at DG AGRI and Mission Soil Manager**, and **Peter Wehrheim, Head of the Bioeconomy and Food System Unit at DG RTD and Deputy-Mission Soil Manager**. First, the newly launched projects for 2025 were introduced – **GroundWork** (5 Living Labs), **Nemesis** (5 Living Labs), **TRAILS4SOIL** (5 Living Labs) and **URSOILL** (5 Living Labs). This was followed by recognition of projects already operating since last year – **iCOSHELLs** (6 Living Labs), **LILAS4SOILS** (5 Living Labs), **LIVINGSOILL** (5 Living Labs), **GOV4ALL** (5 Living Labs) and **SOILCRATES** (4 Living Labs). In total, the Mission Soil has implemented 45 Living Labs bringing together researchers, farmers, land managers, industry, public administrations and civil society to accelerate solutions towards healthy soils by 2050.

Figure 8. Living Labs managers receiving an award acknowledging their contribution to the Mission Soil

8. Closing remarks

Peter Wehrheim praised a dynamic community around the Mission Soil and underlined Living Labs as its cornerstone. He noted that the Mission is on track – and may even surpass – the objective of setting up 100 Living Labs by 2030. Moving into the second phase, he stressed deployment: Living Labs should co-create locally adapted solutions, demonstrate what works and help scale best practices so that the current share of healthy soils – about 30–40% – can rise significantly. He called for inclusivity across farmers, land managers, policymakers, citizens and scientists, and highlighted that insights on business models and investment from the day should inform future EU instruments, including the CAP and national or regional partnership plans, with the support of Member States. Bridging science and practice, he said, will be decisive for delivering impact on the ground.

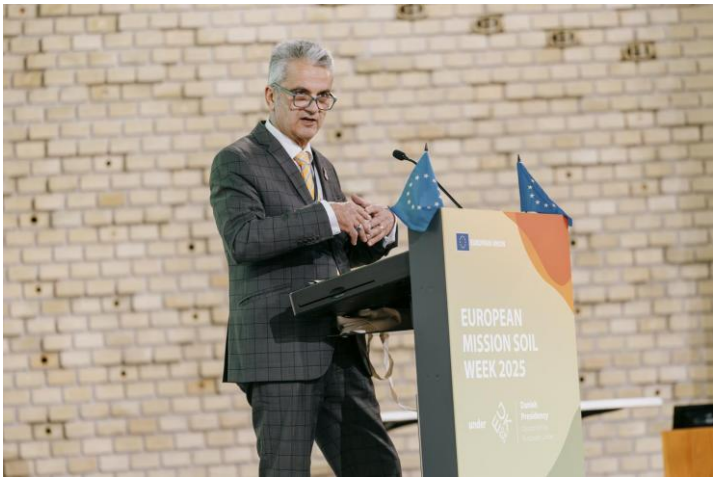

Figure 9. Peter Wehrheim during the 'Closing remarks' session

Diego Canga Fano closed by celebrating a growing ‘soil family’ and the value of meeting in person to engage ‘real people.’ He framed the Mission Soil Week as an inclusive space where farmers speak with investors, businesses meet science, policymakers listen to non-governmental organisations, and citizens see solutions. He emphasised the value of ecosystem services and mobilising both public and private capital so that environmental ambition and economic strength advance together across agricultural, forestry, urban and industrial soils. He welcomed

expanded engagement through the network of 37 Mission Soil Ambassadors – three of whom addressed participants earlier – and recognised EIT Food, a Mission Soil Manifesto signatory, for launching a Resilient Agriculture Academy to close skills gaps and link policy with practice. With 45 Living Labs already active, he urged partners to sustain momentum: the cost of inaction is higher than the cost of ambition, and collaboration through the Mission can turn innovation into solutions deployed on the ground. He concluded by thanking the Danish Presidency and organisers, noting that the Mission's flagship event is likely to convene again in 2026 in Ireland.

Day 2: Plenary sessions

1. Welcome and introductory remark

Brian Bech Nielsen, Rector of Aarhus University, welcomed the Permanent Secretary of the Danish Ministry of Green Transition, the distinguished EU representatives and representatives from Member States. He also welcomed the general audience, together with colleagues and partners, to the special event held on Day 2 of Mission Soil Week 2025 as part of the Danish Presidency of the EU. He remarked that, for this occasion, the Aarhus University motto *Solidum petit in profundis* ('We seek a firm footing in the depths') seemed particularly relevant.

Figure 10. Brian Bech Nielsen opening Day 2 of the European Mission Soil Week

The rector explained that Aarhus University is deeply engaged in the co-production of knowledge and innovation through collaboration with industry, as well as in delivering research-based advice for public policy. He explained that building on AU's strength in agricultural sciences, the university is involved in many Mission Soil projects and has been a core partner in the EU co-funded partnership EJP Soil, which held its final Science Days at AU earlier this year. AU is therefore pleased to host today's event, which will place healthy soils in the broader context of sustainable, multifunctional landscapes.

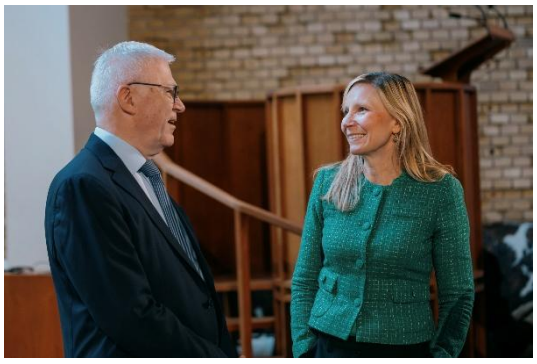
Figure 11. Brian Bech Nielsen and Maria Schack Vindum

This is because Denmark shares challenges with many European countries in finding ways to encourage healthy soil management as part of multifunctional land use that reduces greenhouse gas emissions from agriculture while preserving nature, water and food production. He continued that AU, together with its partners from the Ministry of Green Transition, wished to discuss the Danish approach of the Green Tripartite, considering other European experiences and perspectives on how to engage multiple stakeholders in land-use planning. The ongoing policy initiative is to engage a variety of stakeholders and to plan land-use transformations collectively at local and regional levels, in the hope of moving from division to dialogue. The rector also thanked the EU, especially the Directorate-General for Agriculture and Rural Development, and the Danish Ministry of Green Transition and its agency, for collaborating on this event.

2. Presentation: Tripartite agreement for a green transition of agriculture and land use

Maria Schack Vindum, Permanent Secretary of the Danish Ministry of Green Transition, presented the Danish Parliament's decision to implement policies aimed at reducing greenhouse gas emissions and nitrate leaching, while simultaneously promoting nature restoration and afforestation. This would be achieved using a traditional Danish governance tool: tripartite negotiations. This concept, which has been applied for decades in the labour market to set pay and working conditions, engages multiple stakeholders in finding solutions through compromises built on mutual respect for differing interests and perspectives.

Thus, in 2024, the Danish government collaborated with farmers, industry, trade unions, nature organisations and municipalities to develop the Agreement on a Green Denmark. Later that year, the government secured broad parliamentary support for its implementation through the political agreement, Implementation of a Greener Denmark. Together, these landmark agreements provided a framework for a sustainable transformation of Danish agriculture and addressed four key challenges: reducing greenhouse gas emissions from agriculture, limiting nutrient losses to aquatic environments, protecting nature and biodiversity, and safeguarding food production.

Figure 12. Maria Schack Vindum during the 'Tripartite agreement for a green transition of agriculture and land use' session

The plans would be developed at the catchment level in 23 regional Green Tripartites, each led by a municipality and involving local participants from the stakeholder organisations mentioned. The 23 local plans would set out how and where to rewet organic soils, protect biodiversity, meet regional targets to reduce nitrate run-off to aquatic environments, and ensure continued agricultural production. This would be achieved by designating specific areas for land-use change, accompanied by compensation and support for landowners.

3. Presentation: EU policies for monitoring and improving soil health

Henri Delanghe, Head of the Research and Innovation Unit in DG AGRI, emphasised the importance of implementing inclusive policies to achieve a more competitive and resilient agriculture. This is what the Strategic Dialogue and the Vision for Agriculture and Food aim to, by fostering trust and dialogue across the entire value chain within the EU. The Vision recognises healthy soils as the cornerstone of sustainable agriculture and resilient food systems, emphasises the role of knowledge, research and innovation as catalysts of change, and recognises the Living Labs of the Mission Soil as an unprecedented resource to support farmers. Mr Delanghe highlighted that the CAP plays a decisive role for soil health. The current CAP already supports millions of farmers who are improving their soils every day, and in the future, the proposed new CAP, with a budget of EUR 300 billion for farmer income support, positions soil health among the priority areas for which Member States will provide support to farmers. Mr Delanghe explained how science plays a key role in this context. The Commission's proposal for the next long-term EU budget almost doubles the budget for research and innovation and ensures continuation of funding for the EU Missions. Mr Delanghe recalled that Horizon Europe and the European Competitiveness Fund, collectively offer over EUR 40 billion for health, biotech, agriculture and bioeconomy research. The EU funding opportunities will give the tools to deploy and scale the scientific innovation work being carried out. He concluded with a forward-looking message for continued collaboration, investments and reforms for soil health and competitiveness in EU agriculture.

