

INSIDE

Movers and shakers **Innovative regions** Modern retail



THE PARLIAMENT

POLITICS, POLICY AND PEOPLE **MAGAZINE**

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ECHR

Court in the act?
European judges clash
over human rights

DEV DAYS

Moving the goalposts:
Planning for a post-
MDG scenario

GREEN WEEK

Unity in biodiversity:
Europe's biggest
environmental policy
conference is back

EXCLUSIVE

KARMENU VELLA

EU environment chief stresses nature's key role in nurturing economic growth



BENEFITS FOR HARVESTS AND BIODIVERSITY



Agriculture faces many challenges. It has to produce more food, feed and other raw materials to satisfy the increasing demands of a growing population. Agriculture must also contribute to economic prosperity and social well-being, while protecting natural resources such as soil, water and biodiversity. Conscious of the positive role that we can play, ECPA is working with partners to demonstrate and promote best management practices that benefit harvests and biodiversity.

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- REACHING THE GOALS OF RIS3 IN REGIONS
- THE KEY ASPECTS FOR INNOVATION DIVIDE
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European Union

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Ministry of
Education and Science
Republic of Latvia



State Education
Development Agency
Republic of Latvia



19



33



41



55



60

NEWSANALYSIS

7 ECHR membership offers citizens right of protection against EU acts

ECHR accession is being stalled by the ECJ demanding treaty change, and this must be dealt with as quickly as possible, writes Barbara Lochbihler

8 Accession to the ECHR is a legal obligation not an optional extra

The EU must do everything it can to move forward with ECHR accession, writes Cristian Dan Preda

11 The new reality in retail: Flexible and dynamic planning for modern cities

A Parliament Magazine event on modern cities and the future of the high street has highlighted how cooperation is needed to allow retailers to adapt to fast-changing technology

17 Replacing millennium development goals is test for global solidarity

Development days is a chance for the EU to influence the crucial 2015 development agenda, writes Neven Mimica

19 The EU must deliver decisive action to secure sustainable global future

A strong, cohesive European position is crucial ahead of key global development talks, says Linda McAvan

22 News and Tweets

COVERSTORY

27 Nature has important role to play in a healthy European economy

Thanks to EU legislation, Europe has managed to limit wildlife loss, but much more needs to be done to reach the 2020 targets, says Karmenu Vella

31 Green Week 2015 Programme

33 EU running risk of another year of biodiversity and ecosystem failure

Europe's 2020 goal of reversing biodiversity loss is 'pure fiction', but there is still time to save what's left, writes Pavel Poc

38 Majority of Europe's species have unfavourable conservation status

Despite improvements Europe's biodiversity still faces multiple challenges, warns Hans Bruyninckx

41 EU governments failing to exploit low-carbon and green job potential

Member states are wasting time propping up job sectors and energy sources that have no long-term future, argues Jean Lambert

45 EU ready to work with cities and rise to environmental challenges

The green capital award, as well its sister initiative the European green leaf, serve to empower cities to promote environmental sustainability, writes Karl Falkenberg

49 EU embarks on clear pathway to sustainable forest management

The EU's new forestry strategy has its roots in both sustainability and cutting red tape, explains Elisabeth Köstinger

50 EU biodiversity offers chance to craft prosperous economic future

Preserving biodiversity costs Europe very little yet yields considerable economic benefits, writes Luc Bas

53 Nature can provide key to tackling European urban health problems

Nature is a powerful tool for improving people's mental and physical wellbeing, and deserves further EU investment, writes Patrick Ten Brink

55 Collective European effort offers best hope for low-carbon future

The EU must balance technological change and a new energy mix if decarbonisation is to become a reality, argues Seb Dance

56 Maritime CO2 monitoring paves way for international agreement

José Inácio Faria says it is time the maritime sector contributed to the EU's CO2 reduction targets

60 Biodiversity and ecosystem loss impacts hardest on world's poor

Europe's biodiversity for life programme contributes to socioeconomic development and the eradication of poverty, writes Roberto Ridolfi

SPECIALREPORT

63 EU regional innovation must unite public, private and third sectors

Europe's regions must be encouraged to take a pioneering role in boosting innovation, argues Markku Markkula

66 Europe can take advantage of its high regional innovation potential

The EU should take steps to bridge the growing innovation gap between its regions, says Lambert van Nistelrooij



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Greening EU

It's hard to believe that green week will be celebrating its 15th edition this month. From small beginnings under the EU's then environment commissioner Margot Wallström to today's high-profile, multi-session media extravaganza, green week has essentially been one of the key institutional showcases for environmental policy over the years. Back in the day, Wallström – now Sweden's non-nonsense foreign minister – once sharply reprimanded me after some facetious question I'd asked about the environment not really being a real EU portfolio, saying that it was “everyone's responsibility, including mine”, to ensure Europe's environment was fit for the future. If I remember correctly, her successor as environment commissioner, Stavros Dimas offered me a similar dressing down when I questioned his “first mover advantage” policy while Janez Potočnik was probably just happy that we did his green week interviews by email allowing him to dodge the questionable questioning.

Gone are the days when so much of the green week debate seemed to centre on justifying EU environmental policy – more often than not to the commissioner colleagues of whoever held the environment portfolio. Over the years the event has both showcased new ideas and helped mainstream environmental thinking, not just to Brussels policy wonks but to a much wider global environmental audience.

This year, green week to a large extent is taking stock of its various initiatives and policies. As new environment commissioner Karmenu Vella writes in this issue, “during green week, we'll be looking at how we depend on nature, how we can best protect it, and how we can be sure our economic and environmental policies are pushing in the same direction”. Up for rumination are the EU's flagship habitats and birds directives as well as discussions on a mid-term review of the bloc's sometimes hit and miss biodiversity strategy as well as a look at the economic benefits of the Natura 2000 network. According to the Maltese commissioner, the benefits that “flow from the network” are worth up to €200bn a year.

As always the Parliament Magazine will be out and about and manning our stand at green week. Why not come along and have a chat with the team while policymakers, stakeholders and civil society reflect on a decade and a half's worth of EU environmental showcasing.

