Editorial

2017: Time for a 2050 roadmap for European agriculture!

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2017: Time for a 2050 roadmap for European agriculture!

Editorial *by Céline Charveriat*

The year is 2017, and as part of the discussions on the Effort Sharing Regulation (ESR), European governments are expected to approve new mitigation targets for the transportation, building and agriculture sectors. Consultations on the future of the Common Agricultural Policy (CAP) are about to begin. Europe must also start preparing for the UN climate change negotiations, including the 2018 global stocktake and the "invitation" to present a mid-century mitigation target in 2020.

If we want to keep temperature increase below two-degrees, the Intergovernmental Panel on Climate Change (IPCC) says the agriculture and land-using sectors must play a major role in climate mitigation. However, contrary to the European energy sector, which is well on its way towards a low-carbon transition, the agricultural sector is only getting started. Measures within Europe's agriculture are few and mostly focus on adaptation strategies such as saving water, protecting livestock from excessive heat or crops from extreme weather.

There is still a glaring lack of information, analysis and debate regarding mid-century, low-carbon and resilience targets and pathways for agriculture and the land use sectors. When considering greenhouse gas (GHG) emissions, agriculture is still considered a footnote in the fight against climate change. Overall, it is the fifth largest contributor to EU non-CO_2 GHG emissions (11.3%).[1] Furthermore, agriculture's relative contribution to Europe's overall carbon footprint is expected to rise over the next 30 years.

Without a revolution in carbon sequestration techniques in the industry and transport sectors, achieving net zero emissions by 2050 will require significant carbon removal from the atmosphere via soils and forests. The world's need for sequestering carbon could become a new threat or a major opportunity for farmers and landowners.

So far, targets for the agriculture sector[2] alone are few and incomplete, and to date, Member States have taken little action on climate mitigation in the agricultural sector.[3] It is not clear whether the few mitigation measures, such as Europe's rural development programmes, are effective in reducing overall agricultural emissions. While current European Commission proposals within ESR are a good step forward, much more will need to be done to ensure we are in line with the mid-century goals included in the Paris agreement and with the 2030 agenda of the Sustainable Development Goals (SDGs).

Without a major transformation in the food system, the world will undoubtedly fail to protect biodiversity and provide health, food and water for a rising population. For instance, diet-related diseases are a leading cause of mortality worldwide, representing up to 15% of all deaths.[4] Antimicrobial resistance, partly due to agricultural practices, is also seen a major health crisis by the World Health Organisation (WHO).[5]

In Europe, the emergence of these challenges is happening at a time when farming communities are already hurting. Farmers, whose activities are particularly vulnerable to changing weather patterns, face increased risk and costs linked with

global warming. Even under two degrees of warming, average yields in Europe are expected to decrease by 4%.[6] Structural difficulties, including a major demographic transition ahead, a trend for concentration of production and landownership and rising income disparity, will impact farmers' capacity to accept, and cope with change.

As part of the CAP reform process and in preparation for UNFCCC processes, developing a 2050 low carbon, resilience and SDGs' compatible roadmap for Europe's agriculture is paramount. To be effective, such a roadmap must involve the right stakeholders and ask the following five questions:

- How much should agriculture contribute to Europe's mitigation and adaptation targets and what are the possible trajectories and milestones to 2050?
- How big is the current potential for mitigation (including removals) and adaptation in European agriculture?
- What impact will mitigation have on levels, location of activity, technology and profitability in the farming sector?
- How should farmers be incentivised and rewarded for climate mitigation and adaptation?
- What policies, investments and farming or supply chain practices need to be adopted, by when and by whom?

IEEP looks forward to contributing to this debate, starting with its forthcoming report for the European Parliament, *The consequences of Climate Change for EU agriculture. Follow-up to the COP21-UN Paris Climate Change Conference*, which will be published in February.

IEEP Director Céline Charveriat

[1] Please note that this figure only includes emissions covered under the Effort Sharing Directive (methane and nitrous oxide), not CO2 emissions or removals accounted for under Land Use, Land Use Change and Forestry (LULUCF).

