Agriculture, Forestry and Land Use: The net zero emissions target

Michael SAYER
Friends of the Countryside
This week a member of my extended family is getting married in Brussels. As I am always happy to see the next generation tie the knot, I was quite excited by the prospect and was ready to help them with the ceremony. The site the bride and groom chose was in large back garden on the outskirts of Brussels, and a marquee was foreseen.

In come the bats. Apparently, in this part of Brussels there is a Natura 2000 protected area for some such species, and my family was told that the tent they wanted to build for one evening would not be allowed and would be qualified as a crime if they did. During the weeks and months preparing the event, nobody had informed them. They only found out a few days before the event when the green police appeared, causing much distress as the venue needed to be moved last minute. Had they known, they would certainly have done things very differently.

Having seen these bats occasionally from my own apartment, and indeed hosting them on my farm, I am more than happy to have them alive and protected. They are not just part of our biodiversity, but they eat many harmful insects; a great combination of the beautiful and the useful. I am a great fan of bats.

However, what I do not champion is the over-eager interpretation of Natura 2000 rules that does very little for biodiversity, but quite a lot to antagonize people. If well-intentioned EU legislation is so misinterpreted on the local level, is it any wonder that land managers are often not so eager to have it on their farm?
Agriculture, Forestry and Land Use: The net zero emissions target

At the core of the Paris Agreement of 2015 is the commitment to keep global temperature rise since pre-industrial times ‘well below 2°C’, to try to limit it to no more than 1.5°C and “to achieve a balance between anthropogenic emissions by sources and removals by sinks in the second half of the present century”.

Michael SAYER, Friends of the Countryside (FCS)

This will require achieving net zero emissions of greenhouse gases (GHGs) around 2050. The rise of 1.3 per cent in global GHG emissions during 2017 and the extreme weather conditions with unusually severe droughts and forest fires experienced in 2018 serve as a reminder of the urgency of this task.

Implications of the Paris Agreement

This challenge will require all countries and all parts of the economy to deliver. In agriculture and industries such as cement and aviation it will be very difficult to bring emissions to zero. Although carbon dioxide (CO2) is the most abundant GHG, stabilisation and then a downward trend will not be achieved without major reductions of emissions of methane (CH4) and nitrous oxide (N2O), gases with global warming potentials over 100 years respectively 25 and 298 times that of CO2. At the same time, the atmospheric lifetimes of these three GHGs are from 30 to 95 years for CO2, 12 years for CH4 and 121 years for N2O.

Each country will also need to invest in ‘negative emissions’—ways of absorbing enough carbon dioxide from the air to cancel out those emissions that inevitably remain. It appears inevitable that carbon capture and storage (CCS) will be required to play a part here. The most primary and most effective form of CCS is through increased carbon sequestration in the terrestrial biosphere sink. Only thus can the target realistically become ‘net-zero’.

Some countries have already set this target in law—notably Sweden, which has a legal target of net zero emissions by 2045. Norway, Iceland, France, Portugal and New Zealand are also committed to net zero emissions by mid-century or before; and following April’s announcement, it is a goal towards which Britain also is moving (the proposals of the UK Committee on Climate Change are currently expected, and papers on Land Use: Reducing emissions and preparing for climate change and Biomass in a low-carbon economy have been published this year). The EU 2030 Climate and Energy Framework commits to reducing emissions by 40 per cent on 1990 levels (improving energy efficiency by 27 per cent and the share of renewable energy by 27 per cent) and this November Commissioner ARIAS CANETE, presenting eight pathways for reductions, stated the Commission’s preference for the EU to achieve climate neutrality (net zero emissions) in 2050.

Agriculture, Forestry and Land Use

Although globally much CO2 currently comes from deforestation and land-use change (with continuing emissions over 50 years from the cultivation of former woodland and pasture soils), agricultural practices are also major sources of relatively intractable emissions:

- CH4 from livestock systems (enteric fermentation and manure) and also from [irrigated] rice production
- N2O from soil fertilisation using inorganic or organic N-based fertiliser.

Land use and management is, however, in a unique position, since the carbon stock in woody biomass and soils, depending on management, may be either a source of emissions or a net sink through additional sequestration. Moreover, in Europe, however, there is currently little land-use change and carbon sequestration, especially in woodland, is rising.

In 2015, annual additional carbon sequestration in forests and soils amounted to 295 million tonnes CO2, but agricultural emissions amounted to 438 Mt CO2 equivalent, a deficit of 143 Mt CO2. CH4 from enteric fermentation in cattle and N2O emissions from managed soils represented 37 per cent and 30 per cent of agricultural emissions respectively. At the same time, up to half the food acquired in developed econ-
omies is currently wasted (the figure for bakery products in UK is 11 per cent of food waste by weight).