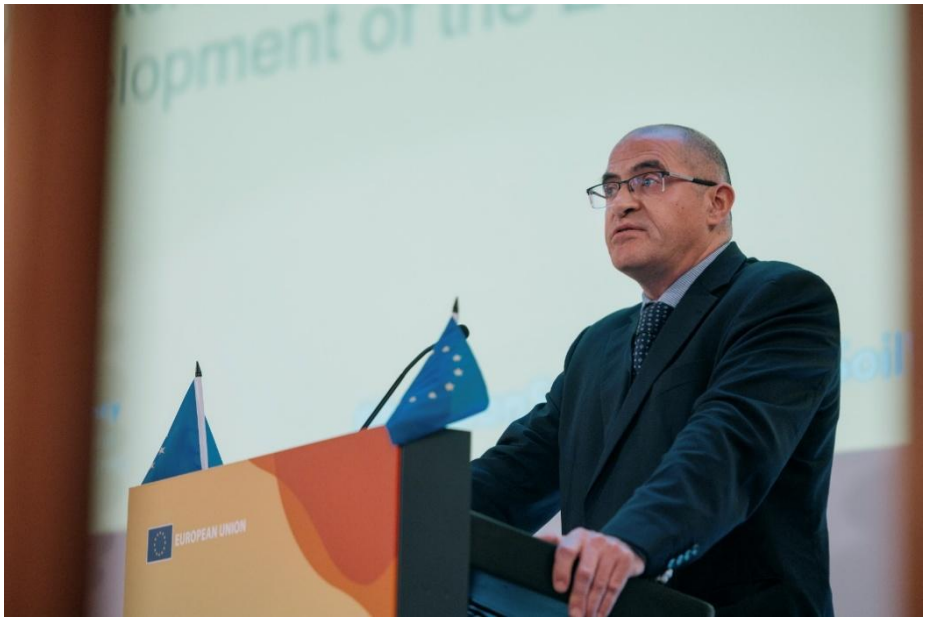

Figure 13. Henri Delanghe during the 'EU policies for monitoring and improving soil health' session

Ion Codescu, Acting Director for Biodiversity and Head of the Land Use and Management Unit at the Commission's Directorate-General for Environment, stressed how the recently adopted Soil Monitoring and Resilience Directive is a game-changer: soils finally obtain a self-standing acknowledgement and protection. Mr Codescu acknowledged the significant work that led to the design of the Soil Monitoring Law, from the prior impact assessment to its final adoption: a collaborative effort between the Commission, the European Environment Agency and the Council. Mr Codescu recalled that, despite the clear need for common rules at the EU level to protect this

finite resource, the legislative process involved lengthy discussions and compromises until a final consensus was reached. The Directive reflects a flexible approach, building on what has already been done on soil monitoring across the Member States. Mr Codescu went through the key provisions of the Directive and concluded by highlighting the need to work together to achieve healthy soils across Europe by 2050.

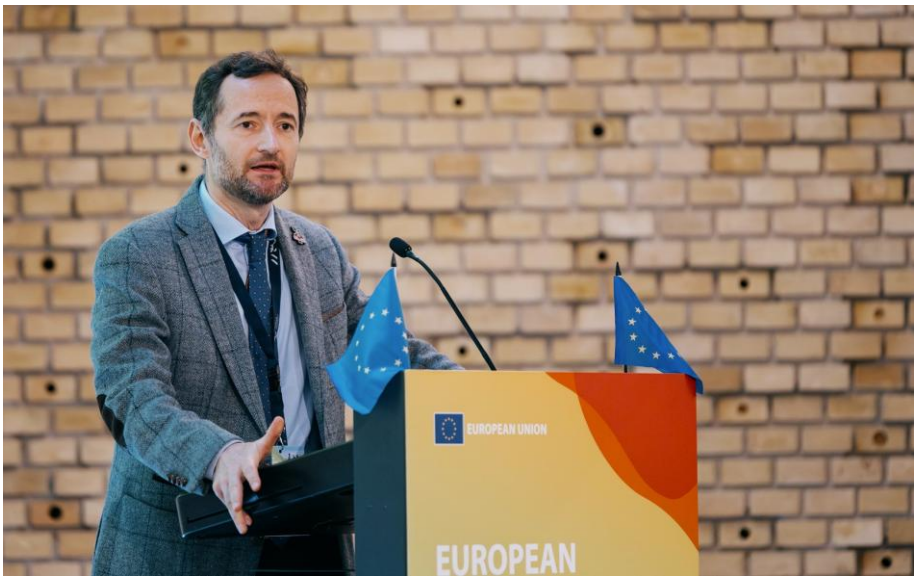

Figure 14. Ion Codescu during the 'EU policies for monitoring and improving soil health' session

4. Scientific keynote: Engaging stakeholders in multifunctional land use as part of the transition to European sustainable agri-food systems

Professor and Head of the Department of Agroecology at AU, Jørgen E. Olesen, presented results from consultations with an interdisciplinary group of researchers at, among others, AU, INRAE (the Institute for Research for Agriculture, Food and Environment) and Wageningen University & Research (WUR) on the most significant lock-ins blocking a sustainable transformation of European agri-food systems. The current challenges in European agri-food systems continue to revolve around: 1) sustainability of the resource base, 2) shocks and disruptions, 3) food system inequalities, 4) land-use priorities, and 5) heterogeneity of European farming systems. These challenges are closely related to land use and management, where the governance aspects are of particular importance. Current European policies have not managed to integrate efforts across these challenges. Thus, the EU Farm to Fork Strategy has – despite its high and useful ambitions – been ineffective in delivering the transition.

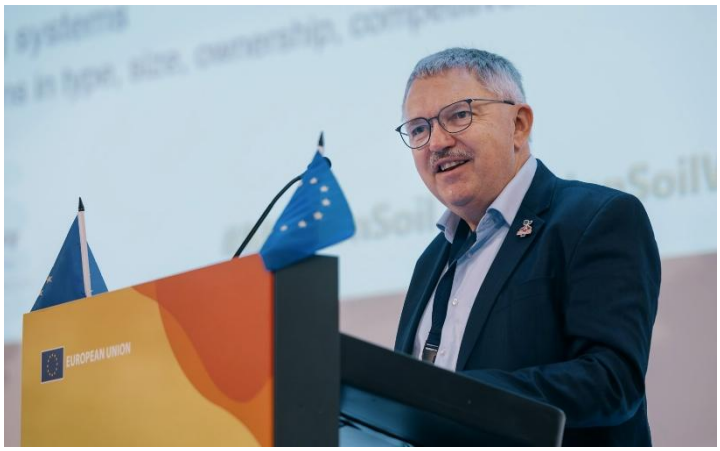

Figure 15. Jørgen E. Olesen during the 'Engaging stakeholders in Multifunctional land use as part of transition to European sustainable agri-food systems' session

The lack of progress stems primarily from lock-in mechanisms, which are self-reinforcing feedback loops that maintain a fixed development path. There is therefore a need to explore strategies that can unlock the current unsustainable development pathways. Overcoming the wide range of lock-ins requires coordinated responses that address multiple aspects across value chains and land uses, as well as the involvement of all relevant actors and stakeholders. It also requires a common understanding of critical elements, including sustainability targets at both global and local scales and business models that include the transition process. Examples where such involvement has resulted in sustainable unlocking include the tripartite agreement for a green transition in Denmark and the taxation of pesticides in Denmark. There is a need to further develop mechanisms that support this unlocking, and the use of Living Labs provides one such mechanism. This involves collaborative environments for developing and testing innovations in real-world conditions through the co-creation of solutions by diverse stakeholders such as farmers, researchers, businesses and citizens. Properly functioning Living Labs help overcome many of the lock-ins.

Panel: From division to dialogue for sustainable land use in support of resilient production with climate mitigation and environmental protection: Is the Danish example relevant from a European perspective?

In the pursuit of sustainable land use, the panellists aimed to engage investors, the public and the land users through continuous and open dialogue. However, the panel asked whether it was that easy. Firstly, the panellists acknowledged that there were different interests. Second, they noted that common ground had to be established.

This panel explored how this had been done in Denmark, highlighting good practice and discussing how the Danish tripartite agreement for a green transition (and the new Danish ministry responsible for it) could demonstrate the implementation of EU strategies at both national and local levels.

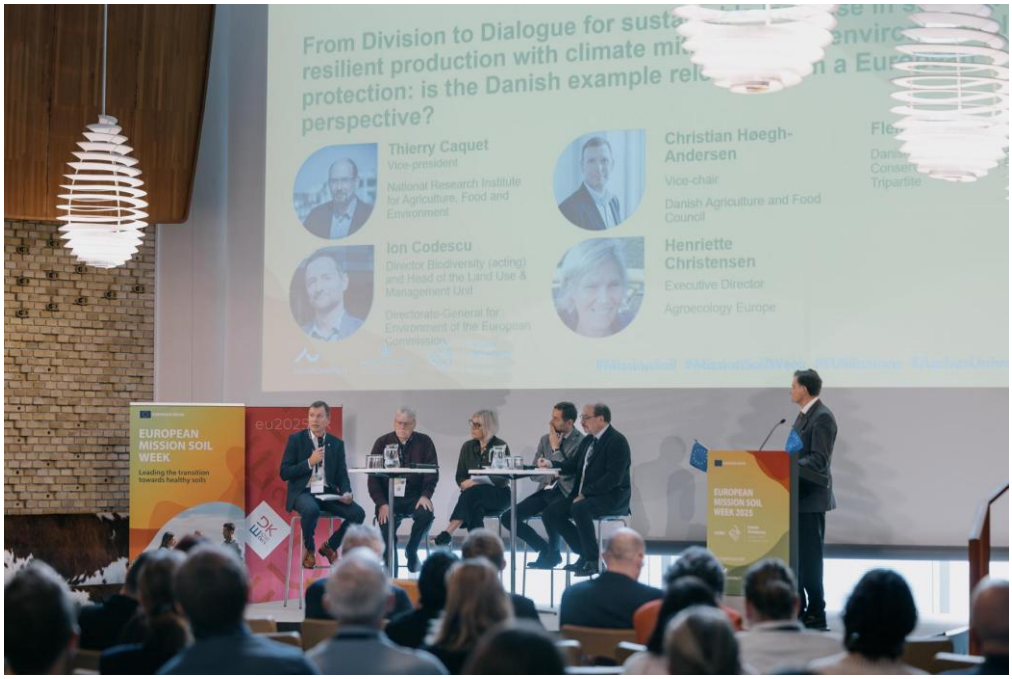

Figure 16. Christian Høegh-Andersen, Flemming Kofoed, Henriette Christensen, Ion Codescu and Thierry Caquet and Niels Halberg during the 'From Division to Dialogue for sustainable land use in support of resilient production with climate mitigation and environmental protection' session

The moderator, Niels Halberg, Senior Researcher at the Department of Agroecology at Aarhus University, introduced this framework with a short description of the five panellists, who represented different stakeholders at local, national and EU levels.