[2] When referring to the agriculture sectors we mean land managed through some form of agricultural activities, such as grazing, crop production, or other means.

[3] Most of the emission reductions from the agriculture sector over the past decades have been from reductions in livestock numbers in response to market drivers. However, more proactive efforts have been made on climate adaptation.

[4] WHO. Global health risks, 2015

[5] www.who.int/antimicrobial-resistance/publications/global-action-plan/en/

[6] IMPACT2C research project. 2015. http://impact2c.hzg.de/imperia/md/content/csc/projekte/impact2c_final.pdf

Interesting policy milestones in 2017

Interesting policy milestones that merit public attention in 2017 include:

1. **A plastics strategy** that commits to keeping plastic and its value in the economy and out of the marine environment. Setting an EU objective to reduce marine litter will catalyse stakeholder action and prioritise prevention measures over clean-up.

2. **Build on the birds and habitats directives fitness check** to make the new commitment to implement the directives work and safeguard our biodiversity.

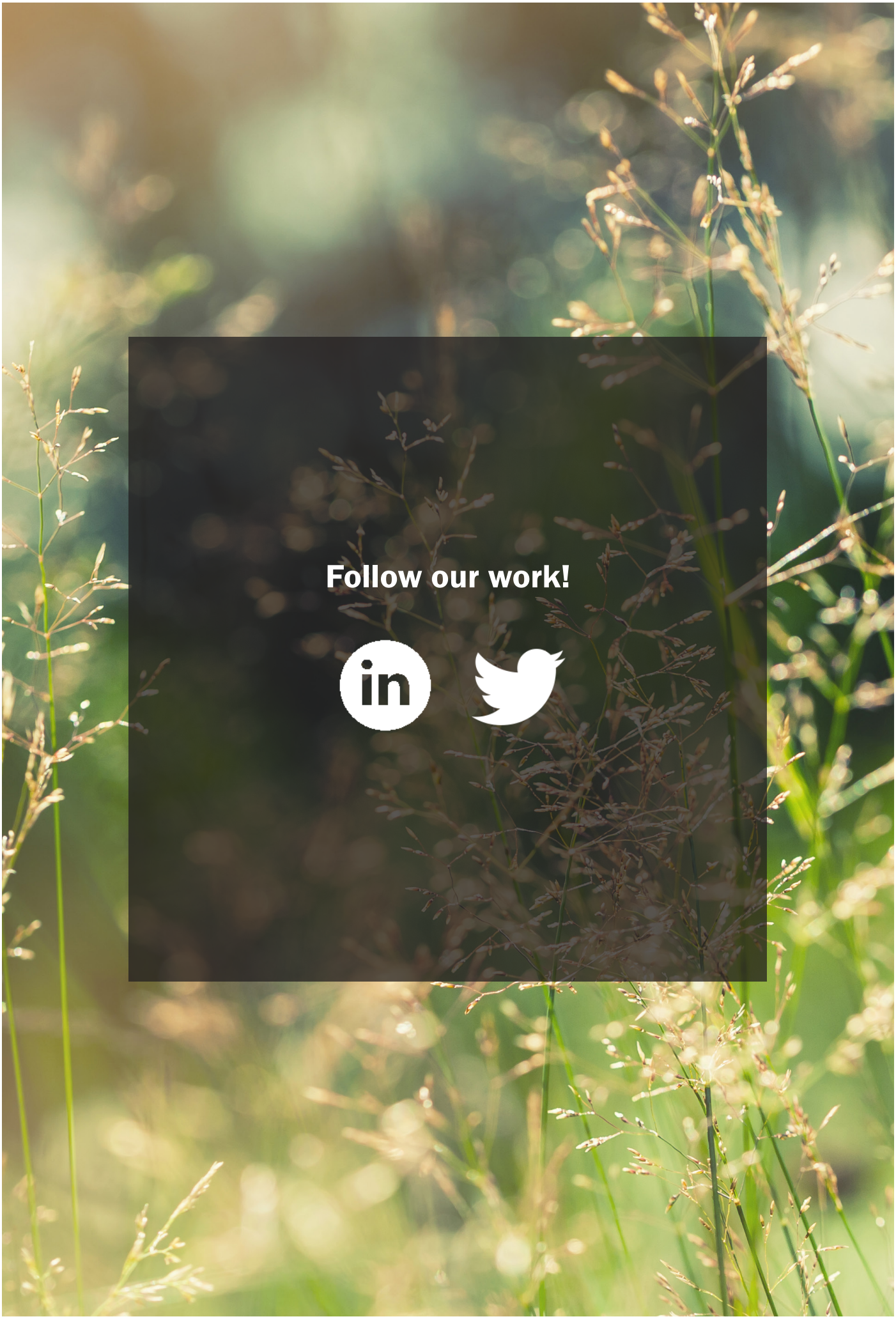
3. **A legislative push for 2030 climate and energy targets** through the Council and Parliament. This is an opportunity to strengthen it and increase policy certainty. It's also a chance to carry out serious analytical work on how to make EU objectives on climate change consistent with the long-term goals of the Paris Agreement.