The need is therefore to maintain food productivity with more efficient use of inputs and to diversify land management to increase sequestration at the same time as material and energy substitution, while enhancing the environment. This can only be done by realising the potential of the concept of bioeconomy.

Moreover, even if warming is kept to +1.5 degrees above pre-industrial temperatures, there will be considerable need for adaptation and the implementation of resilience measures. This will have to be implemented alongside mitigation measures and will include:

- Management of water resources in the context of increasing soil moisture deficits
- Plant breeding techniques to develop varieties less susceptible to drought, pests and disease
- Protection (including insurance) against extreme weather events
- Enhanced biosecurity
- An effective policy to control invasive alien species
- Development of balanced uneven-aged forest structures with mixed species that are more resilient to weather extremes, fire and pests (e.g. Ips typographus)
- Biodiversity measures targeted especially at wetlands, montane regions and migration corridors
- Management and stabilisation of eroding coastlines and floodplains

The design of Agricultural Policy should reflect these challenges and complexities.

Towards net zero emissions: a range of challenges and opportunities

**Soil Carbon**

*Soil restoration (including peatland)*

Much soil damage has occurred from erosion due to lack of winter soil cover on arable land, which can be prevented by the use of cover crops. On pastures, soil damage has usually resulted from overgrazing. Peatlands contain much higher levels of carbon than mineral soils but have suffered from drainage and drying out as well as overgrazing and afforestation with low quality conifers. Restoration schemes with rewetting can stabilise the peat over time and allow the carbon stock to rebuild, while reducing run-off in the catchment. Scotland has 97 peat restoration schemes, although the percentage sink may take up to 300 years to reach natural capacity.

**Tillage**

No-till cultivation techniques can slowly increase soil carbon in arable land, but on many soils a conventional till will sometimes be required, releasing the additional carbon. Although such techniques will improve moisture retention and soil structure, they are less likely to increase long-term sequestration except where tillage can be completely avoided.

**Land-Use Change (conversion to permanent pasture or woodland)**

This is the most certain way of increasing soil sequestration, since permanent pasture and woodland soils hold carbon than arable land. The factor can range from 35 per cent to more than 100 per cent, depending on region and whether the soil is mineral or peaty, based on broad UK figures. A gradual increase in soil carbon is expected to result over a period of from 50 years (mineral soils) to 300 years (peaty soils).

However, the transition will require support mechanisms.

**Forests and Woodland**

**Inventories**

In much of Europe (Germany, Austria, Switzerland, Czech Republic, Sweden, Finland) forest inventories carried out on a periodicity of from 7 to 10 years showing the age structure and standing volume by species have been standard syvicultural practice since the late nineteenth century. Simpler to carry out in even-aged stands, the Swiss ‘méthode de contrôle’ is the classic example of more sophisticated application in mixed, uneven-aged continuous cover forests.

**Timber products and material substitution**

The most obvious benefits in material substitution are in construction to displace steel, concrete and brick, all of which generate substantial emissions in manufacture, and in packaging.

Timber-built blocks of flats are currently under construction in Sundbyberg, Stockholm and timber-framed multi-storey buildings are currently under construction in (for example) London and Tokyo.

**Biomass for energy**

Biomass is a growing source of heating which is also applicable to communal schemes. Apart from utilising forestry thinnings and waste, Miscanthus and short-rotation coppice can be grown for the purpose on poorer arable land. Short-rotation forestry is a further option which will, however, result in a smaller ongoing carbon sink to manage than where this objective is combined with growing timber for material substitution.

**Markets**

Timber prices continue to display volatility or downward trends (Germany) which are potentially a major disincentive to active management. This is among the structural reasons why many small woodlands and parcels of forest currently fail to achieve their potential, both as carbon sinks and as regards harvest (substitution).

**Carbon trading**

The additional, annual sequestration from new (post-1990) afforestation could be traded on the basis of a forest inventory. However, this would need to be on the basis of time-limited certification with the obligation on the buyer to renew. The period of validity should not exceed five years or the period of the inventory to allow for changes in the carbon stock (including eventual harvest).

**Afforestation**

In addition to increasing soil carbon, afforestation offers a substantial increase in the carbon sink in woody biomass and timber for material substitution. The potential is thus defined by the size and density of the carbon stock and will be achieved over the life of the rotation where a clear fell (including clear fell by compartments) is used or over the time required to achieve ‘normal’ forest (equilibrium) in continuous cover systems.

**Agroforestry**

Agroforestry also offers small-scale benefits but is likely to be more relevant as an adaptation measure.