We look forward to seeing you during green week. ★

Brian Johnson is managing editor of the Parliament Magazine

ON THE COVER | Green week

Environment, maritime affairs and fisheries commissioner Karmenu Vella kicks off our special green week feature, underlining that “For decades our wildlife has been declining at an alarming rate. Valuable habitats have been lost as a result of rapidly changing land use, pollution, infrastructure development and continuing urban sprawl.” S&D deputy Pavel Poc also warns that the EU risks heading into another year where it fails to meet its biodiversity targets. The Czech MEP writes, “the degradation of ecosystem services, while they are being submitted to increasing human pressure, is likely to cost the world around seven per cent of its GDP by 2050.” Executive director of the European environment agency Hans Bruyninckx continues the cautionary tone, pointing out that more than half of Europe's species have an “unfavourable” conservation status. **See pages 27–61**



Forum on Fertilizers and Nutrients for Growth



23 June 2015; 15:00 - 18:00

Building: Altiero Spinelli (ASP), Room (A1H1)

Register: conference@fertilizerseurope.com

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- Air Quality Package
- COP21 and what it means for agriculture

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Reassembling nature on Tuscan islands: challenge for a new Life project - www.restoconlife.eu



Scopoli's shearwater
(*Calonectris diomedea*),
a Mediterranean endemic
seabird

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Vegetation of rocky coasts on Pianosa Island

Mediterranean islands host habitats with a high biodiversity, complex systems where isolation has produced very localized or endemic species. Each island is a system that works thanks to relations between animals or plants tested by the course of millennia. But what may seem robust and stable, becomes extremely fragile once one or more connections are altered: all can quickly collapse, with remote and expensive recovery chances. Alien species represent one of the worse possible alterations of our islands and can rapidly cause a net loss of biodiversity.

The EU Commission helps us fighting this threat by means of a new Life project on insular territories, based on a collaboration among the Tuscan Archipelago National Park, the National Institute for Environmental Protection and Research, the National Forestry Corps and the Biology Dept of Florence University. Four different islands have been targeted, namely Elba, Pianosa, Montecristo and Giannutri.

Several actions are aimed at seabird species, others are addressed to typical habitats, such as holm oak forests or vegetated rocky coasts. On Giannutri, the ice plant – an ornamental invasive species from South Africa – will be removed in order to make the coast belt available again for natural vegetation. Black rats and feral cats, that raid seabird nests, will be removed from Pianosa, along with some non-native game species and Eucalyptus. Ancient oak stands and maquis patches will be fenced on Montecristo to avoid damage from wild goats. Finally, on Elba, the only surviving dune system will be protected and a traditional breeding site of Audouin's Gull has been purchased to be correctly managed.



Corpo Forestale dello Stato

ECHR membership offers citizens right of protection against EU acts

It is 15 years since the European parliament, council and commission proclaimed the EU's charter of fundamental rights (ECHR), and six years since it came into force. According to the Lisbon treaty, the ECHR holds the same legal value as all other treaties and fundamental rights form the general principles of European law. With EU accession to the ECHR, the European court of human rights (ECtHR) would consequently be responsible for EU issues.

These steps triggered a lot of hope among human rights defenders and seemed to pave the way for a new era. In April 2013, the Council of Europe and the EU finalised a draft accession agreement. In 2010, parliament had stressed that the relationship between the two European courts – the ECtHR in Strasbourg and the European court of justice (ECJ) in Luxembourg – should not be hierarchical in nature. However, this seems to be a problem which, in December last year, disappointingly led to the ECJ refusing to hand over its responsibilities to the ECtHR.

In a May 2010 resolution, MEPs expressed their desire for the two European courts to contribute to harmonious development in the field of human rights – particularly due to a heightened need for cooperation – and create an integrated system in which both courts would function synchronously. This is the working method between member states' national courts and the ECJ. Now, Luxembourg judges insist on the creation of rules to ensure the ECJ never falls under Strasbourg's external control. This means we need treaty reform and that in the medium-term, there will be no accession to the charter.

In terms of the implementation of human rights, the ECJ's position is a big step back, even if some existing constitutional measures must be respected.

Because an EU human rights regime would be integrated into a higher ranking system, accession would strengthen the protection of citizens not just against action taken by their own countries, but also actions by the EU and its different institutions. If an organ of the EU directly violated a person's fundamental rights, and that individual lost the case before the ECJ, he or she could call upon the ECtHR to rule on whether or not a violation had taken place. If there was a violation of fundamental rights, the EU would have to take the necessary measures to put an end to it.

Accession to the charter would be especially helpful with regards to EU institutions such as Frontex as up until now, the agency has refused to take responsibility for human rights abuses against refugees during missions, instead accusing the member states. With an external court such as the ECtHR, this would be far more difficult. And, accession would send a strong signal on the coherence between the EU and the countries belonging to the Council of Europe and its pan-European human rights system. It would also enhance the EU's credibility in the eyes of third countries.

If Luxembourg judges are demanding treaty changes for ECHR accession, the commission must elaborate a new draft as quickly as possible. ★

"If an organ of the EU directly violated a person's fundamental rights, and that individual lost the case before the ECJ, he or she could call upon the ECtHR to rule on whether or not a violation had taken place"



ECHR accession is being stalled by the ECJ demanding treaty change, and this must be dealt with as quickly as possible, writes **Barbara Lochbihler**

Barbara Lochbihler
(Greens/EFA, DE)
is a vice-chair of
parliament's human
rights subcommittee

Accession to the ECHR is a legal obligation not an optional extra

The EU must do everything it can to move forward with ECHR accession, writes **Cristian Dan Preda**

Cristian Dan Preda (EPP, RO) is a vice-chair of parliament's human rights subcommittee

Back in 2010, parliament welcomed the prospect of EU accession to the European convention on human rights (ECHR) as an historic opportunity to coordinate a common framework for human rights across the continent and within the union. During that parliamentary term, I drafted the foreign affairs committee opinion on the institutional aspects of EU accession to the ECHR. We appreciated that this would make it possible to safeguard human rights and fundamental freedoms for EU citizens and member states on the same basis, and also to establish an additional external control system for human rights in the EU. We also expressed hope that this would ensure the harmonious development of the case-law of the European court of justice (ECJ) and the European court of human rights (ECtHR). Since the promotion of respect for human rights – a core value of the union as enshrined in its founding treaty – constitutes common ground for its relations with third countries, we took the view that accession would further enhance citizens' confidence in the EU and its credibility in talks on human rights with other states.