4. **Monitoring the Common Agricultural Policy post-2020** Commission Communication on its modernisation and simplification. It must ensure it embodies the changes required to move towards a more environmentally oriented, resource efficient and climate resilient land management sector, which incorporates the ambitions of the Sustainable Development Goals.

5. **Ensuring the Commission has the best evidence** on the challenges and opportunities in implementing EU water policy in preparation for the Water Framework Directive review.

6. **Ensuring the sustainable use of biomass** is an underpinning thread in the promotion of bio-resources use in EU policy. This includes bioenergy in the proposed Renewable Energy Directive, the Circular Economy Action Plan and reforms to the Bioeconomy Strategy.

For a more detailed EC work plan visit this page.


Follow our work!

“Dieselgate” aftermath: is there a need for an EU regulator for vehicle emissions?

Martin Nesbit reflects on the IEEP’s recent work for the EU committee of enquiry into the “dieselgate” emission scandal where the EU’s current system, based on competing national regulators, has a number of avoidable design flaws. Should we take the logical step and create a European regulator?

Following the revelation of Volkswagen’s use in the US of software designed to provide misleading results in emissions test cycles, and the likely presence of similar systems in the EU market, the European Parliament set up a committee of inquiry into Emission Measurements in the Automotive Sector (EMIS). The Committee is working at speed, and is expected to produce its report early in 2017.

To help the Committee, IEEP prepared a comparative study of EU and US legislation on vehicle emissions and on the so-called “defeat devices” used to bend the constraints imposed by testing for the emissions limit values. Martin Nesbit presented the report to the Committee on 5 December explaining the significant gaps in the EU system compared to the US including, for example, the potential for manufacturers to choose their own regulator, lack of clarity on the ban on defeat devices, and the lack of a requirement on manufacturers to provide regulators with a detailed list of emissions control devices used.

One Committee member asked why the report had not proposed the establishment of an EU-level regulator. In truth, we had not done so because it seemed unlikely to be politically feasible. However, in principle, an EU level regulator would indeed be a sensible approach to addressing the shortcomings. It could help solve difficulties created by competition among national authorities and address the risk that authorities are too timid or under-resourced to take action against nationally powerful manufacturers.

At a previous EMIS committee meeting, French minister, Ségolène Royale, had said that national authorities needed to be regulated by a European body. However, gaining the political commitment needed to create new EU bodies currently looks more difficult than ever, and the hurdles – getting agreement on the required budget and investigative powers and a radical overhaul of the type approval system – are many. Therefore the first policy response should perhaps be to focus on tackling the worst weaknesses of the current system.