**CH4 and N2O Emissions from Livestock**

A recent report by the RISE Foundation indicates the livestock emissions for EU28 would need to be reduced by 74 per cent to achieve an overall reduction in GHG emissions of 80 per cent by 2050. The same report suggests that, on a stocking rate of 0.5 to 1.0 Livestock Unit per hectare, all but five member states would require less than their present numbers of ruminant livestock to graze their area of permanent pasture, and that on a conservative estimate about half the number would be required across the EU.

**Cattle**

Emissions from cattle, and particularly dairy herds, are a major source of livestock emissions. Some 62 per cent of
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EU livestock emissions are caused by enteric fermentation in cattle. Since 1990, the implied emission factor for EU dairy cattle has risen by 22.3 per cent (for other cattle by 3.5 per cent). Different livestock systems, however, are associated with different levels of inputs and emissions, depending principally on the source of food.

**Diet**
Optimising the quality and digestibility of feed reduces emissions from enteric fermentation. However, this will often have already been achieved with confined livestock. Where diet is sub-optimal, there is scope for the introduction of silage and legume hay, and improving pasture.

**Anaerobic Digestion**
Anaerobic digestion has potential for capturing CH4 emissions from housed livestock. However, in practice many anaerobic digesters rely partly on obtaining other sources of waste and/or growing energy crops such as maize (therefore generating a prior cycle of N2O emissions).

**Storage and Incorporation of Manure**
Acidification treatment of slurry and covered storage of manure can significantly reduce GHG emissions. Incorporation and injection of manure offers further scope, although in some circumstances this has led to pollution swapping, reducing ammonia (NH3) emissions but increasing those of N2O.

**Intensive systems reliant on prior cycles of N2O emissions from fertilised grass and/or cereal diets**
The crux of the management issue is that while adjustment of diet and manure management techniques can be applied more effectively to confined livestock, intensive systems are fundamentally reliant on grass fertilised with additional inorganic N (typically dairy herds) and on cereal diets (both dairy and beef herds). They are therefore dependent on generating a prior cycle of N2O emissions (which in the case of imported feed will not show on the same national inventory as the herd’s direct emissions). In addition, there are significant upstream emissions from the manufacture of fertiliser: for example, in the case of Ammonium Nitrate with a nutrient content of 33.5 per cent, emissions (CO2 eq) at plant gate are 1.18 kg per kg of product before taking into account a further 1.89 kg from growing energy crops such as maize (therefore generating a prior cycle of N2O emissions). It is therefore likely that significant reductions in emissions overall can only be made by shifting away from intensive systems, combined with improving diet and application of manure management techniques for that part of the year when the livestock would normally have to be housed. This period is tending to diminish with warmer winters, increasing the practicality of using straw, silage and hay as principal components of diet at this time of year. It should be expected that a move away from cereal-based diets will affect cereal prices at the lower end of the range, as well as resulting in slower finishing of beef animals and some reduction in milk yields. These will need to be compensated by the broader switch to the bioeconomy and transitionally by Agricultural Policy.

**N2O Emissions from Soil Fertilisation**

**Precision agriculture**
Greater care in the timing of N application to avoid times of heavy rainfall or periods of dormancy in the crop cycle; and adjusting the rate of application at field or smaller scale have significant potential to reduce emissions. Practically, however, the potential impact of other factors during the growing period can make judging localised reductions in application problematic. Greater reductions could be achieved ‘upstream’ by reducing the emissions associated with the production of inorganic N fertiliser. This would also imply maximising the use of organic manure from livestock wherever this is not done in order to displace the embedded emissions of inorganic N.

**Rotations**
Longer cropping rotations can increase soil fertility by introducing nitrogen-fixing crops, such as Lucerne (alfalfa) or clover, and can improve control of persistent weeds. The Holkham estate (UK), employs six-year rotation, typically Winter Barley, Oilseed Rape, Winter Wheat, Potatoes, Spring Barley, and Sugar Beet, with sometimes a maize crop. It is a principle here to avoid two successive straw crops. The Esterházy estate (Austria), which has converted to organic farming, has a typical rotation of lucerne, wheat, maize, soya, barley, legumes, pumpkins, oats or other fodder cereals, sunflowers and back into lucerne. Agricultural Policy would need to support less profitable crops within the rotation, which might include options for two-year or three-year grass/fallow. Moreover, the full potential of longer rotations is unlikely to be realised without applying plant breeding techniques such as gene editing.

**Renewables as break crops**
The use of energy crops as break crops in the annual rotation could be encouraged by promoting their use for renewable energy (e.g. sugar beet or oilseed rape). This could be implemented with minimal implications for indirect land-use change.