Christian Høegh-Andersen, Vice-Chair at the Danish Agriculture & Food Council and Vice-President at Copa Cogeca, acknowledged the importance of diverse stakeholder representation and local voices in the discussion of the Danish tripartite. Mr Høegh-Andersen explained how the agreement not only considered the views and values of stakeholders, but depended on them. This is also why Mr Høegh-Andersen, as a fourth-generation farmer himself, pointed to the co-creation process of the tripartite as encouragement for farmers to take part. He viewed legislative issues from top-down and bottom-up perspectives. Having made many visits to Brussels, he acknowledged the difficulty of implementing change through a top-down approach. Instead, he pointed to local communities, and that they should have a greater responsibility in structuring the plan, leading to real change over time.

Flemming Kofoed, Danish Society for Nature Conservation and Nissum Fjord Tripartite, underlined how Denmark's inland waters were suffering from nutrient run-off from agriculture. Mr Kofoed's solution to this was close cooperation between stakeholders from the aquatic and agricultural sectors. Despite their differences of interest, Mr Kofoed believed it was imperative for these diverse actors to align around their common values and ensure the conservation of the Danish marine waters by improving soil health, biodiversity and groundwater. Encapsulating both a will and a way, Mr Kofoed wished for the wildlife and fish to be able to thrive once again in open waters around Denmark.

Ion Codescu described the Danish tripartite from an EU perspective by calling it 'extremely promising and positive'. Mr Codescu was preoccupied with the fact that the tripartite was one of the few examples of such broad national agreements within the EU. He expanded this view by saying, 'I think we need it everywhere'. Taking inspiration

from a visit to the Danish municipality of Roskilde, he gave local communities, authorities and companies much credit for their collaboration. Highlighting the long-term impacts of the Roskilde forestry programme, such as lower soil pollution from pesticides, nitrogen and nitrates, he said this project showed how long-term solutions could be more cost-effective. In this way, change not only served the EU's climate goals but also the economic interests of local communities, making the Tripartite an agreement with both affordability and ecological benefits. Mr Codescu emphasised how needs were often interlinked, making the understanding of common denominators crucial for co-creation and co-development. He ended by recognising that solutions would not come immediately, but noted that continuous collaborative work would generate results and better solutions over time.

Henriette Christensen, Executive Director at Agroecology Europe, presented Agroecology Europe's project: the Strategic Dialogue for the Future of EU Farming. Comparing this with the Danish tripartite negotiations, Ms Christensen recognised that the development of Agroecology Europe's Strategic Dialogue had been a time-consuming endeavour and that there was no way around it. According to her, the Danish tripartite was inspiring for other countries because a ministry had been established to take it forward, ensuring ongoing mediation. However, Ms Christensen also believed that the Danish model could learn from other countries when it came to establishing multifunctional agriculture.

Ms Christensen argued that Danish agriculture should stop relying on the same model of increasing exports and technology when problems arose. Instead, she pointed to Sweden and Finland, where problems are addressed before they emerged. She differentiated between preparedness and competitiveness as strong but distinct modes of combating climate change. On this basis, Ms Christensen situated the Danish model as competitiveness-oriented: efficient but not as sustainable and efficient as it promises to be. She added that Denmark should learn from the self-sufficiency and policy reflections of Finland and Sweden.

Thierry Caquet, Vice-President at INRAE, opened his presentation with a remark on Ms Christensen's reflections on different agricultural models. Mr Caquet emphasised that Europe's diversity called for a diverse agricultural model. At INRAE, they were working to improve the future of agriculture with a conscious effort to avoid relying on a single, uniform model.

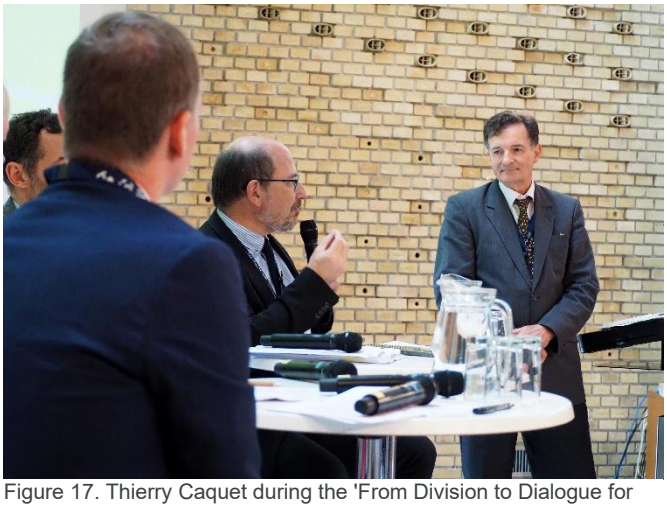

Figure 17. Thierry Caquet during the 'From Division to Dialogue for sustainable land use in support of resilient production with climate mitigation and environmental protection' session

Given the challenges of climate change adaptation, climate change mitigation and sustainable development of agriculture, Mr Caquet believed it was crucial for policy to be advised by science, which is what they were doing at INRAE. Within this framework, the ambition was to improve the dialogue between the different components of society, while supporting ministries, agriculture and environmental research, and providing results for the European Commission.

'Something which is striking to me is that the most efficient dialogue and the improvement that we see in the field comes from local initiatives'. Referring to his experiences with local initiatives in France, Mr Caquet explained how these initiatives had shown, that a fruitful process began with including the farmers.

He acknowledged that processes were often widened and became more complex when they followed state initiatives, where farmers, businesses, trade organisations, citizens, and local authorities all had voices to be heard. Given the number of partners and stakeholders and the range of interests, it was difficult to reach an agreement. In this context, he emphasised the importance of dialogue, explaining that it was not imperative to agree on everything. However, by recognising differences and finding both common ground and areas of disagreement, it was possible to establish the groundwork for co-creation.

Questions and answers (Q&A)

After the individual presentations and discussion of the moderator's questions, there were many questions from the audience. The questions were captured by Slido, making it possible for both on-site and online participants to ask questions. As many questions as possible were presented to the panel by the moderator.

The questions covered both the Danish system and the overarching laws and policies of the EU. The Soil Monitoring Law took up a large portion of the EU-related questions, which encompassed how Member States would be supported financially, and how soil monitoring would add an additional administrative burden for farmers (for example, more paperwork). This led the panel to a discussion of barriers (in both Denmark and the EU) that were keeping farmers from engaging in new initiatives, and how to overcome these barriers.

Endnote

The panellists agreed that transitioning towards healthier soils and sustainable farming was essential, despite the challenges. Danish farmers generally accepted the compromise but required new solutions and support. Authorities aimed to reduce bureaucracy and leverage tools such as soil monitoring and Living Labs to facilitate the transition. Responding to a question from the audience on the consequences of taking out agricultural land for Denmark's food security, it was noted that a major part of Denmark's land use was for livestock feed, most of which was exported together with Denmark's large seed production. Thus, the consequences of limiting production should be seen in a broader European perspective, where challenges of food resilience make innovation and the preservation of soils and biodiversity critical. Farmers would be compensated for land taken out of production, and consistent policies were vital to maintaining trust, which was the focus of the following panel discussion.

5. Scientific keynote: Soil monitoring and management as a key factor in sustainable, multifunctional land use

Mogens H. Greve, Professor at Aarhus University and coordinator of the AI4SoilHealth project, highlighted in his presentation the urgent need for improved soil monitoring and management to enable sustainable and multifunctional land use across Europe. He emphasised that soils had long been unprotected and that the EU Soil Strategy for 2030 aimed for healthy soils by 2050, though the timeline was tight and significant action was still required. He briefly introduced the AI4SoilHealth project and explained how it supported the implementation of the Soil Monitoring Law by providing scientific insights and tools. Two key contributions were:

- **EcoDataCube.eu** – a comprehensive data platform offering high-resolution soil and land information, such as soil organic carbon, pH, texture, land cover, vegetation indices and field boundaries.

- **The Mass Experiment** – the world's largest student science initiative, in which thousands of students collect soil health data for scientific research, increasing public engagement and scientific understanding.

The presentation stressed that achieving healthy soils by 2050 required immediate action, political support and strong engagement from farmers, citizens and non-governmental organisations. Mr Greve also introduced the concept of soil care – targeted mitigation practices to achieve healthy soils. He described the concept as a practical, remotely monitorable and easy-to-implement approach that can be integrated into the CAP to motivate better soil management.

Figure 18. Mogens H. Greve during the 'Soil monitoring and management as a key factor in sustainable, multifunctional land use' session

Panel: How can policies and governance at EU, national and local levels promote sustainable land and soil use?

Moderated by **Niels Halberg**, the second panel of the day explored how the transition to sustainable, multifunctional land and soil use depended on a combination of public regulation, support schemes and structured stakeholder dialogue. Under the theme of policies and governance, the discussion focused on co-creation and locally embedded planning as key factors for successful implementation.