In the longer run, however, maybe there is also a need for a more general reflection on whether implementation problems linked to product conformity call for more, rather than less, of a European approach. There are plenty of areas of environmental legislation where implementation needs a tailored approach, reflecting national cultural and geographical realities. Car manufacturing isn’t one of them. The vehicle emissions legislation aims at product conformity with a single set of standards, and it is vital that it is applied with the same high rigour across the EU. Other similar areas, like chemicals and medicines legislation, have EU-level bodies. An effective EU-level response to the vehicle emissions scandal could help to make the case for a more rational and understandable allocation of responsibilities between the EU level and the national level.

For more information on the project, please contact Martin Nesbit.

Towards a new plastics economy and waste-free oceans

How can the circular economy contribute to addressing marine litter? In preparation for the forthcoming European Plastics Strategy, IEEP explores how the value of plastics as a resource can be retained in the economy, keeping them out of the oceans.

The negative impacts of marine litter have gained increasing attention amongst industry, policy makers and the general public. At the 35th International Geological Congress in Cape Town this year, marine plastics were identified as one of the key indicators that supported the designation of the Anthropocene as the new geological era. Despite the increasing awareness, everyday practices and products continue to result in the unnecessary flow of plastics into the marine biosphere at an estimated rate of 12.2 million tons per annum.

Political ambitions to support a transition to a circular economy in Europe have the potential to provide a framework to address many common sources of marine litter, as they recognise that plastics are valuable, non-renewable resources that, when not managed effectively, have significant environmental impacts. Furthermore, circular economy tools and business models can support the reduction of plastic waste. These might include a range of reduce, re-use, repair or recycling activities, which oppose the single-use or disposable approaches common place for plastic products and plastic packaging.

The European Commission, as part of its Circular Economy Package, has promised to publish a Plastic Strategy in 2017 – which will aim at "addressing issues such as recyclability, biodegradability, the presence of hazardous substances of concern in certain plastics, and marine litter".

In a continuation of IEEP's engagement with marine litter and the circular economy, as well as part of its membership to Alliance for Circular Economy Solutions (ACES), the institute has produced a briefing entitled "Plastics, Marine Litter and Circular Economy" to provide policy relevant insights on the issue. This also includes three product fiches, providing easily communicable tools on the following problematic plastic product groups: microbeads in personal care and cosmetics, polystyrene and single use plastics.

These new publications provide policy recommendations and a road map for action for the much awaited plastics strategy. IEEP's experts intend to follow closely how circular economy policies address plastic pollution and waste development in the coming months.

For more information on this work area, please contact Emma Watkins or Jean-Pierre Schweitzer.

Are Ecological Focus Areas delivering for biodiversity?

Ecological Focus Areas (EFAs) are intended to safeguard and improve biodiversity on arable farms in the EU. What evidence is there that they are actually delivering biodiversity on farmland?

Ecological Focus Areas (EFAs), part of greening in the EU Common Agricultural Policy (CAP), are intended to safeguard and improve biodiversity on arable farms in the EU. IEEP's study for the European Environmental Bureau (EEB) and BirdLife looked at how EFAs are being implemented in the EU and what evidence there is in the published literature on the potential biodiversity impacts on farmland, taking into account how the areas are being managed.

Implementation data show that, in 2015, two-thirds of EFA area comprised of nitrogen-fixing crops, catch crops or cover crops, with land lying fallow on a fifth of the area. The literature shows that under current EFA rules and conventional farming practices, it is unlikely that most nitrogen-fixing crops and catch and cover crops grown on EFAs provide much benefit for farmland biodiversity. In contrast, under typical management regimes, the EFA options of land lying fallow, hedges and field margins generally have more potential to provide greater and more diverse and reliable biodiversity benefits.

The biodiversity benefits of EFA crops and fallow could be considerably increased through changes in the incentives and implementation rules. Firstly, the uptake of EFA options that provide the greatest biodiversity benefits could be increased. Secondly, farmers could be encouraged to sow species mixes that benefit wildlife on fallow, field margins and buffer strips and grow them long enough to flower and set seed without agro-chemical use. Finally, three key changes to implementation rules would greatly increase the ability of EFAs to meet their biodiversity policy objectives: avoiding the use of fertilisers and pesticides; ensuring the periods over which they are established and removed are suited to biodiversity as well as production cycles; and ensuring key farming operations (such as cutting of vegetation) are carried out at appropriate times.