**Land Use as a platform for renewables**
The relative benefits of forest biomass and other renewables will vary according to windiness, rainfall and solar radiation in each region.

**Wind power**
The potential for wind power has already been widely developed, both onshore and offshore.

**Hydro power**
Many land managers have potential to produce hydro power. As an example, the Attadale estate in Wester Ross, Scotland has four schemes together capable of producing 4.8 MW, the application of hydro schemes in lowland regions is partly dependent on developing technology capable of using a low head of water of 2m or less. All hydro schemes are potentially vulnerable to periods of low flow.

**Solar power**
The use of land, especially marginal land, for solar power is another important source of renewable energy. The Gemasolar thermosolar farm on the Monclova estate at Fuentes de Andalucía occupies 197 ha and is able to generate 19.9 MW of electricity a year capable of supplying 110 GW hours and saving 30 Mt CO2 emissions.

**Timelines**
Some of the above measures, such as avoiding prior cycles of emissions, or lengthening crop rotations can be implemented rapidly.

Measures involving introduction of short-rotation coppice will take approximately 3 to 10 years to achieve and in the case of short-rotation forestry about 20 years.

Measures involving additional soil sequestration of carbon will take from 50 to 300 years to come to fruition, depending on soil type and location. At the end of that period, the sink will have reached saturation.
Afforestation measures are likely to take from 80 to 150 years to achieve, depending on species, rotation and site. Measures involving better management of existing woodland, including conversion to high forest, are likely to require a period at the lower end of this scale.

Summary of Principal Recommendations

- The optimal contribution of land management to achieving net zero emissions through additional carbon sequestration and material substitution cannot now be achieved by 2050, but the greater part of its potential could be achieved by 2100, if appropriate measures are introduced now.
- Arable crops: support longer rotations with the introduction of legumes.
- Livestock: reduce or avoid the generation of prior cycles of N2O emissions.
- Land-use Change: support a major shift towards permanent pasture and, especially, afforestation.
- Existing woodlands: encourage the use of forest inventories, and better management of small woods.
- Encourage material substitution through building regulations.
- Encourage energy substitution through biomass and break crops.
- Direct and indirect land-use change and carbon stocks must be part of all policy and management equations.

Joint statement COP24:

Forests and the forest sector should play an active role in climate change mitigation and adaptation

Forests represent a significant potential for climate change mitigation. The signing organisations call on the parties to the Paris Agreement to recognise in their conclusions of the COP24 the role of actively managed forests in climate mitigation and adaptation, in particular:

- highlight the potential for carbon storage in wood products and substitution of fossil materials and energy for climate change mitigation through the increased use of wood and its products;
- enhance the absorption of CO2 through active forest management and creation of new forests;
- adapting forest management practice to make forests more resilient to changing climatic conditions.

Representing 13% of the net removals of EU’s total greenhouse gas emissions, the capture of CO2 in forests, carbon storage and the substitution of fossil material and energy have to play a crucial role in the international negotiations of the COP24.

At the same time, forests are seriously affected by climate change: This summer has clearly shown that global warming causes an increased amount of forest fires and leads to an extension of areas affected by wild fires. Forest fires not only represent a serious danger for the climate, environment and biodiversity, but also a serious threat for human beings and rural areas.

Furthermore, the occurrence of other natural disturbances such as storms, insects’ outbreaks, extended drought periods and heat waves are increasingly reported by forest owners and managers and are projected to further increase due to global warming.

A solution to counteract these negative tendencies is sustainable adaptive forest management which creates synergies between climate change mitigation and adaptation needs.

Forest sector contributes to climate change mitigation by replacing fossil-based materials and energy by woody biomass, while making sure forests continue growing and providing their multiple services. Moreover, developing markets for forestry residues will make climate adaptation measures, such as regular thinnings, economically more attractive for forest owners with a positive long-term impact on viability and health of forests.

As a consequence, sustainably managed forests will become more resilient against natural disturbances, such as storms and fires, have a higher productivity leading to higher carbon sequestration and in result providing more raw material to substitute carbon intensive material and energy. Fostering synergies between climate change mitigation measures and untapped market-based potential of forest sector via sustainable forest management will give them an active role in limiting global warming.

1 Nabuurs et.al.: Climate-smart forestry: mitigation impacts in three European regions. In: European Forest Institute, From Science to Policy 6, p. 7
Private Land Conservation becomes a major policy issue

The 14th Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP14) was held in Sharm El Sheikh, Egypt from 17 to 29 November 2018.

Jurgen TACK, ELO Scientific Director, COP14 Head of delegation

The Conference of the Parties (COP) is the highest governing body of the Convention on Biological Diversity. The COP brings together representatives of the Parties to the Convention along with other key players from civil society, business, indigenous and local communities, youth and others to review and advance the implementation of the Convention.