Peter Østergaard Have, Vice-Director at the Agency for Green Transition and Aquatic Environment, referred back to the previous presentation of the Danish Tripartite Agreement by Maria Schack Vindum. Highlighting the key challenges of modern agriculture (climate, environment and biodiversity), he expressed how the Agency for Green Transition and Aquatic Environment played a prominent role in implementing the tripartite agreement in Denmark.

Mr Østergaard Have stated that stakeholder engagement was the very essence of a tripartite agreement. The agency aimed to engage stakeholders by emphasising how emission taxes and a revision of national nitrogen

regulations would create stronger incentives for landowners to convert agricultural land into nature areas, wetlands and forests. Highlighting the purposes of peatland restoration and afforestation, he underlined the importance of multifunctionality in agricultural practice.

Mr Østergaard Have explained that the agreement was established through representatives from all stakeholder groups, and that local conversion plans followed the same collaborative approach, with landowners directly involved. In some cases, this included land consolidation, while ensuring compensation for economic losses. He added that the agency was working intensively to implement the agreement's potential and would continue toward 2030 and beyond.

Henri Delanghe presented the EU's contribution, built on three pillars: a common framework, institutionalised dialogue and the provision of financial resources.

The common framework stems from EU legislation and shared objectives. From the EU level to Member States, municipalities and farmers, he explained how common policies are implemented in local, concrete agricultural practices.
Institutionalised dialogue builds on the Strategic Dialogue on the Future of EU Agriculture and the Vision for Agriculture and Food. The EU has proposed the next CAP, granting greater autonomy to Member States through new national and regional partnership plans. These would involve substantial dialogue at different policy levels within Member States and with the Commission, and the process would be guided by the Commission's recommendations. The resulting plans would form the framework for future action and would be thoroughly evaluated throughout each development phase.

Mr Delanghe concluded by underlining the funding and financial resources – from the CAP, Horizon Europe and the proposed European Competitiveness Fund – that will strengthen and enable these initiatives.

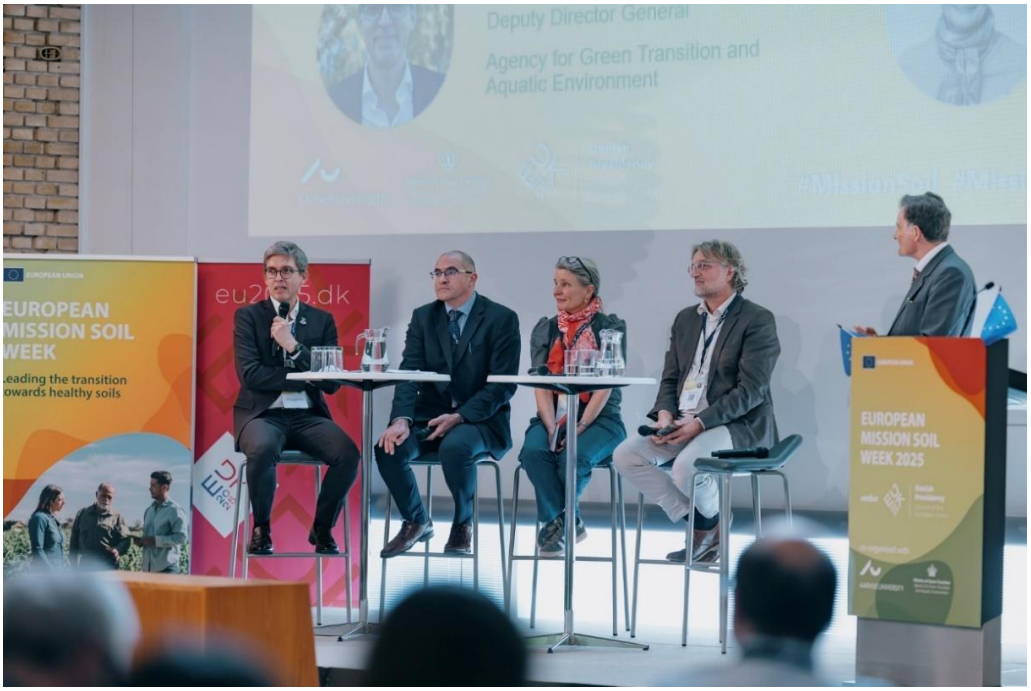

Figure 19. Peter Østergaard Have, Henri Delanghe, Marie-Louise Bretner, Rainer Baritz and Niels Halberg during the 'How can Policies and Governance at EU, National, and Local levels promote Sustainable Soil and land use?' session

Marie-Louise Bretner, Senior Consultant at the Green Tripartite Unit at the Danish Government, set out a bottom-up perspective of the Danish tripartite. Working for the Danish government, Ms Bretner worked at the local level with the organisation of the tripartite in Danish municipalities. Ms Bretner explained that the goals and elements of the Green Tripartite were not new; what was new was the way these goals were organised and implemented at the national level. By creating a new space for dialogue, the tripartite organised co-creation and thus transformed agreements into real change; Ms Bretner calls this a 'new paradigm'.

The goals of the tripartite agreement, such as reducing CO_2 and nitrogen losses by retiring agricultural land and restoring it to natural habitats, were pursued through continuous dialogue between the state and municipalities. Ongoing dialogues and negotiations showed where past mistakes had been made, and Ms Bretner emphasised how much the municipalities gained by joining the tripartite. In the past, when new policies set new goals that became new regulations, municipalities were left with unrealistic implementation plans. This had changed through constant dialogue between the state and municipalities, giving rise to negotiation tools and a spirit of co-creation, and resulting in realistic regulations for both state and municipalities.

Rainer Baritz, Soil Expert at the European Environmental Agency, emphasised the importance of bridging gaps between policy, governance and practical implementation in soil management. He praised initiatives such as the tripartite agreement and highlighted the inspiring visions presented by the three Ambassadors, noting that governance remains a critical challenge. At the EU level, Mr Baritz explained that while land-use statistics suggested progress toward sustainable practices (particularly on grasslands), current monitoring did not provide clear evidence of impacts on soil health. Rising levels of cadmium, copper, zinc and pesticide residues underscore this disconnect. He stressed that the forthcoming Soil Monitoring Law offered a major opportunity to close these information gaps by delivering high-resolution, EU-wide data tailored to practitioners' needs. Beyond tracking trends, the law should provide actionable insights on soil functions and ecosystem services, enabling farmers to make informed decisions based on local measurements of carbon, nutrients and water retention. Mr Baritz concluded by calling for stronger farm advisory systems and collaboration with grassroots organisations, noting their vital role in scaling solutions and supporting regenerative practices.

Questions and answers (Q&A)

The Slido Q&A session reflected broad interest in both policy and practical implications. Questions ranged from EU-level concerns about data collection and transparency to how to improve public participation and education on agricultural policies, as well as social impacts such as food prices and market dynamics. Participants asked how authorities could ensure affordable food for local communities when land was bought out and whether farmers risked being undercut by cheaper imports. At the Danish level, questions focused on accountability within the tripartite agreement, including whether incentives or penalties existed for farmers and municipalities if targets were not met.

Endnote

The panel highlighted the central role of dialogue in shaping sustainable agricultural practices across Europe. Peter Østergaard Have emphasised Denmark's tripartite agreement as a collaborative tool to reduce CO_2 and nitrogen losses through land conversion, peatland restoration and afforestation, stressing stakeholder engagement and multifunctionality. Henri Delanghe outlined the EU's common framework and the institutionalisation of dialogue, granting Member States autonomy to design partnership plans aligned with EU goals, supported by financial resources. Ms Bretner presented the local perspective, describing the tripartite as a 'new paradigm' that transformed

top-down regulations into co-created, realistic solutions through continuous state–municipality dialogue. Rainer Baritz underscored the need to bridge gaps between policy and practice, advocating for the Soil Monitoring Law to deliver actionable, high-resolution data and strengthen farm advisory systems, while supporting grassroots initiatives for regenerative farming.

6. Scientific keynote: Which market incentives may support sustainable soil management? The case of regenerative soil management practices

Greet Maenhout, Deputy Director of Directorate D (Sustainable Resources) at the Joint Research Centre (JRC), illustrated how the JRC was providing scientific support to EU soil policies. In her presentation, Ms Maenhout reflected on the market incentives that could support sustainable soil management, with three examples: remediation of contaminated sites, carbon farming and regenerative agriculture. Furthermore, she highlighted the role of the EU Soil Observatory, for which her team was responsible, and the role of the Mission Soil Living Labs, and how they were important in enabling competitiveness.