IEEP's Evelyn Underwood presented the results to a group of Member State representatives on agriculture and members of the DG AGRI greening unit in Brussels on 29 November 2016. The study aims to contribute to the evidence base for the forthcoming revision of CAP greening regulation and implementation, building on a previous IEEP study on Member States greening choices. The Institute will continue working on the evaluation of greening in the upcoming year.

For more information on the project, please contact Evelyn Underwood.

Civil society's role on economic instruments for the environment

An IEEP-led study for the European Commission is investigating how civil society can help make economic instruments for pollution reduction and natural resource management more effective. A set of 40 new case studies reveals the roles stakeholders can play during the policy-making process.

EU Member States increasingly use economic instruments, such as a range of taxes and fees, to help reduce pollution and promote effective natural resource management. Such instruments can help reinforce the polluter-pays principle and attain environmental policy objectives.

To encourage further use of economic instruments, IEEP is leading a major study for the European Commission to build capacity on environmental taxation and budgetary reform. The study focuses the design of economic instruments, but also at how civil society can – and does – engage to make them effective.

Case studies on 40 specific instruments across Europe have been compiled. The case studies have revealed the roles civil society stakeholders play during policy-making on economic instruments.

Civil society can help make the case for and shape the design of instruments. For example, the Hungarian NGO Clean Air Action Group kick-started discussions on an air pollution charge that was then adopted. Taking on board key stakeholders' concerns helped overcome opposition to Danish taxes on pesticides and phosphorus in animal feed and gain support for the instruments' design.

In some cases, civil society has helped with the implementation of instruments, including the evaluation of their effectiveness. For example, Estonian fishermen are consulted each year on new fishing fees. An executive committee including many stakeholders is responsible for the implementation and enforcement of Dutch water pricing policy. Stakeholders have helped to evaluate and revise Czech air pollution fees and the UK landfill tax, while a consultation board of environmental NGOs was responsible for assessing the effectiveness of the Latvian packaging tax.

The above examples show that civil society engagement can lead to more robust instruments that are more successful in achieving their environmental objectives. For these reasons, engagement is beneficial for civil society, for government bodies and implementing authorities and for the environment.

The role of civil society in the development of economic instruments for pollution and natural resources will be further discussed at five workshops in early 2017 (see Conferences & Events). A final conference will take place in June, and the final study report will also be published in the summer.

For more information on the project, please contact Emma Watkins or Patrick ten Brink.

Planetary Boundaries: a framework for humanity

Introduced in 2009 as a new approach to global sustainability, planetary boundaries define a safe operating space for humanity. Four of the proposed nine boundaries are exceeded already today. IEEP has interviewed two scientists on the policy implications of the framework.

An international team of scientists developed the concept of planetary boundaries in 2009 and provided an update in 2015. The framework defines nine planetary boundaries within which humanity can develop safely. These boundaries relate to the level of stratospheric ozone, biodiversity, chemical pollution, climate change, ocean acidification, freshwater, land-system change, biogeochemical flows, and atmospheric aerosol. Currently, climate change, biodiversity, biogeochemical flows and land-system change exceed these boundaries. A planetary boundary is not equal to reaching a global threshold or tipping point, but is placed before the thresholds, allowing time to react.

What are the policy implications of being aware of limited resources and of determining critical parameters for life on Earth? IEEP explored this issue in an interview with Will Steffen and Katherine Richardson, two scientists involved in developing the planetary boundaries concept. According to the concept's developers, the approach is not incompatible with economic growth and consumption if efforts are concentrated towards reducing human pressures on the environment, notably through a circular economy.

Already the concept of planetary boundaries is being discussed worldwide. What it lacks is the integration of economic and social objectives. The framework should be aligned with the United Nations Sustainable Development Goals (SDGs), so governance can be carried out without overlooking environmental protection, economic development and social justice.