For the first time in the history of the Convention on Biological Diversity, the European Landowners’ Organization (ELO) participated with an official recognized delegation. For ELO there was a good reason to participate in this conference as nature conservation on private land was discussed for the first time during the history of the convention. Again, we see that private land conservation is recognized by international bodies. We already convinced the European Commission of the importance of private landowners in halting the loss of biodiversity. During COP14 we were able to make it clear to the 196 governments participating in the conference that also on the global level should private landowners have the possibility to be more closely involved in policies concerning nature. For ELO’s head of delegation, it is important to have a clear statement at this level as it gives an excellent framework to ask for additional efforts at the level of the European Commission.

On 29 November the 2018 UN Biodiversity Conference of the Parties (COP14) closed with broad international agreement on reversing the global destruction of nature and biodiversity loss threatening all forms of life on Earth.

Throughout the conference, Dr. Cristiana PAŞCA PALMER, Executive Secretary of the UN Convention on Biological Diversity, laid out the scientific case that human kind is currently on an unsustainable path that involves a continuing steep loss of biodiversity with cascading consequences for nature and for human society, including in the global economy, the availability of food and water, and human security, health and wellbeing.

The importance of involving private landowners was recognized and governments were asked to actively participate with private landowners to protect biodiversity worldwide.

Side event on private nature conservation tool

60% of Europe’s acreage is privately owned. Such a scale, engaging privately managed land in nature conservation actions is critical to reach the set biodiversity targets. Most EU countries have created voluntary programmes supporting landowners to implement biodiversity management activities. However, many of these programmes are relatively new and awareness of them is low amongst many landowners. The project LIFE ‘Land Is For Ever’ is now looking at existing incentives – including payments, subsidies and building public recognition – around the world and based on in-field information to see how to effectively raise the engagement of private landowners in conservation efforts.

The LIFE project is led by the European Landowners’ Organization, together with its partner TNC (The Nature Conservancy), it ran a side event at COP14 to introduce the project, present the situation around private land conservation in the EU, and look for inspiration further afield.

The conference’s international scope was the main benefit, Anne-Sophie MULIER explained: “With this event we wanted to raise awareness on the possibilities and present the need for a private land conservation framework of tools and incentives in the EU.”

Project representatives highlighted that private land conservation needs a greater global recognition in the legal language, including the Biological Diversity COP, to guide decision makers. The growing awareness can make policy makers understand the effect of supporting private land conservation towards meeting international biodiversity targets.

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On December 4 the 2018 Biodiversity Conference took place under the theme ‘Rethinking the biodiversity strategy: Where do private land managers fit in?’ The conference was hosted by MEP Karl-Heinz FLORENZ, and addressed various issues relating to the potential post 2020 biodiversity strategy. One of the key messages of the conference was the need to increase the awareness of biodiversity loss as an issue comparable to that of climate change.

Thierry de l’ESCAILLE, ELO Secretary General, opened the conference by highlighting the increasing public interest in biodiversity. As 60% of the European countryside is managed as private land, he stressed that the CAP is a crucial element for farmers and landowners who commit to preserving biodiversity. However, as the budget of the CAP is shrinking, more commitments are requested at the same time - a contradiction.

Jurgen TACK, ELO’s Scientific Director, raised the issue that there is a much higher media attention towards climate change than on biodiversity loss. However, it is important to take action against climate change and biodiversity loss at the same time. Referring to the EU Fitness check, he made the point that we need to have even more ambitious targets than we have today. Within this context he wondered if there are currently enough stakeholders involved to halt the loss of biodiversity. He highlighted the need to promote synergies with funding from the CAP, including effective use of Natura 2000 payments and agri-environment-climate measures.

Luc BAS, Director for Europe at IUCN and Climate Ambassador, agreed with him and said that there are two separate “bubbles” of climate change and biodiversity. Furthermore, he pointed out the issue of poor implementation of multilateral agreements and called for a “bottom-up” approach, which looks at the main drivers of biodiversity loss instead of only acting after the damage has already been done. Hence, Europe should become a role model with its biodiversity strategy.

A more concrete example of how agriculture can show ownership in biodiversity conservation, was presented by Sue COL-LINS, Advisor at Butterfly Conservation Europe. There are significant losses in the extent and quality of semi natural meadows as well as its insect population due to ploughing, fertilization, eutrophication, etc. According to her, landowners can learn how to avoid these problems with the right financial incentives and flexibilities in schemes.