Five years on, and EU accession remains in limbo. In its

opinion published last December, the ECJ found that the draft accession treaty to the ECHR, painfully negotiated for three years with the 47 Council of Europe (CoE) countries, to be incompatible with EU law. I will not go into detail on this complex opinion, but I would like to press for action. Negotiations should continue with the CoE, so that a satisfactory solution can be found, even if this will not be easy given the strenuous relations the EU currently has with some CoE members, such as Russia. Accession to the ECHR is after all not merely an option, but a legal obligation: the EU 'shall accede' to the convention, says the treaty. Furthermore, failure to accede would weaken the protection of human rights in Europe. If it were to finally succeed, it would mean granting citizens protection from EU actions, similar to that which they already enjoy against action by all member states.

Overall, the ECHR, as supplemented by its protocols and interpreted by the ECtHR, provides the most comprehensive and efficient human rights protection system across the continent. Although initially the Strasbourg court was meant as a safeguard against totalitarian regimes, it subsequently evolved into a jurisdiction setting up a pan-European grounding for rights. At times, the ECtHR's work has been criticised for encroaching on the authority of national courts, and the whole issue of the ECHR has recently been politicised, for instance in the UK. But the reality is that the ECtHR interprets the convention by drawing on legal principles accepted by all state parties and strives to respect the legal, cultural and political particularities of each one. Supporting the work of the Strasbourg court, as well as devising intelligent and workable solutions for cooperation with the court in Luxembourg, should therefore be our priority.

In spite of recent setbacks in EU accession to the ECHR, creating a single, comprehensive and coherent legal framework for protecting human rights across the continent still remains a valid objective, one that it is worth fighting for at EU level. ★

"The ECHR provides the most comprehensive and efficient human rights protection system across the continent"



Air pollution, climate and ecosystems: Closing the loop between research, policy and public awareness



Impacts of air pollution on ecosystems are widely accepted, addressed by FP7 projects including ÉCLAIRE (co-ordinated by CEH), where interactions with climate change and policy are also addressed. Moreover, CEH also close the loop by making such impacts visible and locally relevant for the public using citizen science. This includes the development of a novel mobile phone app for surveying lichens to assess nitrogen air quality. Recent research on UK oak and birch trees identified a set of 'indicator' lichens with clear responses to increasing concentrations of atmospheric nitrogen pollutants. Lichen-App includes three simple elements:

- Lichen identification guide for nitrogen sensitive and tolerant species
- Simple recording system for surveying lichens on tree trunks and branches (only 5 trees required)
- Robust method to determine nitrogen pollution levels utilising a standardised nitrogen air quality index (NAQI)

Lichen-App clearly informs the public of their local air quality: 'Clean', 'At risk', 'Nitrogen polluted' or 'Very Nitrogen polluted'.

www.apis.ac.uk/lichen-app

Bill Bealey & Clare Howard are based at the Centre for Ecology and Hydrology (CEH)
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ÉCLAIRE is a 39 partner FP7 project
www.eclaire-fp7.eu.

Lichen-App is a tool developed by CEH with material supported by Scottish Environment Protection Agency, Natural History Museum, Scottish Natural Heritage, Northern Ireland Environment Agency, University of Nottingham, SNIFFER & Joint Nature Conservation Committee.



WIRELESS ANTI-COLLISION AND ANTI-DERAILMENT DEVICES FOR RAILWAY TRANSPORT SAFETY

Riga Technical University has developed the system for prevention of derailments, collisions and crashes on the railways and level-crossings by reducing human factor using wireless microcontroller system, intelligent embedded software and satellite systems in a frame of CORDIS FP7 EMC2 project. The system is adaptive, it does not need any input from the train driver and does not disturb the existing trackside control system and the existing braking system in the locomotive. The system has been tested for several years in real conditions in collaboration with JSC Latvian Railways and approved the workability. The safety system an auxiliary to existing railways, is compatible to the various railroad system types, it is flexible, modular and re-programmable that allow fast and easy extending of functionality by user request for the solution of other tasks and adapt them to different requirements and standards.

The system is protected by the international patent No. EP2585354.

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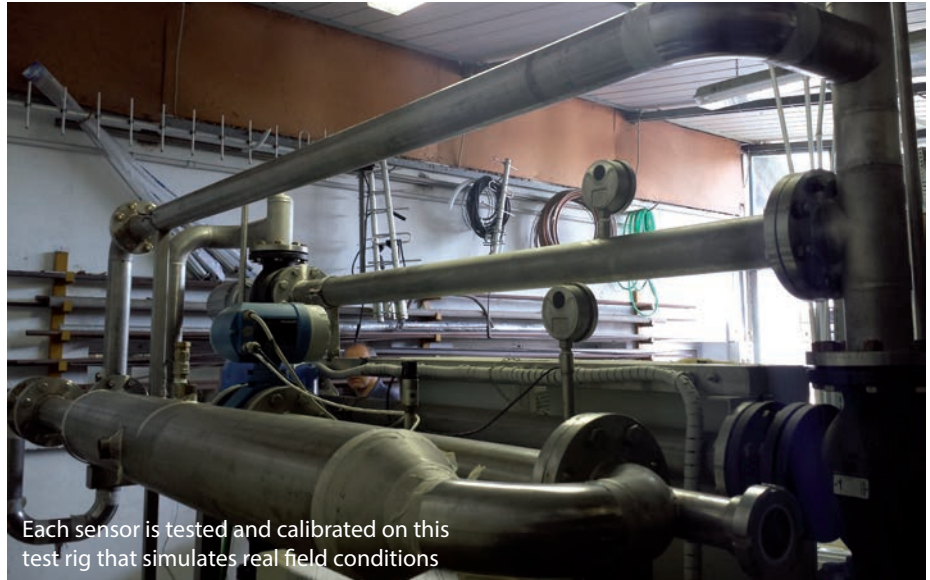
smart integrated management of water networks to cut down leaks, energy costs and emissions

Every cubic meter of water pumped into a drink water network that does not reach final use, sums up the quantity of water abstracted in excess, the energy to treat it and the emissions linked. Just think that the energy required to deliver 1000 litres at tap is in a range between 0.3 to 0.6 KWh. That is why smart, efficient management of potable water systems reflects on the quality of service delivered, on costs, on revenues, on tariff, on environmental impacts.