For more information on this work, please contact Konar Mutafoglu.

We all love a New Year quiz...

What is the largest terrestrial carbon store?

Here are some clues:

Clue 1: It is responsible for the generation of approximately 95% of global food production.

Clue 2: It is a basis for life, water filtration and fiber production.

Clue 3: It is a non-renewable resource.

Clue 4: Its interactions with land management, climate change, agriculture and forestry are an important research focus in IEEP for 2017 and beyond.

Answer: Soil

This often overlooked environmental powerhouse is celebrated annually on World Soil Day, 5 December.

Each year this day is marked by calls for changes in the way we manage and value soils and their associated ecosystem services. Despite assurances by the European Commission that they are committed to soil protection, there is no EU policy in place that comprehensively and consistently protects soils and their services. A proposal for a framework Directive was adopted by the Commission in 2006, but withdrawn in 2014 following objections from a minority of Member States.

During 2016, IEEP worked with the European Commission to develop a baseline of national and EU policy that offer opportunities for the protection of Europe's soil. The initial results were presented at the Commission's Conference marking World Soils Day 2016 by Catherine Bowyer and Clunie Keenleyside.

In 2017, IEEP will produce a series of briefings, training events, workshops and support working groups focused on resource efficiency, climate change, agriculture and soil protection. To register your interest please contact Catherine Bowyer.

IEEP Conferences and Events

Brexit and the Environment: A Roundtable

London (UK), 30 January 2017

Organized by the British Academy and EUrefEnv and hosted by IEEP's Senior Fellow Martin Nesbit, this roundtable will address Brexit and the environment, focusing on devolution, trade and governance.

Contact: Martin Nesbit

Working group on Resource Efficient Rural Economy (ENRD)

Brussels (Belgium), February and June, and Bologna (Italy), April 2017

IEEP, in partnership with the European Network for Rural Development (ENRD), is coordinating a Thematic Group on Resource Efficient Rural Economy. Its aim is to identify ways to improve soils and water use through the national and regional Rural Development Programmes (RDPs) of the CAP. We explore how RDPs have been used, developed and implemented, gathering examples of good practice, analysing what has worked and what could be improved, and facilitating the exchange of information and ideas between stakeholders.

The Thematic group consists of experts, managing authorities, delivery organisations and Commission staff. In 2017, two Thematic Group meetings are planned for March (Brussels/videoconference) and April (Italy). Results from these meetings will be presented in a conference in Brussels in June.

If you are a managing authority involved in the development or delivery of Rural Development Programmes, please get in touch with Ben Allen.

Royal Town Planning Institute conference on the England planning system in 2017

London (UK), 23 February 2017

This conference addresses the Royal Town Planning Institute's hot topics for the year ahead. IEEP's Martin Nesbit, Senior Fellow and Head of Climate and Environmental Governance Programme, will speak in the afternoon session, providing insights on Brexit as well as current and future implications of recent international climate change agreements for urban planners.

Contact: Martin Nesbit

Civil society's role in environmental tax reform

Amsterdam, Barcelona, Copenhagen, Berlin and Budapest, March and April 2017

During March and April 2017, a series of five workshops will investigate the role of civil society in the development of economic instruments for pollution reduction and natural resources management. Each event will focus on a different theme: circular economy (Amsterdam, 10 March), water stress (Barcelona, 27 March), water quality and marine litter (Copenhagen, 3 or 4 April), biodiversity and land use (Berlin, 10 April) and air pollution (Budapest, 25 April). A final project conference will also be held in Brussels during the week of 12 June.

Attendance is by invitation only. If you would like to attend, contact Emma Watkins or Patrick ten Brink.

IEEP Conferences and Events

Biodiversity and Health in the Face of Climate Change. Challenges, Opportunities and Evidence Gaps

Bonn (Germany), 27-29 June 2017

IEEP's Head of the Green Economy Programme, Patrick ten Brink, will provide insights on the health benefits of nature at the joint European conference in Bonn. The event will increase knowledge, share experience and foster nature-based solutions to meet the many challenges surrounding climate change and health.