Dr. Romain LASSEUR, Board member of the IZI Group, addressed the audience by giving attention to another important factor for biodiversity loss: invasive alien species. They cause severe damage to biodiversity, public health, economic activities and landscape integrity. While rapid reaction is needed in order to successfully prevent alien invasive species from spreading, there is a high regulatory pressure from the EU and the member states’ authorities on chemical methods to manage invasive species.

This year the biodiversity conference invited Katrina MARSDEN, Secretariat of EU Platform Large Carnivores to elaborate on the issue of the management of large carnivores in the EU. She spoke about several rural development measures in form of compensation and prevention. According to her, Rural Development Programmes (RDPs), as part of the European Agricultural Fund for Rural Development, have a high potential in certain EU member states to support land managers and farmers to find adequate support.

In his concluding remarks, Director General for Environment, Daniel CALLEJA CRESPO reflected on the work the European Commission has done so far on biodiversity policy and mentioned that by the end of 2020 the commission will publish a final assessment on its biodiversity strategy. He urged for a holistic approach on climate change and biodiversity loss. Within this context, it is essential that the new CAP measures provide for concrete results on the ground so that public goods are rewarded for biodiversity. In his opinion, there is a crucial role for landowners in safeguarding natural heritage.

All information available on: www.europeanlandowners.org/events/biodiversity-conference
Belleuropa Award ceremony

The Belleuropa Award rewards each year one of the members of the Wildlife Estate Label for its exemplary sustainable management plan. The Wildlife Estate Label is a network of exemplary rural estates with sustainable land use and sustainable management plans aiming at the protection of fauna and flora, and of cultural landscapes. This year’s winner perfectly embodies this philosophy. Karl-Heinz FLORENZ, Daniel CALLEJA CRESPO, Thierry de l’ESCAILLE warmly congratulated “La Ronca Estate” in Spain. The owner, Dr. Andrea MARATTI, warmly thanked the jury represented by Francesco NATTA for awarding him with the Belleuropa prize and closed his remarks by highlighting that we do not inherit the Earth from our ancestors but that we borrow it from our children.

For more information: www.wildlife-estates.eu

Agroforestry Systems: The Opportunity for European Landscape and Agriculture is a new Erasmus plus project that began at the end of last year

Branwen MILES, ELO

The aim of the AGFOSY project is to create a complex yet flexible training system relating to agroforestry. It will be based on case studies and best practices that will provide farmers and landowners with the skills, knowledge and competencies to implement agroforestry systems on their own farms. Agroforestry measures are able to bring a wide range of positive benefits to land management, as well as help landowners to achieve the goals of the CAP. It can provide solutions to different issues from unemployment to income diversification as ecological services.

The project will run for 24 months and gathers partners from the Czech Republic, France, Slovakia, Spain, Hungary and Belgium. The kick-off meeting took place in Prague where the partners were hosted by the project coordinator Association of Private Farming of Czech Republic. The consortium outlined the main objectives of the project and the first output, which will be a State-of-the-Art Report to be written on the situation of Agroforestry in each participating country.

The next part includes creating a report on Agroforestry measures in each country. It will look at the history, current practices and what legislation or barriers are impeding the development of agroforestry measures. The next meeting will be held in Montpellier, France in Spring 2019 hosted by l’Association Francaise d’Agroforestrie.

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Project No: 2018-1CZ-KA202-048153
Private landowners, what role for Europe’s nature?

Professionals and partners from all across the European Union came together in Brussels beginning of February to discuss the role of private landowners in protecting nature. Welcoming the other speakers and providing the opening remarks was Karl-Heinz FLORENZ MEP who gave warm and enthusiastic introductions about the rest of the panel.

Daniel MONTELEONE, ELO

The first speaker was Humberto DEL-CADO ROSA, Director Natural Capital, European Commission who outlined the issue. He noted that nature is slowly eroding and losing biodiversity. He proposed several ideas to help EU reach some of its 2020 goals, including trust building with private landowners, taking into account the psychology of landowners, and providing them with administrative support. He was hopeful that in 2020, future agreements would bring in more private landowners and other people to the table.

The next two panelists presented a global perspective to the issue. Jim LEVITT of International Land Conservation Network, mentioned how in the United States, the public, private, and civic (NGOs) sectors all work together to protect nature for the public good. He gave a history of conservancy in the United States, including the first publicly supported park in the world, the Boston Common which dated back to 1634. Other important conservancy events were in 1891 when Boston created the first regional land trust (today known as the Trustee of Reservation) and 1981, when the Internal Revenue Service began giving tax deductions for conservation easements. He was also optimistic about the future, explaining that the United States has been continuously accelerating private land protection.