The key to achieve efficient management is to converting into Smart Water Networks, which means grounding the decision making process on good knowledge of the underlying physical system: water network behaviour over time to set dynamic alarm thresholds; perform fine-grained investigations to spot leakages and misoperations early, analyze data to prioritize interventions; explore alternative management choices.

Knowledge is obtained through measuring and its quality depends on proper design, deployment, and management of sensor systems and of collected data.

Until now, converting into Smart Water Networks was an expensive choice. Instead, the solution designed by the WETNET (ECO/12/332771) project allows even small water companies to put in place smart, integrated network management. It has been conceived, engineered and brought to market with the financial support of the Eco-Innovation programme of the European Union by the Italian-Spanish WETNET Consortium (www.wetnet.it), to deliver a scalable,



Each sensor is tested and calibrated on this test rig that simulates real field conditions

configurable, low-cost, open source system that supports well-to-tap decisions.

At pipe end, there is an innovative strain-gauge hot-tap insertion flowmeter device with both stand-alone operation capacity and the possibility to connect to a remote sensing network. This sensor's technology is based on a patented flow-meter already installed in water distribution networks. Very low installation and maintenance costs allow to install all sensors needed to monitor the network. These flowmeters can coexist with others of different type, and send data over existing networks or dedicated new one that can host and serve old and new devices, allowing smooth upgrade plans.

On decision making desks, the Supervisory Services (WSS) are an elegant dashboard for data analytics and intelligent, knowledge-based Integrated Water Network Management, linking to data sources, simulation and modelling tools, and corporate management software in use. A range of data elaboration and presentation tools are configurable to support better decisions. Advanced algorithms trigger event alerts that are sent to users, and available for analysis on mobile devices.

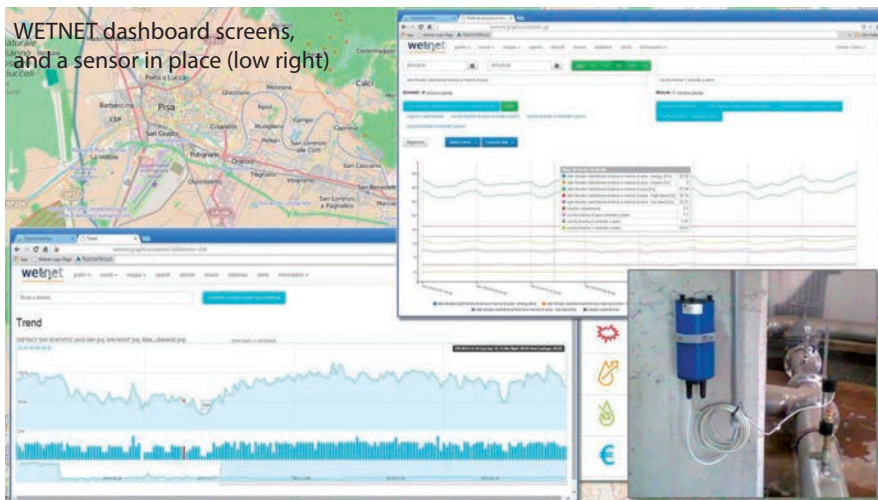
WSS software is released under EUPL licence, and is supported by a growing community of developers.

With WETNET in place, leaks, abnormal consumption variations, incoherent measurements, are constantly under control and linked to decisions that make sense for good management, for users, and for the environment.

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wetnet
true monitoring of water networks

WETNET dashboard screens,
and a sensor in place (low right)





The new reality in retail: Flexible and dynamic planning for modern cities

A Parliament Magazine event, organised in cooperation with the Fraunhofer institute for industrial engineering IAO, has stressed the need for cities and retailers to adapt to constantly emerging new technologies.

Opening the discussion, MEP host Jan Olbrycht said, “urban issues are very fashionable today, but some years ago there was a lot of debate around whether or not the EU should concentrate on the topic”. The founder and president of parliament’s urban intergroup explained that, “urban planning is very important. There is ongoing debate about commercial centres, whether they should be inside or outside city centres, how they influence the processes of city development, the relations between different partners in the city and how they influence city planning”. He added that there are further questions on the issue, such as, “does city planning decide on the localisation of city centres, or do city centres completely change the way of thinking on city planning? And what about the future of cities considering our new way of life?” “There is ongoing and growing

debate in Europe on city development, city planning, urban planning and commerce, and the problem of new methods of commerce, such as eCommerce.” “New realities and new conditions have changed our way of life”, stressed Olbrycht.

The first speaker on the panel was Alexander Rieck, head of corporate projects at the Fraunhofer institute, who said, “everything happens in the city and everything happens at the same time, and that obviously makes the city very interesting”, adding that as a result of this “we can no longer allow ourselves to look at different silos”. “Every European city started with a marketplace, doing trade there was the reason everything around it was developed [such as factories] and protection”. “Walls surrounded the whole city, so people were either within the walls and therefore inside the city, or outside”, but later, with industrialisation, “suddenly the wall was torn down and we spread out the city”. This was followed by “the American model where the city has no centre”. This trend has been exacerbated by eCommerce, which “not only happens in the city centre – it

A Parliament Magazine event on modern cities and the future of the high street has highlighted how cooperation is needed to allow retailers to adapt to fast-changing technology





“Cities should be prepared, helped and supported – they should have some sort of guidelines”
Jan Olbrycht

A new reality

There has been a debate surrounding urban issues for years, and the question as to whether there should be a common European approach to such matters – and how it should be shaped – persists. Developments in recent years have shown that European cities want and need structured guidelines. Many of them have been inspired by the commission’s ‘cities of tomorrow’ study on how to shape a future of European cities. The EU urban agenda’s foundations were laid out in 2014, and this year it will become a reality. Therefore, an in-depth analysis of what should be done for cities must be carried out.

Commerce is an integral part of each city. Historically, retail was located in city centres – the marketplace. However, new technologies and social progress have added new meaning to ‘the marketplace’ – it can now be virtual and function online. Yet its principle remains – to retail.

Not too long ago, there was talk of small business being swept up by big retailers and individual shops by city centres. Initially, these large retail structures were not welcome in city centres, but they progressively moved into the high street. Today, the conversation has shifted to a completely new topic. We are slowly moving from the historical marketplace towards a digital one. Once we thought the European single market was completed, the digital dimension emerged as a crucial component, revealing a clear need for a digital single market.