Contact: Patrick ten Brink

Make Europe the World Leader of Sustainable Development: A Unique Opportunity to Build a Stronger European Union

Rome (Italy), 23 March 2017

Marking the 60th Anniversary of the Treaty of Rome, IEEP will co-host the Make Europe the World Leader of Sustainable Development Conference in Rome on 23 March, 2017. A starting point to build a new vision for Europe, we will explore implementation of the values and objectives defined by the 2030 Sustainable Development Agenda. This is an opportunity to discuss how European State and Non-State actors can become SGDs leaders, and pave a pathway to the EU becoming *the* world champions of sustainable development.

Contact: Anna Solovieva.

IEEP Books and Publications

Understanding the consequences of changing biomass demand for energy

19 October 2016

ACCESS PUBLICATION

Demand for biomass for energy is central to the development of future policy on renewable energy in Europe. This study, led by IIASA and supported by IEEP, models different levels of biomass demand for energy and its consequences for land use and forest based industries.

Plastics, Marine Litter and the Circular Economy

24 October 2016

ACCESS PUBLICATION

Plastic waste is a major driver of marine litter and results in avoidable socio-economic and environmental consequences. Read our briefings on microbeads, polystyrene and single-use plastics and explore circular economy solutions for reducing the flow of plastic waste into the oceans.

Ecological Focus Areas – what are their impacts on biodiversity?

1 December 2016

ACCESS PUBLICATION

Ecological Focus Areas are intended to safeguard and improve biodiversity on arable farms in the EU. This IEEP study for the European Environmental Bureau (EEB) and BirdLife examined the evidence for potential biodiversity impacts on farmland, taking into account how the areas are being managed.

Ensuring the carbon sustainability of biomass

9 December 2016

ACCESS PUBLICATION

Ensuring the carbon sustainability of bioenergy requires a new approach in EU policy. This IEEP report offers an alternative pathway to the European Commission proposal in the "winter package".

Fitness Check of the Birds and Habitats Directives

14 December 2016

ACCESS PUBLICATION

The Nature Directives (i.e. Birds Directive and Habitats Directive) are key instruments of EU environmental policy. This Fitness Check support study, carried out by Milieu, IEEP and ICF for the European Commission DG Environment, examined their effectiveness, efficiency, relevance, EU-added value and their coherence with the wider EU legislative and policy framework.

Comparative study on the differences between the EU and US Legislation on Emissions in the Automotive Sector

December 2016

ACCESS PUBLICATION

This study provides a comparative analysis between the EU and US legislation on emissions in the automotive sector and the systems for their implementation and enforcement. The report was led by IEEP's Senior Fellow Martin Nesbit and commissioned on behalf of the European Parliament's Committee on Emission Measurements in the Automotive Sector (EMIS).

IEEP Books and Publications

Who cares about dirty beaches? Evaluating environmental awareness and action on coastal litter in Chile

January 2017

ACCESS PUBLICATION

This paper, co-authored by IEEP's Konar Mutafoglu, focuses on marine litter issues in coastal regions of Chile. The case study, originally developed under a research contract for UNEP, was published as an independent paper in the journal *Ocean & Coastal Management*.

Fighting Environmental Crime in Europe and Beyond: The Role of the EU and Its Member States

2 February 2017

Published by Palgrave Macmillan, Fighting Environmental Crime in Europe and Beyond builds on the findings of 40-months of EU-funded research on environmental crime. The "European Union Action to Fight Environmental Crime" (EFFACE) project analysed cases within and outside the EU and brought it together in this collection. IEEP, as a project partner, authored two chapters which analyse illegal fishing in the EU and illegal electronic waste shipments from the EU to China.

Editors: Silvia Nanni, Marianne Kettunen, and Harvey Jones

Production: Mia Pantzar

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