Marianne KLEIBERG, with The Nature Conservancy, was the other presenter with a global perspective. The Nature Conservancy is the largest land conservation organization in the world, with over 1400 nature preserves and around 1.5 million hectares of easements. Since the 1950s, TNC has used new tools like conservation easements to help US land conservation grow. She explained that the public and private sectors need each other for land conservancy to be successful, and that good science is important in creating appropriate policies. She was hopeful that a new EU biodiversity plan would help conservation efforts in the future and thanked ELO for the work that they do.

The next presentation was a dual presentation with Anne-Sophie MULIER of ELO and Dr. Tilmann DISSELHOFF of the European Land Conservation Network (ELCN) – NABU on building networks for private land conservation in Europe. They mentioned the importance of building networks for private land conservation as more than 60% of the land under Natura 2000 is privately owned. It was also mentioned that most EU Member States already have a range of active voluntary programmes whereby landowners and land managers can receive payments and other benefits for participation in land management agreements for conservation purposes. As an example, two recent
successes were shortly introduced including the Flemish nature legislation, which gives private landowners exactly the same benefits as NGOs in governmental conservation support, and the Wildlife Estate Label, a European label giving public recognition to Estates that work and support land and nature conservancy. However, many of those conservation programs in Europe are relatively new or even unknown to European private landowners. In some cases, they may not even exist in regional or national laws and policies.

With the « Land is For Ever » Life+ project, which was explained by Ms. MULIER, the aim is to expand the use of private land conservation methods and approaches in the EU. Through dialogue with landowners and field tests in different EU member states, this project intends to develop recommendations for new and more effective private land conservation policies and show how those policies can be rolled out effectively at a larger scale. This bottom-up approach to policy development makes the project unique and gives the recommendations that emerge a great chance of success in the future. Doing so, this project builds a network of individual private landowners engaged in private land conservation in Europe which works in close cooperation with the Life+ ELCN project. The ELCN Life+ project was introduced by Dr. DISSELHOF. He showed a map of all the different NGOs that came together to form ELCN, and explained how they are building connections. It was explained that ELCN focuses on organizations while LIFE focuses on landowners. Together, they gave a definition of private land conservation, the importance of having the two networks today and how they are closely working together. Their success stories were shortly introduced including the Flemish nature legislation, which gives private landowners exactly the same benefits as NGOs in governmental conservation support, and the Wildlife Estate Label, a European label giving public recognition to Estates that work and support land and nature conservancy. However, many of those conservation programs in Europe are relatively new or even unknown to European private landowners. In some cases, they may not even exist in regional or national laws and policies.

Dr. Stig JOHANSSON, Director, Parks & Wildlife Finland, gave a member state perspective. In Finland, all protective areas are managed as one, and there is one national agency that runs them all. He noted that 80 percent of Finland is forest, and half of that land is privately owned. Of the 4.6 million hectares of protected land, 95 percent is state owned. With such a large amount of nature and forest in the country, it is important to have an effective plan. Landowners are compensated for the land that they put under conservancy, giving them incentive to be proactive. The ability to make up to 20-year contracts also helps to ensure that the efforts are consistent and long-lasting.

The final speaker was Angelo SALSI, head of the LIFE Nature Unit, European Commission. He gave a unique story about a landowner in central Iowa, who sacrificed millions of dollars in profit, to create a land easement, allowing families to enjoy nature in the area for generations to come. He hoped that future projects in the European Union are so forward thinking and that he thanked the entire panel.

Collectively, the panel took numerous questions from attendees, including private landowners, and Landelijk Vlaanderen. These questions included discussions on budget, an explanation of a bottom-up approach, a comparison of policies of the European Union and the United States Department of Agriculture, and the importance of government working with private landowners. The final statement was one of optimism and a positive look towards the future.
Annie SCHREIJER-PIERIK MEP opened the event by noting the future challenges of agriculture and food systems in Europe which include climate change, more demands on limited land, growing pest and disease pressures. ‘Science’ she noted ‘can help us face all these challenges’ and the MEP showed her frustration with the decision of the court to limit European access to seed breeding technologies that could be part of the solution.

Prof. Huw JONES of the University of Aberystwyth delivered the keynote address, in which he demonstrated to the audience that there are real scientific differences between the classic GM technologies that were developed in the 1980s and ‘90s and the new generation of seed breeding that has been made possible today. Prof. JONES further warned the audience that other parts of the world, including the US and China, would be moving swiftly ahead with implementing these technologies and that this could cause serious issues with regards to imports, as the end product of gene-edited crops would not be easily identifiable, unlike the current generation of GM technology. He ended his remarks by calling on a revision of the GM Directive that would take into account the ECJ decision while also expanding room for a more nuanced regulatory system that is tailored to individual products.