A common pattern has appeared – what was once unimaginable, sooner or later becomes a reality. Inevitably, urban planning takes into account different factors that are important for cities, such as commerce, but it evolves at a much slower rate than technology and society. Cities will find a way to adapt to these changes, but we must listen and observe to help this evolution happen.

Jan Olbrycht (EPP, PL) is president of parliament’s urban intergroup



“The role of the digital single market and eCommerce is of crucial importance for modern cities”
Jasmin Battista

happens everywhere at the same time”. Rieck highlighted that the urban situation is becoming increasingly complex, and that many key features of city life are changing, including, “energy providers and construction, while mobility is set to be a main game changer”. He added, “commercialisation is no longer about going to a marketplace, it’s about distribution of goods happening at the same time”. This has proven to be a struggle for city planners and architects, who typically need “15, 20, 25 years” to complete their work, whereas the current innovation cycle “lasts three to six months”.

Jasmin Battista, a member of European commission vice-president for the digital single market Andrus Ansip’s cabinet, said, “the role of the digital single market and eCommerce is of crucial importance for modern cities”. Battista stressed that the commission’s new digital single market strategy, which



"20 million people work in retail in Europe – this is 15 per cent of the workforce, which is not bad in an economy that still has an unemployment rate of over 10 per cent and where many industries are quite rapidly being automated"

Frédéric Godart

was unveiled earlier this month, aims at "making Europe more competitive through digital means".

At the moment, "an SME start-up that wants to sell cross-border looks at the different legislation in place and when it realises it needs to study 28 legal systems, all for a few customers abroad, they give up. Therefore, the idea is to have a key set of harmonised rules".

Frédéric Godart, assistant professor of organisational behaviour at the INSEAD business school in Fontainebleau, France, explained that while some believe the retail sector is in decline, "20 million people work in retail in Europe – this is 15 per cent of the workforce, which is not bad in an economy that still has an unemployment rate of over 10 per cent and where many industries are quite rapidly being automated".

For Godart, traditional shops are now moving to adapt to new technologies and integrate them into the shopping experience, giving the example of French retail chain Fnac, which sells cultural and electronic products. Fnac has adopted an "omnichannel" approach, meaning customers can "order in the shop, order from home and collect in the shop, or order from home and have their goods delivered anywhere in the world". Conversely, "a lot of eRetailers have decided to go back to physical space". Here, he gave the example of US menswear brand Bonobos, which has opened "guide shops" in which customers can "talk with a shop assistant, touch the clothes and fabric and see if they like it", then have the goods delivered to their home.

The last speaker was Stephan Jung, shopping centre investment director for Savills Hamburg, who told the audience, "the product is not what matters anymore, what matters is the consumer". Echoing Godart's comments on retailers adopting

Reinventing the marketplace

Cities, their high streets and retailers are searching for a suitable answer to fast changing consumer behaviour. A small increase has been reported in retail, but this is a dangerous illusion – growth has benefited online trade, and traditional brick and mortar stores are now suffering from a rapid shift towards virtual business. The number of people travelling into cities is decreasing, and a two-digit percentage of stores is expected to disappear over the next few years.

While traditional shops must abide by a number of confusing restrictions in assortments, sales space, opening hours and parking for example, anyone can easily open an online store within hours with almost zero investment. And, these online shops are open 24/7.

Cities must bear in mind the function marketplaces have had for centuries and reinvent it, but they must also not forget that the development of large cities was mostly driven by markets. Of course, this is not easy, but it means that testing and experimenting must be allowed, with high flexibility and swift decision-making. This will only work within a deregulated context, in which decisions are submitted to local municipalities on a case by case basis.

European citizens want to spend quality time within quality space in their cities. A good shopping experience is an important pillar, and free wifi will soon be a standard service in city centres. Retailers must adapt to high expectations in terms of service, and stop focusing on the cost. The competition of tomorrow is linked to convenience, time, value and a great experience.

Retailers, landlords and investors need help from the EU and its member states in order to stay competitive in a fast-moving market. Otherwise, a significant portion of the almost 20 million retail jobs will be at risk. Deregulation is one way of providing assistance, as is an innovation platform for best practices, and the reinvention of the traditional marketplace.

Stephan Jung is Savills Hamburg's shopping centre investment director



"Some people say the new currency is time, and in our world, convenience and time are very important"

Stephan Jung





“Everything happens in the city and everything happens at the same time, and that obviously makes the city very interesting”

Alexander Rieck

an ‘omnichannel’ approach, he explained, “customers are already ‘omnichannel’ and expect all retailers, cities and online players to be as well”. “[This] is just the opposite of playing online against offline – it is integrating and combining things, and making them easy and fast”, said Jung. He underlined that, “some people say the new currency is time, and in our world, convenience and time are very important”.

Cities must be careful not to overlook the changes retail is going through, which could result in disadvantages for brick and mortar stores. Jung gave an example of a local shoe store, which required years of getting permits, while a large distribution centre for eCommerce opened outside the city within a few months. There is considerable potential in integrating both formats, and authorities need to be ready to embrace these opportunities – customers are already doing it. Jung pointed out that, “people who shop online want to have their product immediately, they love to click and collect in store, so retailers need to understand they will probably become a bit more of a logistics company”.

During a fruitful Q&A session following the presentations, Olbrycht was asked what might be done to help cities adapt to fast-paced technological changes. He explained that the

current dominant idea of ‘leave it to the cities and we will see’ is “wrong,

because the process is not initiated by cities, it is coming from the outside, and cities should be prepared, helped and supported – they should have some sort of guidelines”. The problem is that cities “do not have enough money to adapt to new technology”, despite the fact that “eCommerce is growing and will continue to grow”. He added, “the question is not whether or not this is good – the process is ongoing, so the question is how to react”. As a result, this requires “new responses – cities should work in close cooperation with commercial centres”.

Concluding the discussions Jan Olbrycht said that previously there had been a gap between “big commercial centres and small shops”, but that “we are now in a completely new reality and people hadn’t even noticed the world is now completely different, with completely new challenges.”