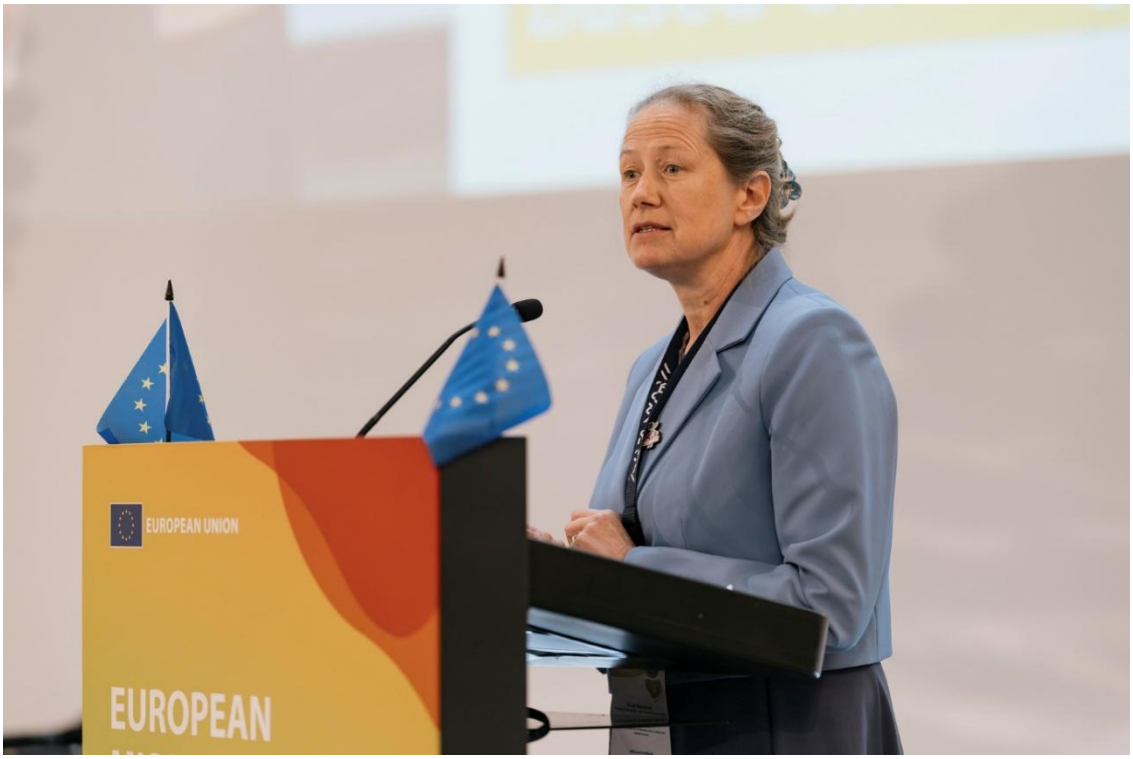

Figure 20. Greet Maenhout during the 'Which market incentives may support sustainable soil management? The case of regenerative soil management practices' session

Panel: Engaging land and soil managers in co-creation in Living Labs: experiences and challenges

Moderated by **Luis Sanchez Alvarez, Head of Sector in the Research and Innovation Unit at DG AGRI, European Commission**, the last panel of the day explored how engaging land and soil managers in co-creation within Living Labs was essential for driving innovation and achieving the Mission Soil's goals. Under the theme of experiences and challenges, the discussion focused on building trust, translating scientific concepts into practical solutions and creating long-term sustainability beyond short-term funding cycles. The panel highlighted the importance of social dynamics, economic incentives and networks that connected farmers, researchers and stakeholders to foster shared responsibility for soil health.

Andrea Fiorini, Living Lab SHARE and Mission Soil project LILAS4SOILS, described engaging soil managers in co-creation as one of the most promising yet demanding aspects of the Mission Soil approach. It meant moving beyond participation toward shared authorship of solutions. For LILAS4SOILS, which worked mainly with farmers managing intensive cropping systems, the challenge was maintaining productivity while improving soil health under economic pressure and tight timelines. Engagement had to be grounded in trust, relevance and clear value for daily work, not just enthusiasm.

Co-creation was an ongoing process that connected scientific goals with farmers' priorities and local realities, translating concepts such as soil health into practical decisions. This translation required time, humility and creativity. Living Labs created spaces where research and practice met, but tensions remained between scientific ambitions and practical feasibility, short-term funding and long-term relationships, and innovation targets and local diversity. Ms Fiorini also highlighted the need to involve other stakeholders in addition to soil managers, such as agri-industry, authorities and civil society, to build true innovation ecosystems and raised concerns about how Living Labs would survive beyond current funding cycles.

Lisbeth Henricksen, Chief Executive Officer at SEGES Innovation, explained that SEGES had worked for decades with principles similar to the core values of Living Labs. Bridging universities and practitioners by translating research into practice, they conducted research and innovation on farms, ensuring farmer engagement and higher implementation rates. Living Labs were seen as an upscaling of this approach and were crucial for addressing complex challenges. SEGES had tested small-scale Living Labs in Denmark, such as peatland restoration, involving farmers, non-governmental organisations, decision-makers, and researchers in trial-and-error processes that produced shared solutions. Ms Henricksen expressed a strong ambition to establish a large-scale European Living Lab anchored in Denmark, emphasising the need to account for diverse local conditions. She highlighted the importance of partnerships with industry, universities and farmers to tackle issues such as climate-efficient food and regenerative agriculture. Finally, she stressed that Living Labs had to become self-sustaining economic ecosystems rather than relying on continuous public funding.

Christiana Gardikioti, Living Lab Thyrea and Mission Soil project BirtGOV4ALL, described the journey of creating a bioeconomy hub in Thyrea, Greece, a region where such an initiative had been considered unrealistic. She emphasised the difficulty of engaging farmers who initially felt disconnected from new concepts, noting that communication often felt like 'speaking in tongues'. Through nine engagement sessions, bringing together 850 participants with nearly 50% women, the Living Lab succeeded in transforming formal meetings into inclusive, community-driven conversations. These gatherings, called 'fertile dialogues', aimed to move beyond discussion to tangible action. Examples included forming a fire prevention committee in response to local needs and rediscovering traditional farming practices through collaboration between farmers and scientists. Women had taken a central role, acting as natural leaders and expanding participation by inviting others.

Ms Gardikioti stressed the importance of shifting societal perceptions of farming, which often carried stigma compared to more prestigious professions. She called for initiatives that promoted pride in primary production and suggested technology, education and farming talks as alternatives to the genre of 'TED Talks'. Engagement, she concluded, was extremely challenging because it required changing behaviours and deeply rooted beliefs, but it was essential for co-creation and long-term transformation.

Beate Caldewey-Samaras, consultant and farmer in Greece, discussed the challenges of engaging farmers in co-creation within Living Labs. She began by highlighting how habits and comfort often overrode knowledge, even among experts, and stressed the importance of humility in driving change. Representing the European Alliance for Regenerative Agriculture, she noted that many farmers already practised regenerative methods, but the main barrier was a mindset shift away from conventional norms. Living Labs added value by providing social proof and visibility, turning theoretical concepts into relatable practices. However, recognition alone did not trigger transition; farmers needed tangible incentives such as lower costs from avoiding fertilisers and pesticides and higher prices for sustainable products. Ms Caldewey-Samaras emphasised that co-creation had to go beyond research to address social dynamics, trust-building and practical benefits. She also pointed out fragmentation among Living Labs and called for stronger connections and strategies for post-implementation impact. Success, she concluded, depended on making change appealing and creating networks that supported long-term transformation.

Lenora Ditzler, WUR and the Global Network of Lighthouse Farms, emphasised the importance of recognising pioneering farmers as central actors in co-creation processes. She explained that Lighthouse farms were real-world commercial farms, not experimental sites, and were considered '50 years ahead' in sustainability innovations. These farmers challenged norms and developed transformative models within restrictive policy environments, though their approaches could not simply be replicated. Instead, she said the question was how to enable others to adopt similar innovations.

Ms Ditzler highlighted the concept of 'return on inspiration', and stressed that these farms should be seen as sources of inspiration rather than mere demonstration sites. Support through communities of practice, such as Living Labs, was crucial, as many innovative farmers felt isolated. She underlined the need for co-creative research agendas built with farmers and the importance of feeding scientific insights back into education. Through the Lighthouse Farm Academy, students and professionals engaged directly with farmers, co-teaching and learning on site, creating a dynamic platform for innovation and knowledge exchange.

Questions and answers (Q&A)

The Q&A session addressed how to motivate farmers while navigating legal and social complexities. Key themes included knowledge sharing, visibility and avoiding oversimplified farmer profiles. Discussions covered managing stakeholder relationships in co-creation and the economic implications of engagement, including potential risks and benefits. Questions focused on finding the right engagement and project purpose, motivating farmers, managing multi-actor dynamics, identifying positive economic factors, and exploring future upscaling of Living Labs.

Endnote

The panel highlighted that co-creation in Living Labs was both promising and demanding, requiring a shift from participation to shared authorship of solutions. Engaging farmers and soil managers meant listening to their needs and creating long-term value beyond short-term funding cycles. Speakers stressed the importance of practical relevance, trust and economic incentives, alongside time, humility and creativity. Lighthouse farms were presented

as sources of inspiration, challenging norms and stigma around farming, while Living Labs offered community and social support to reduce isolation among innovators. Co-creation had to connect scientific goals with farmers' priorities and local realities, translating concepts like soil health into actionable practices. Finally, the panel called for stronger networks between Living Labs and sustainable business models to ensure continuity and impact.

7. What did we learn today – soil health as part of the transition to sustainable land use and food systems in Europe

Rachel Creamer, Professor at WUR, gave a personal reflection on the day's outcome and remarked on how engaged the audience had been in asking insightful questions during the panel discussions. She also credited participants in the three panels for their willingness to engage in dialogue with each other across the stakeholder interests represented, and for their constructive responses to questions from the audience. For her, a main take-home message was the need to embrace the idea of multifunctional land use, to seek synergies between the many objectives and to unlock the transformative potential of establishing and maintaining dialogue between stakeholders.