During the first panel, Rene CUSTERS of the Brussels-based VIB warned that a strict interpretation of the court’s wishes would result in blocks even for research purposes, noting that Flemish authorities had already requested additional data from his current research project, and forced him to reclassify it as a GMO trial. This was supported by Marc van MONTAGU, Emeritus Professor, who noted that the ECJ decision would have negative consequences for scientific research in Europe and that “the future, as I see it, is that we will use GM everywhere. It is not question of if, but when”.

The consequences of the ruling for international trade in particular was of concern to both speakers and the audience as the end-results of the new seed breeding technologies would be indistinguishable at a European port of entry from non-treated crops. Both Prof. JONES and Dr. CUSTERS noted that it would be nearly impossible to develop a tracking system for all new seed varieties, and that it would also not be required for non-EU countries to even institute such a system. Both noted that the most immediate effects could be a labelling system that tracks and traces from the non-EU farm to its final destination, but that such a system would be incredibly complex and open to abuse.

During the second session, Robert GRAVELAND, R&D Director at the Dutch seed breeder ZHPC noted that his company was already working at home and in Singapore with the new breeding techniques such as CRISPR, and employed almost 400 people. He urged the farming and scientific community to work on their communication and emphasize the advantage of these techniques, and called on regulators to create a better set of definitions between different categories of seed breeding. In this he was supported by Gonzalo PASTRANA, a young farmer from Spain, who requested more room in Europe for new techniques to help his farm cope with climate change.

The ELO would like to thank Annie SCHREIJER-PIERIK MEP and her team for hosting this event.
**Strengthening the position of family historic houses in Europe. Keeping track of the project ‘Heritage Houses for Europe’**

The project awarded to ELO, the European Historic Houses and IDEA Consult aims to ‘unleash the potential of heritage houses’

– Thierry de l’ESCAILLE ‘It is a unique opportunity for our historic houses owners to show the reality of the management of such houses to the wider public’ – Alfonso PALLAVICINI

Lucie MARET, European Historic Houses

We believe that if these two elements i.e. ‘internal’ – the owners and their houses - and ‘external’ – the whole environment surrounding them – come together in a positive way, we can ensure a bright future for heritage houses in Europe. This is what we will try to achieve with our Study and the policy recommendations it will feature, as well as the tools we will create for owners.

However, heritage houses and their owners are part of a wider scheme and the environment with which they interact. The following factors include most of the characteristics that are found with a business owner:

- Working with public authorities and being regarded as ‘full partners’
- Creating a connection with the local communities, and ensuring public support
- Developing relevant skills and life-long learning trainings
- Being able to use and adapt the house within a certain framework to warrant proper funding and maintenance

The study aims at assessing the added value of family-owned heritage houses in Europe; as well as identifying innovative business models.

One of the main added values of this project was identified by participants of its first workshop on November 6, 2018: it is the first ever Study which aims to have a European overview and to address the challenges of heritage houses at the European level. It aims at having an encompassing vision.

To achieve such level of understanding, the project rests on two pillars:

- An improved understanding of the socio-economic, cultural, environmental impact of heritage houses
- The identification and analysis of innovative business models supporting the sustainable preservation of heritage houses.

**More than 1000 replies to our survey**

The survey we launched at the end of December to gather information directly from owners on these two aspects made us realize how much this Study was needed, and also how much enthusiasm it sparked. We gathered over 1000 replies coming from 28 European countries.

This survey and the exploratory interviews we carried out confirmed that owners-managers are at the cornerstone of the preservation of heritage houses. They put in their personal involvement, responsibility, time, passion, care, soul, take the risks and create value. ‘Managing a heritage house is a lifetime job, you need to think long term’ said one of the interviewees.

**Addressing the discrepancies across Europe with pan-European networks of historic houses**

One of our first postulates in starting this project is that the situation of heritage houses varies widely across Europe, from country to country and from houses located in urban or rural areas. A way of addressing these discrepancies, and to mitigate the impact of the aforementioned external factors – which has risen from the discussions taking place within this project – would be to foster collaboration, notably through the creation of networks of heritage houses. Another important point would be that heritage houses receive the appropriate attention from the public and hence lawmakers – something we hope to achieve with this project.

**Help us unleash the potential of the sector. Get involved!**

- Subscribe to the project newsletter
- Read the first workshop report
- Join us for the final Conference in Brussels on September 24, 2019 (Agenda will be available soon online)
- Visit the website https://www.europeanlandowners.org/heritage-houses-for-europe/
- Get in touch with the project team: Marie.orban@ elo.org or I.maret@europeanhistorichouses.eu.

*CountrySide 179*
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Miguel Arias Cañete
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