“The whole retail sector [is set to enter] a completely new situation, as are cities, and city planners who will have to rethink ‘the city’.” The future has already started, but it will go very fast”, he warned. ★

TWECOM: Towards eco-energetic communities

Biomass from landscape elements for local energy production

TWECOM is an Interreg IVB NWE project in which 6 partners from 4 countries aim at demonstrating that a sustainable use of woody biomass from landscape elements for local energy and heat production is economically feasible. For this, all aspects of a local chain of biomass valorisation were investigated: planning, harvest, logistics and use. In Belgium a pilot was established in which a school campus in Bocholt is heated with wood chips, harvested from hedgerows in the surrounding area. Local farmers, the municipality and the schools are united in a local cooperative. Many other regions express their interest in setting up comparable initiatives.

One of the main conclusions of the project is that landscape elements are multifunctional. Beside the potential of delivering renewable energy, they have important ecological functions, determine a regional identity and in some regions they can be considered as cultural/historical elements. For this a joint vision plan on these landscape elements agreed by all stakeholders is an absolute requirement. Besides efficient machinery and planning, the cooperation between the local stakeholders is another success factor. The local cooperative is a tailor-made structure as it depends on the local stakeholders, their role, possibilities and responsibilities.

TWECOM encourages policymakers to recognise the multiple benefits of hedgerow systems in a cross-sector policy, especially when developing a future vision on the role of biomass for a sustainable energy transition that goes hand-in-hand with ecological needs. TWECOM has developed policy guidelines to further strengthen the role of hedges as community-builders and energy-sources.

Biomass from landscape elements needs to be considered as a product, not as residue or waste that needs to be disposed, transported and processed according to the terms of waste. Using biomass from hedges in some kind of local product-cascade is a valuable process-tool for the promotion of hedge-products in our society.

TWECOM suggests revising the role of hedges in the CAP 2014-2020. Currently it is at the discretion of each member state to include hedges as a practice to fulfil the requirements of ecological focus areas (EFAs). Because of the outstanding importance of hedges, especially for already vastly cleared and intensively used agricultural areas, we consider it necessary to include hedges as a permanent and EU wide option for EFAs.

The project revealed bottlenecks in EU legislation demonstrating the lack of cross-sectoral integration. Good management of hedgerows – e.g. by cyclic harvest of the biomass at regular basis, is ecologically interesting and could attract Red List species. As a consequence farmers can be forced to refrain from certain agricultural production methods and to take additional protection-measures, which can have a big influence for farmers. Secondly the planting of new hedgerows by farmers is hindered by the fear that they can't be (re)moved once they are planted.

TWECOM encourages policymakers to take these dilemmas in account when further developing EU policies.



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Replacing millennium development goals is test for global solidarity

We are currently halfway through what is certain to be a pivotal year for development. The European commission and parliament dedicated 2015 as the European year for development (EYD) - the first year to focus on external affairs. Why? We did this, quite simply, because the world stands at a critical crossroads. Important opportunities sit within our reach as we take stock of progress made on the millennium development goals (MDGs), agreed by the international community in 2000, and look towards the future of development.

In July, the EU and its global development partners will have an opportunity to demonstrate our solidarity with developing and in particular least developed countries at the third international conference on financing for development in Addis Ababa. Following this, in September in New York, UN members will agree on the new sustainable development goals (SDGs) - the next set of guides for our

development work that will replace the MDGs. The success of the new goals will depend on the development community's decisions in Addis Ababa. This is a true test of global solidarity, because financing for development and sustainable development are two sides of the same coin. Finally, in Paris in December, we will create a new climate change agenda, providing yet another opportunity to build solidarity and lay the foundations for a truly sustainable future for generations to come.

This year's European development days conference taking place on 3-4 June are a chance to influence these major processes. There have been considerable achievements over the past 15 years and we can all be proud of Europe's contribution. As the world's largest donor,

the EU and its 28 member states have played a key role in achieving the MDGs. In 2013, we provided €56.5bn in official development assistance - more than half of all global aid.

When we discuss the SDGs in Brussels at development days, I believe that we need to look beyond making poverty history. We must seriously address sustainable development in all of its dimensions - economic, social and environmental - as well as how to create the conditions for fair and just societies that embrace good governance, human rights and peace.

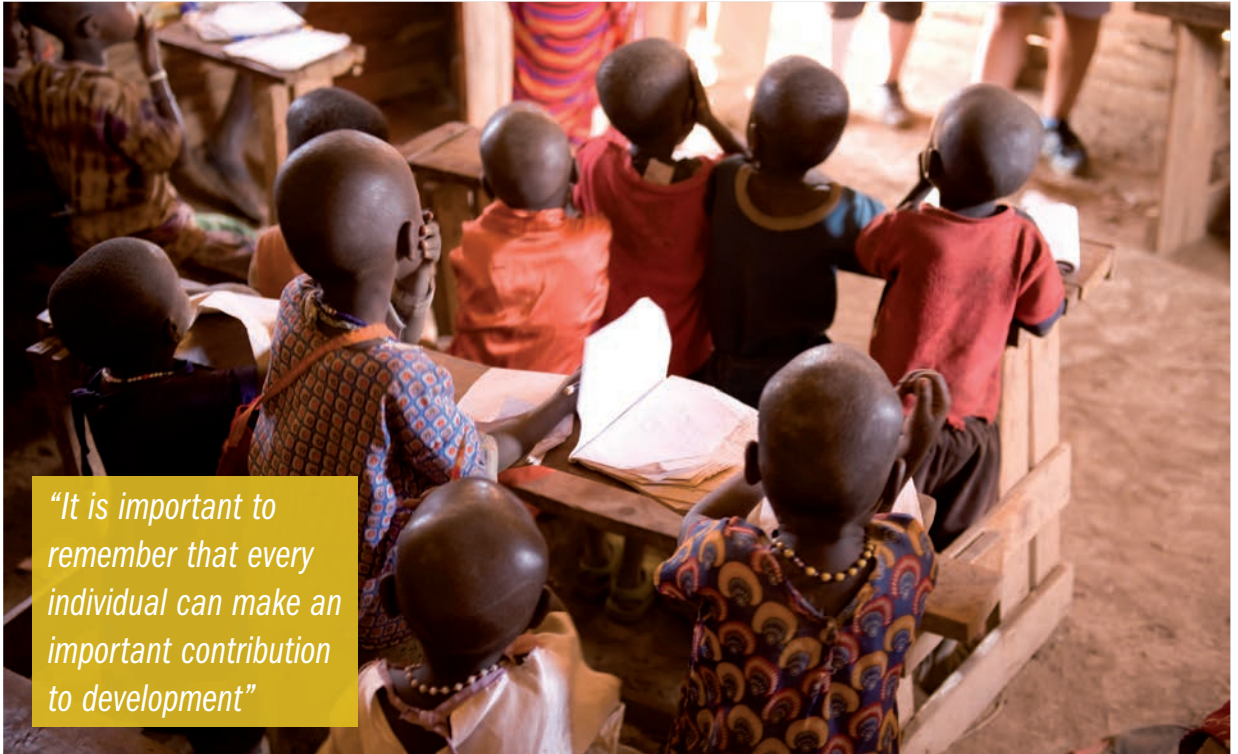
The private sector can contribute significantly to this sustainable development. Companies have started to make corporate social responsibility a norm for how they do business in Europe and abroad. They now understand that sustainable business is good business. It is important to remember that every individual can make an important contribution to development. One of the pillars of the year is 'think global, act