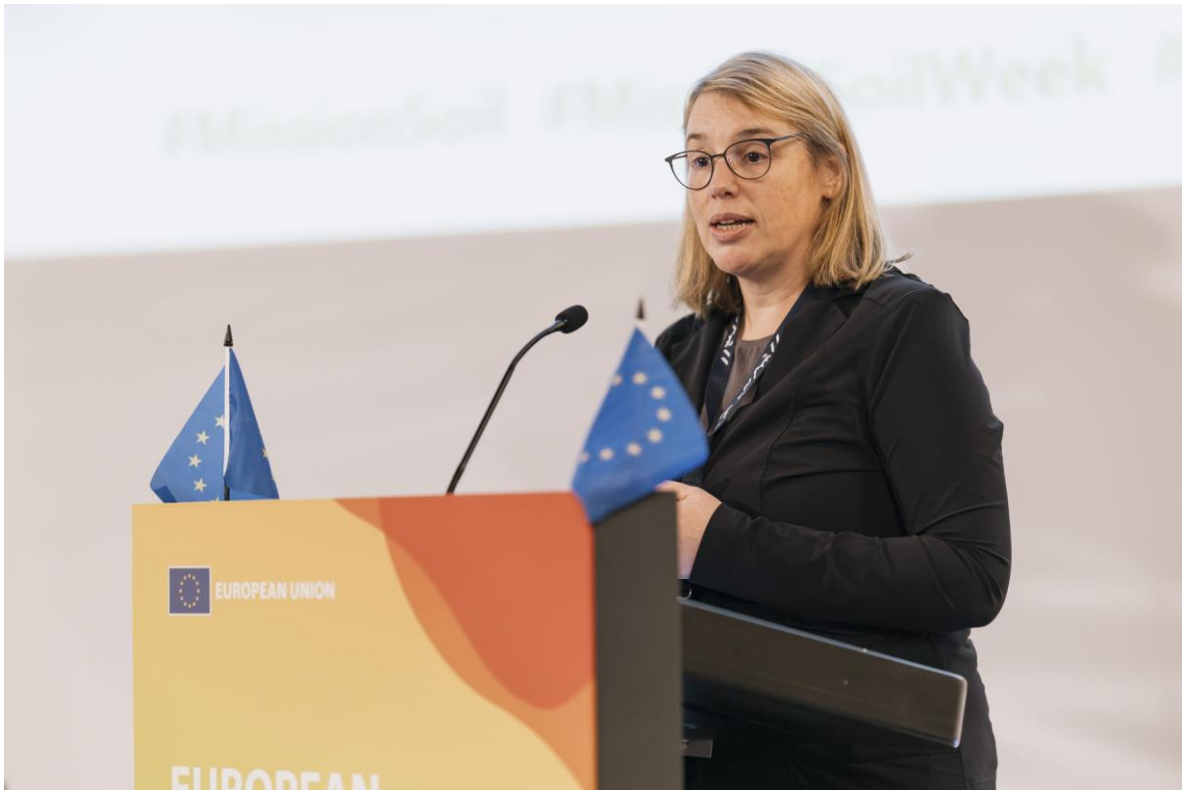

Figure 21. Rachel Creamer during the 'What did we learn today – Soil health as part of transition to sustainable land use and food systems in Europe?' session

8. Closing remarks and next steps

Eskild Holm Nielsen thanked all presenters and panellists for their interesting contributions to an important agenda for Denmark and Europe and greeted on-site and online participants for their participation and role in making this a memorable day. Aarhus University and the faculty of technical sciences would remain active in this research field drawing on their long tradition for co-creation with stakeholders from farming and industry. They would continue to translate scientific insights into advice to policymakers and stakeholders. He wished all participants goodbye and a safe trip home from Aarhus.

Figure 22. Eskild Holm Nielsen during 'Closing remarks and next steps' session

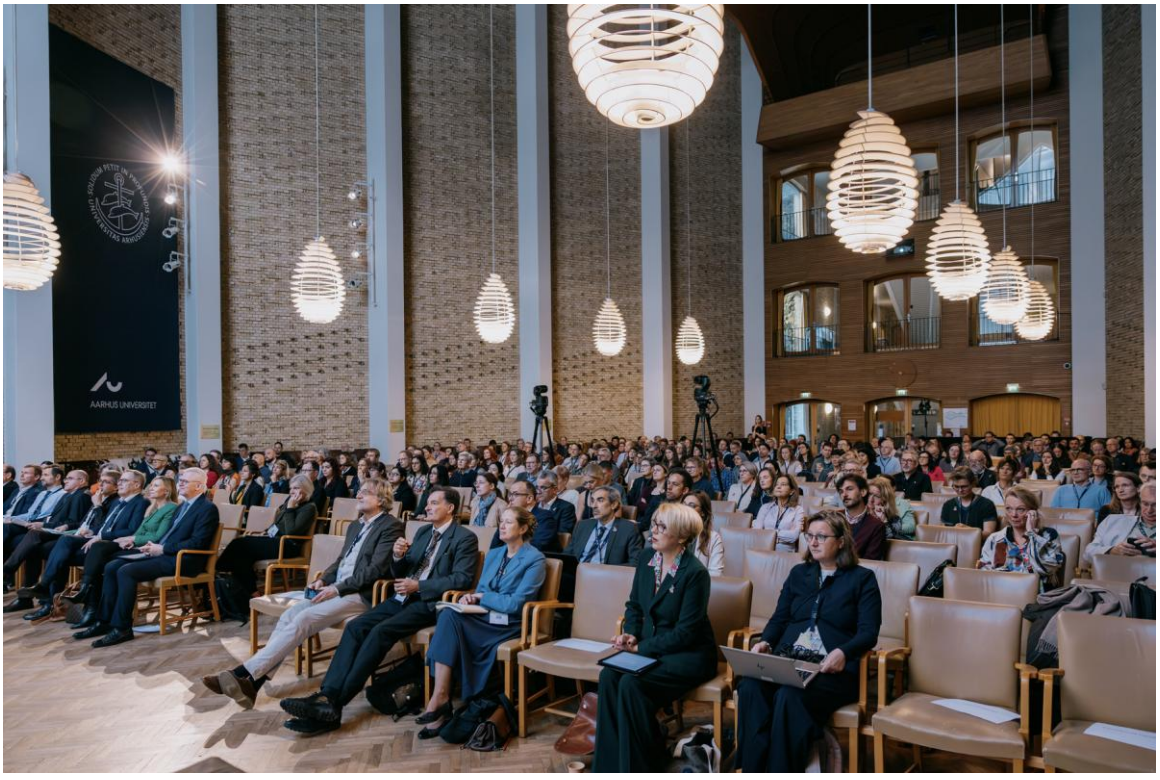

Figure 23. Moderators, panellists and participants during Day 2 of the European Mission Soil Week

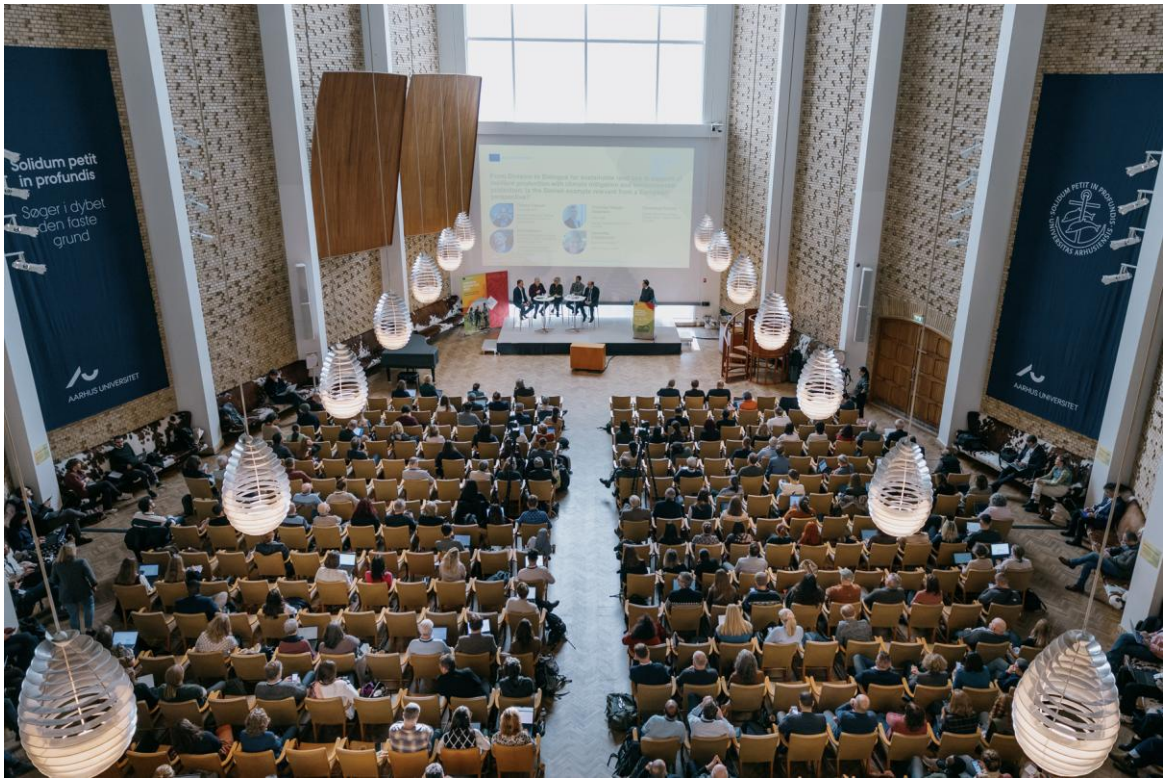

Figure 24. AU Aula during the Day 2 of the European Mission Soil Week

Breakout sessions

1. Leveraging soil health for successful agricultural business models

The breakout session 'Leveraging soil health for successful agricultural business models' gathered experts and practitioners to explore how innovative business models in the agricultural sector can restore soils while delivering financial returns. **Gerald Schwarz**, **Project Coordinator at the Thünen Institute of Farm Economics**, opened with insights from the **SoilValues** project, explaining that investment in soil health is driven by diverse motivations, from policy goals such as biodiversity and climate mitigation to farmers' needs for crop quality and cost savings, and citizens' interest in nutritious food and landscape value. He introduced the 'Flourishing Business Model Canvas' as a framework for assessing desirability, feasibility, and viability, stressing the importance of co-creation, partnerships, and social innovation. Case studies from six European countries illustrated approaches such as composting networks, regional cooperatives, and regenerative farming, highlighting that barriers and enablers are highly context-specific.