Development days is a chance for the EU to influence the crucial 2015 development agenda, writes **Neven Mimica**



"When we discuss the sustainable development goals in Brussels at development days, I believe that we need to look beyond making poverty history"





Visit www.eudevdays.eu for more information on the conference

Neven Mimica is European international cooperation and development commissioner

European year for development monthly themes

January – Europe in the world
February – Education
March – Women and girls
April – Health
May – Peace and security
June – Sustainable green growth, decent jobs & businesses
July – Children and youth
August – Humanitarian aid
September – Demography and migration
October – Food security
November – Sustainable development and climate action
December – Human rights and governance

local'. In other words, each of us can make a difference in our daily lives. The January 2015 Eurobarometer survey revealed that EU citizens remain strong advocates for development. The number of people in favour of increasing aid has jumped significantly to 67 per cent and one-in-two Europeans sees a role for individuals in tackling poverty in developing countries. Almost three quarters of Europeans also say that tackling poverty in developing countries contributes to a more peaceful and equitable world.

This solidarity is reflected in the overarching theme we have chosen for the year and for development days – 'our world,

our dignity, our future'. Participants at development days will debate and discuss the critical issues of our times within the framework of four overarching themes. First: our world – creating sustainable growth consistent with the limits of the planet. We will discuss the challenges and opportunities of an increasingly urban world, sustainable energy, climate change and building resilience. Second: our dignity – developing a shared vision consistent with universal and fundamental rights. Participants will

discuss gender rights, the right to health, inclusion and inequality. Third: our future – all policies can make a difference. The debate will include food security, fair globalisation and migration. And finally: our future – we are all actors in development. Participants will debate how to create growth and eradicate poverty, the importance of global citizenship and the need for decent jobs.

I'm delighted that more than 400 high-profile speakers from the donor community, the private sector, academia, civil society and government, will come together with an anticipated 5000 participants to debate – and frame – the future of development. This year, more than 50 initiatives will be showcased in the 'project village', where participants can experience how people working together can make a difference.

This year, for the first time, 14 young 'future leaders' will join the debates. These young people were selected from 172 applications, chosen on the basis of their commitment to global citizenship, their skills and their experience. We believe they deserve the opportunity to shape the policies that will affect their future – and that policymakers need to hear their voices.

I'm convinced that development days is a chance for all of us to demonstrate our solidarity with people struggling to make a better world for themselves, their families and their communities. I am confident that Europe's premier forum on development will deliver the creative thinking we need to shape the next decade of cooperation. ★



The EU must deliver decisive action to secure sustainable global future

This week's European development days (EDD) in Brussels are taking place at a crucial time for development policy. It is the European year for development and 2015 will also see key decisions being taken in a series of global conferences which affect development policy. These are the third international conference on financing for development in Addis Ababa in July, the UN summit on the sustainable development goals (SDGs) in September and the Paris climate change talks in December. The European commission will also be preparing a new gender action plan (GAP) and looking at how to put the interests of women and girls at the heart of our development policies.

Looking at the programme of events for the EDD, we see that preparations for Addis, New York and Paris dominate the agenda. What everyone is asking is whether 2015 will go down as the year global

leaders took decisive action to secure a sustainable future for our planet. That is the crucial question as the UN steps up negotiations on replacement targets for the millennium development goals (MDGs) at the general assembly in September in New York and gets back to the negotiating table to agree policies to cut CO2 emissions. MEPs, who will be taking part in a number of debates during development days to address these issues, want the EU to play a leading role in those UN talks and have adopted reports calling on ministers to adopt joint negotiating positions in advance of the talks.

"I want to see 2015 remembered not as just another 'European year of...', but as a year where we laid the foundation for genuine improvements in people's livelihoods and better stewardship of the world's natural resources"

EU development ministers met in Brussels on 26 May to prepare their position for the first of these major conferences, the Addis Ababa conference on financing for development. Last month in Strasbourg, MEPs voted overwhelmingly for a report by Pedro Silva Pereira whose main message

A strong, cohesive European position is crucial ahead of key global development talks, says **Linda McAvan**



was that EU member states must stick to their commitments on official development aid (ODA) made back at the time of the G8 summit in 2005 in response to the 'make poverty history' campaign. At that time, 'old' member states agreed to meet the UN 0.7 per cent GNI for ODA by 2015, while 'new' member states had a target of 0.33 per cent. So far, only four member states have met their target. Aid is, of course, only one source of funding for development and we need to examine other ways of raising cash through private sector development and, crucially, increasing tax revenue in developing countries: the OECD calculates that if we could increase tax revenue in developing countries by just one per cent, it would be equivalent to doubling aid. Parliament is preparing a separate report to be voted in July on tax and development which, I hope, will put pressure on multinational companies to pay fair taxes and prevent illegal financial flows.

As regards preparations for September's UN summit in New York, top of the agenda is replacing the millennium development goals (MDGs). There is no doubt that the eight MDGs did lead to real improvements in people's lives: extreme poverty halved, millions more children in school, over two billion people given access to clean water and sanitation and fewer infant and maternal deaths in childbirth. But more needs to be done if we are to achieve the goal of eradicating extreme poverty by 2030. This was the key message in the report by Davor Stier adopted last year by parliament, which urges the EU to adopt a strong, cohesive position in the upcoming intergovernmental negotiations underpinned by the concept of a human rights-based approach to development policy.