Figure 25. Panellists during the 'Leveraging soil health for successful agricultural business models' breakout session

The panel discussion, moderated by **Adrián Ferrero**, **co-founder and CEO of Biome Makers and Mission Soil Board member**, brought contrasting perspectives from farming, corporate, and research backgrounds. **Perrine Bulgheroni, Mission Soil Ambassador, farmer and co-founder of LaFerme du Bec Hellouin, now consultant and teacher**, warned of a looming generational crisis, noting that nearly half of farmers will retire by 2030 and young entrants face severe land access challenges. She argued that the development of solutions should start with farmers and called for systemic and simple solutions, which have worked since the dawn of agriculture. She also noted that climate change advances faster than new technologies. **Alicia Abendroth Vosloo**, **Senior Partnership Manager at EIT Food** with practical experience from a formerly family-owned apple orchard, echoed the need for diversity in practices, pointing out that organic and low-input systems offer viable alternatives to conventional chemical-intensive farming. **Joséphine Raynaud, Head of Development and Partnerships at Genesis**, emphasised the corporate viewpoint, explaining that soil degradation threatens supply chain continuity and product quality, making soil health a strategic business concern**. Victor Burgeon**, **agronomist and research specialist at Soil Capital**, stressed that farmers must lead and see tangible financial benefits, describing Soil Capital's value-based approach and the importance of translating scientific knowledge into practical tools. Across the discussion, panellists agreed on the need for common language and standardised metrics to bridge gaps between farmers and corporates, while also highlighting resilience and collaboration as critical success factors.

The Q&A session focused on systemic issues and practical solutions. Participants questioned the reliance on corporate methods to assess soil health and called for farmer-centric approaches. Panellists suggested intermediaries to link farming, corporate, and institutional worlds, and highlighted corporates' ability to mobilise resources. Consumer engagement was another theme: while soil health labels are emerging, retail involvement and transparent data were seen as key to influencing purchasing decisions. Questions on indicators and definitions revealed the need for rigorous co-designed metrics and regional benchmarks, with panellists advocating pragmatic approaches over perfect systems.

Conclusions

- **Scaling soil health business models** requires a mix of financial and non-financial incentives tailored to local contexts.
- **Mentoring and peer-to-peer learning** are essential for stabilising and amplifying impact.
- **Transforming relationships and institutions** is key to embedding soil health as a social innovation.
- **Harmonised yet flexible metrics** must be co-designed with farmers and adapted for corporate use.
- **Public authorities, research platforms, and collaborative networks** play a pivotal role in enabling adoption.
- **Consumer engagement and retail transparency** are critical in creating demand for soil-friendly practices.
- **Multiple amplification pathways**, including demonstration farms and regional benchmarks, are needed to scale and deepen impact.

2. Innovative financial mechanisms for scaling soil health in forestry

The breakout session 'Innovative financial mechanisms for scaling soil health in forestry' examined emerging financial tools that can support soil-health improvements in forestry, highlighting EU-funded research, practical approaches, and the role of market-based instruments. It combined presentations with a panel discussion bringing together perspectives from research, practice and policy. The session was introduced by **Luis Sanchez Alvarez, DG AGRI**. The moderator, **Teresa Pinto Correia, Professor at the University of Évora and Vice-Chair of the Mission Soil Board**, stressed that soil health extends well beyond agriculture and that forest soils require dedicated attention due to their extent and ecological importance across Europe.

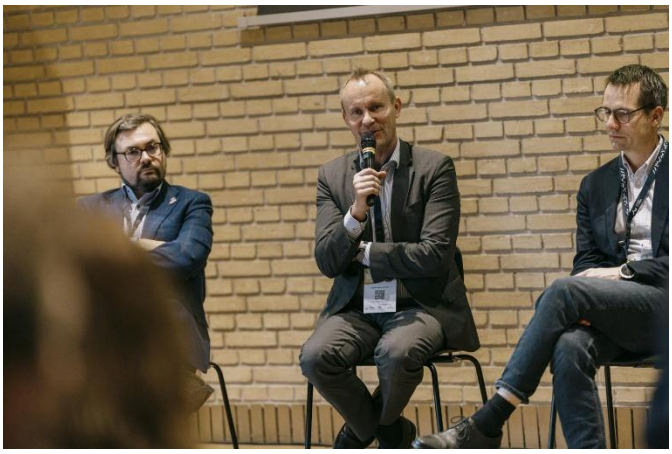

Figure 26. Panellists during the 'Innovative financial mechanisms for scaling soil health in forestry' breakout session

Thomas Lundhede, **Associate Professor, University of Copenhagen**; **INTERCEDE project**, introduced the work of INTERCEDE on incentivising forest ecosystem services and future income streams. He outlined the project's assessment of market-based instruments (MBIs) in Europe, noting that 64 existing instruments have already been identified and analysed. He explained how the project examines both the supply and demand sides of forest ecosystem services, conducts co-creation with landowners, NGOs, policymakers and industry, and develops a policy framework and guidelines for setting up MBIs. Mr Lundhede also highlighted challenges associated with carbon and biodiversity credits, including integrity concerns and differences in forest conditions across Europe that influence investment feasibility.

Austra Zuševica, **Latvian State Forest Research Institute Silava; InBestSoil project**, presented emerging financial mechanisms relevant to soil health, including carbon and nature credits, payments for ecosystem services, and blended finance. She described InBestSoil's work on developing a valuation framework for soil ecosystem services, applied across contrasting forestry lighthouse sites in Mediterranean and Boreal conditions. Case studies showed how practices such as rotational grazing can support restoration, and how degraded soils, such as former mining areas, require long-term investment despite limited direct market value. She noted that detailed monetary valuations will be included in the project's next deliverable.

Marko Mäki-Hakola, Director of Forestry, MTK Finland, presented Luontoarvot.fi, a Finnish digital marketplace enabling the buying and selling of nature values. He explained that the tool supports voluntary ecological compensation, provides alternative income sources for forest owners, and helps standardise nature-value products. Finland's existing timber-market data systems and digital forest-owner services support the marketplace's development. Mr Mäki-Hakola identified successes such as strong political interest and early-stage market growth, alongside challenges including lack of standardisation, limited knowledge among the public, data gaps and political uncertainty. He emphasised the importance of understanding landowners' needs and noted that the next phase of the marketplace, funded by private partners, will facilitate investment from large companies.

Simone Maccaferri, Project Officer, CBE JU, discussed the role of public–private partnerships, presenting the Circular Bio-based Europe Joint Undertaking (CBE JU) as a mechanism that derisks investment in bio-based innovation. He highlighted projects relevant to forestry and soil health, such as BeonNAT, PHYBI and Viobond, and underlined the role of primary producers, including forest owners, as key actors in circular bio-based value chains. Mr Maccaferri explained the work of the new Working Group on Primary Producers, which aims to address limitations such as small producer size, uneven capacities across Member States, and lack of awareness, while improving access to tools, advisory services and long-term business models.

During the Q&A session, speakers addressed questions on governance, market integrity and the applicability of financial mechanisms across Europe. Key topics included the fragmentation of forest definitions and the challenges of ensuring accountability in nature-credit markets. Panellists discussed risks affecting investments, such as fires, droughts and pests, and the need for appropriate risk-mitigation strategies. Views differed on the level of EU

intervention required: some emphasised the importance of EU-level checks and frameworks, while others cautioned against over-regulation, arguing that nature credits must remain local or regional to retain credibility. The discussion also touched on bridging gaps between practitioners and financiers, the importance of transparent verification processes to avoid greenwashing, and the role of blended finance, with public funding taking on risk to attract private capital.

Conclusions

- **MBIs, nature credits and Payments for Ecosystem Services schemes** offer significant potential to reward soil-friendly forestry practices.
- **Robust governance, verification tools and integrity standards** are essential to prevent greenwashing and secure trust in emerging markets.
- **Co-creation processes** involving landowners, advisers, policymakers and private investors are key to designing workable mechanisms.
- **Local and regional approaches** are necessary to reflect diverse forest types, climate risks and economic conditions across Europe.
- **Blended finance models**, where public funds absorb part of the risk, are critical to leverage private investment in soil-health interventions.

3. From soil sealing to regeneration: Business models for sustainable soils in urban and industrial areas

The breakout session explored how cities and industrial sites can shift from soil degradation to soil restoration, and what kinds of business models can make this transition viable. The moderator **Diego Marazza** (Adjunct professor at University of Bologna and Mission Soil Board member) opened by noting that urban soils are often invisible, literally buried under asphalt and concrete. However, they play essential roles in water infiltration, temperature regulation, and biodiversity. As competition for land increases, the challenge is not only technical but also economic: cities need models that make it feasible to restore soils instead of sealing more of them.

The session began with **Dr Andrés Rodríguez Seijo, University of Vigo, Mission Soil projects InBestSoil and BIOservicES**, and the striking example of the Touro copper mine in Spain, a heavily contaminated site where a new business model has emerged around technosoils. These are engineered soils made from industrial waste streams such as mussel shells, aluminium residues, biomass ashes, and agricultural by-products. Over two decades, this approach has reduced heavy-metal pollution, improved soil structure and fertility, and enabled vegetation recovery. The model creates value by reducing waste disposal costs and producing new soils for remediation, though it still operates in a regulatory grey zone, highlighting the need for clearer standards and market conditions.

From industrial landscapes, the discussion moved to urban de-sealing with **Linda Maring, Deltares, Mission Soil project SPADES**. Drawing on cases from France, Germany, and the Netherlands, she showed how cities are experimenting with unsealing paved areas to improve water management, reduce heat stress, and create more liveable neighbourhoods. While the benefits are widely acknowledged, municipalities still struggle to quantify them economically, which complicates investment decisions. Some of the most promising initiatives come from linking soil and water agendas such as Leipzig's water utility investing directly in blue-green infrastructure, or from citizen-

led programmes like the Dutch 'tile-flipping championship.' Ms Maring stressed that 'not sealing at all is the better business case,' but where de-sealing is needed, cities require better valuation tools and cross-departmental cooperation.

The third perspective came from **Alessio Tamiazzo, Studio Paola Viganò; EPFL / IUAV**, presenting the long-term regeneration of La Courrouze in Rennes. This 100-hectare former military-industrial zone has been reshaped over two decades through a soil-centred design philosophy. Instead of importing soil, the project works with what exists: polluted soils are isolated and stored, fertile soils redistributed, and new 'rich soils' cultivated on site through vegetation cycles. Urban density is organised around ecological constraints, and citizens are engaged throughout, from temporary uses of vacant land to participatory walks that help them reimagine neglected areas. The model balances public and private financing, reduces costly soil movements, and shows how soil can become a structuring element in urban design rather than an afterthought.

Finally, **Sara Daniotti, Consorzio Italbiotec, Mission Soil project BIN2BEAN**, demonstrated how circular business models for urban biowaste can directly support soil health. Using the Hamburg Living Lab as an example, she showed how a long-standing biowaste collection system now feeds a sophisticated value chain producing certified compost, biomethane, and other soil improvers. Citizens, who supply the raw material, benefit through reinvested revenues, reduced waste fees, and greener public spaces. Ms Daniotti emphasised that successful biowaste-to-soil systems depend on behavioural change, transparent reinvestment of value, and models that recognise citizens as both contributors and beneficiaries.

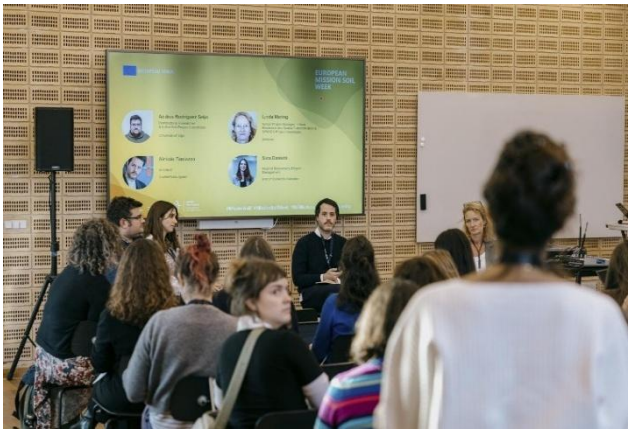

Figure 27. 'From soil sealing to regeneration: Business models for sustainable soils in urban and industrial areas' breakout session

The Q&A session revealed consistent concerns across participants. Financing remains the main barrier: cities want to act but struggle to prioritise soil-related investments within limited budgets. Speakers stressed that clearer valuation of benefits, including avoided flooding costs, reduced heat stress, improved public health, and increased property values, will be essential to unlock funding. Several participants argued that the public health benefits of soil contact and green spaces are still under-recognised in business models, despite strong emerging evidence. Questions also addressed replicability, long-term horizons, and the challenge of managing citizen expectations during multi-decade projects.

Conclusions

- **Soil regeneration in urban and industrial areas is viable**, but requires business models that combine circular value chains, waste valorisation, and local stakeholder engagement.
- **A major gap remains in impact measurement**, especially for benefits related to water management, public health, and property values.
- **Successful cases rely on cross-sector cooperation** between municipalities, utilities, private actors, and citizens.
- **Regulatory clarity** is essential to scale solutions such as technosoils and biowaste-to-soil products.
- **Citizen participation**, both as beneficiaries and contributors, is a critical component of long-term success.
- **Models are context-dependent**, but their underlying processes and tools can be transferred and adapted across cities.

Project Trail

Mission Soil Project Trail

The Mission Soil Project Trail showcased projects funded under the 2022 Mission Soil call through a structured, hands-on session designed to highlight progress across key thematic areas. Circular economy (**DeliSoil**, **Waste4Soil** and **Bin2Bean**), carbon farming (**MaRViC**, **MRV4SOC**, **CREDIBLE**), biodiversity (**BIOservisES**, **SOB4ES**), tackling pollution and restoration (**ARAGORN**, **EDAPHOS**, **ISLANDR**), soil data (**SoilWise**), and awareness and engagement (**CURIOSOIL**, **LOESS**, **ECHO**). The format enabled focused exchanges on results, methods and next steps, reinforcing how projects are translating research into practice.

To ensure online participants could follow part of the project trail, the project presentations were uploaded to the event website.

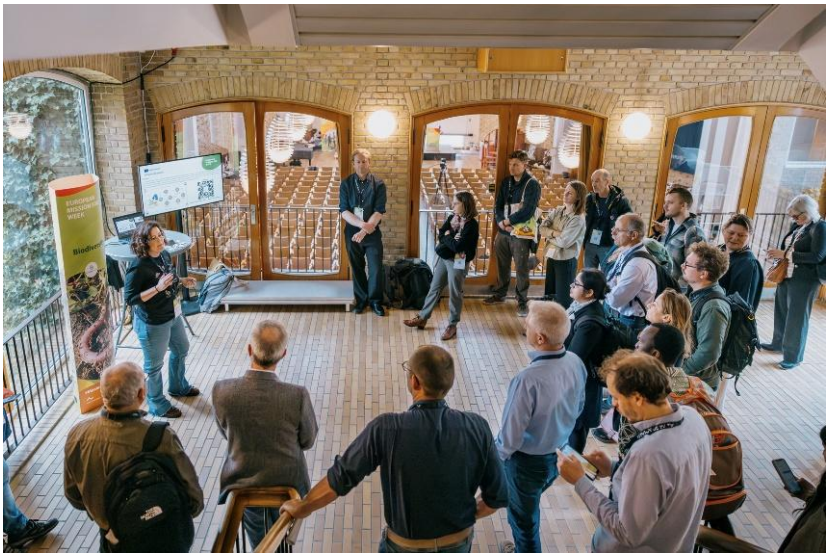

Figure 28. Virginia Sanchez-Navarro, BIOservicES project coordinator, presenting during the Mission Soil Project Trail

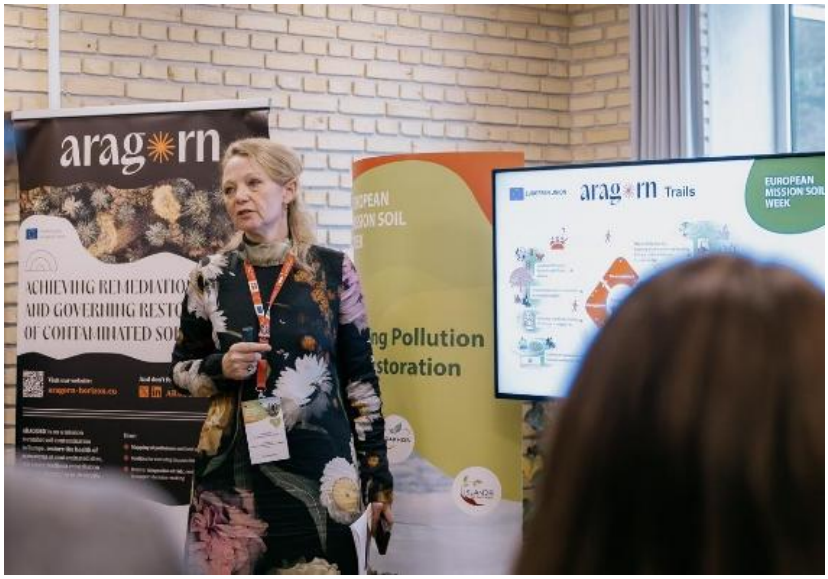

Figure 29. Xenia Trier, ARAGORN project coordinator, presenting during the Mission Soil Project Trail

Annexes

Annex: Statistics from the event

Across both days, 290 participants attended the event in person, with an additional 895 unique viewers with 1 616 total views online during the livestream across the two days. Social media monitoring on Instagram, Facebook, X, and YouTube showed that the hashtags #MissionSoilWeek and #MissionSoil appeared in a total of 92 posts from 38 users. Combined, these posts reached nearly 947 260 people. Statistics suggest that overall there were 3 130 194 impressions and 391 engagements.

Attendees by gender

The on-site audience was predominantly female, with **women representing 57%** of the participants, while **men accounted for 41%**. A small proportion of attendees (2%) did not specify their gender.

Attendees by country of origin

The on-site audience was highly varied from all across Europe, with the largest share of participants coming from **Denmark** (24.5%). **Belgium** followed with 13%, while **Italy** (9%), **Netherlands** (8%), **Spain** (5.5%), and **Germany** (5.5%) each accounted for notable shares of attendees. Greece (4%), France (4%), Poland (3%), and Portugal (3%) were also well represented. The remaining 20.5% came from other countries, mainly including Norway, Finland, Czechia, and the United Kingdom.

Attendees by organisation type

The largest represented group at the event was **higher education**, accounting for 33.1% of participants, followed by the **research community** at 17.1%. **non-government organisations, civil society organisations, and associations** made up 9.4%, while **EU institutions** accounted for 4.2% of the attendees. 'Other' represented 8.7%, and **private sector, businesses, industries, supply and retail actors** made up 7.3% of the overall participants. **Farmers** comprised 3.5% of the on-site audience. The service providers category, together with the public research funders (public agencies and institutions) category, collectively accounted for 10.8% of attendees. Other represented stakeholder groups, including policymakers and governance, together made up 3.5% of the on-site audience.

Attendees' affiliation with projects

Out of the 290 participants at the event, **139** declared that they were affiliated with projects, while the remaining **151** participants indicated that they were not affiliated with any projects.