Coming quickly on the heels of New York are the climate talks in Paris in December. For the world's poorest peoples global warming is not a future problem but a real and present danger. We need a renewed sense of urgency and serious emission reduction targets backed up by policies to deliver them if we are to stabilise global temperatures. While parliament's environment, public health and food safety committee leads on climate change policy, the development committee will be pressing for development aspects to be kept to the fore.

So there is plenty to talk about and plenty of serious work to do at the European development days. I want to see 2015 remembered not as just another 'European year of...', but as a year where we laid the foundation for genuine improvements in people's livelihoods and better stewardship of the world's natural resources. If the EU can achieve this in 2015, backing up words with concrete actions, it will do much to enhance its role in the global community. ★

Linda McAvan
(S&D, UK) is chair
of parliament's
development
committee

"The OECD calculates that if we could increase tax revenue in developing countries by just one per cent, it would be equivalent to doubling aid"



Achieving sustainable development through animal protection



At World Animal Protection, we work for urgent, international recognition of the benefits that animal protection and welfare bring to people. Animal protection benefits poverty eradication, disaster resilience, food security, climate change, public health, and biodiversity.

Animal protection helps eradicate poverty

More than 1 billion of the world's poorest people depend on animals for food, income and transport. Animals are their main productive assets. Improving the welfare of animals enhances productivity and therefore the services and income they provide.

Animal protection enhances disaster resilience and post-disaster recovery

The recently adopted Sendai Framework for Disaster Risk Reduction acknowledges that in addition to saving people's lives, effective disaster risk reduction also protects people's livelihoods and productive assets. These assets include livestock, working animals, tools and seeds. Involving animals in disaster risk reduction efforts will reduce suffering, speed up recovery and maintain previous gains in development.

Animal protection supports food security

The livestock sector faces major challenges in developing a sustainable future. The integration of animal welfare is a core element of sustainable production in all livestock systems. Indeed, livestock are often seen as significantly contributing to nutrition – especially important for malnourished populations. However, a major factor in the failure to achieve food and nutrition security to date has been the lack of coordination and balance between animal and plant food production on a local,

national and international scale. Thirty six percent of the world's crop calories are fed to animals. Due to animals' inefficiency in converting crops into meat or milk, most of these crop calories do not produce any food for humans. Consequently, around 25-30% of the world's crops are being lost by being fed to animals.

Animal protection affects climate change

When considering the entire food supply chain, livestock production accounts for 14.5% of all greenhouse gas (GHG) emissions. It is forecasted that demand for meat, eggs and milk will increase by 82% between 2006 and 2050. If matched by increased production, the livestock sector is predicted to account for 70% of the sustainable level of all global GHG emissions by 2050. Good animal welfare can help to reduce livestock's impact on climate change. For example, breeding for good health and fertility increases animal productivity and longevity, consequently reducing GHG emissions.

Animal protection is linked with public health


The risk of new zoonotic diseases emerging is growing as farming methods have become more intensive. To counter this risk, the livestock industry has turned to the use of antibiotics to

prevent diseases from breaking out. As a result, the number of milligrams of antibiotics administered per kilo of biomass is now higher in animals than it is in humans. Meanwhile, the number of human cases of Anti-Microbial Resistance (AMR) is growing rapidly. There is an urgent need to address the current unreasonable use of antibiotics.

Animal protection supports biodiversity

Biodiversity is integral to human and animal wellbeing. Rapid growth in unsustainable farming systems has led to ecosystem overexploitation and a decreasing availability of land for natural ecosystems and native habitats for animals. Pasture-based systems can foster benefits such as increased biodiversity which may be threatened by monoculture agriculture.

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► worldanimalprotection.org



Protecting animals benefits people

Integrating animal welfare and protection is a sustainable route to increasing productivity in the livestock sector. According to the Committee on World Food Security, animal welfare contributes to significant improvements in food quality and safety. 2015 is a special year for development both globally and for Europe, as it marks the European Year for Development. As a global leader in international development efforts, Europe can demonstrate how animal protection can further advance the EU and its Member States' commitment to providing a decent life, dignity and a sustainable future for all.

From the Twittersphere

@SeppBlatter Sepp Blatter

We welcome the actions of the Swiss & US authorities. Read my statement - <http://fifa.to/1QaqpCq>



@JunckerEU Jean-Claude Juncker

Congratulations to @AndrzejDuda on his election as President of #Poland. http://europa.eu/rapid/press-release_STATEMENT-15-5036_en.htm ...



@Fjellner Christofer Fjellner

The @EP_Trade Committee voted in favour (28 v 13) of a resolution asking for a comprehensive and ambitious #TTIP. A victory for free trade.



@derekvaughan Derek Vaughan

I and my Labour MEP colleagues support #VotesAt16 in an EU referendum pic. twitter.com/alflyseYlZ



@GuyVerhofstadt Guy Verhofstadt

Football does not belong to #FIFA. The EU cannot stay silent. It's time for a red card on #corruption & a statement from European Commission



@EP_President EP President

Great news. #EFSI is born on time. #InvestEU plan can now get down to delivering for recovery, growth and jobs



@AlynSmithMEP Alyn Smith

"David Cameron will today travel to Europe..." because apparently we're not already there. Et tu @BBCRadioScot!



@SkaKeller Ska Keller

#BanKiMoon calling member states to accept COM proposal on relocation quota. Hope they listen!



@GreensEP Greens in the EP

MEPs copped out on #ISDS in #TTIP today but we will keep the pressure on for the plenary vote



@GreenKeithMEP Keith Taylor

Socialist MEPs capitulate on TTIP in Trade Committee. Whole Parliament votes on June 10 now extra important @GreensEP greens-efa.eu/eu-us-ttip-neg...



@JMFernandesEU José M. Fernandes

In the tough #EFSI negotiations we managed to get an additional €1bn from unused margins, to reduce the impact on #H2020 and #CEF.



@JHahnEU Johannes Hahn

#RigaSummit reaffirmed #EU's commitment to #Eastern Partnership. But we have to adapt the policy to the #reality on the ground



TTIP: MEPs accused of standing up for businesses instead of citizens

Parliament's international trade committee has approved recommendations to the commission on the ongoing transatlantic trade and investment partnership (TTIP) negotiations, with 29 votes in favour, 10 against and two abstentions. Rapporteur Bernd Lange, chair of the international committee, stressed that "the current model of ISDS, i.e. private arbitration, is no longer being tolerated by parliament".

Godelieve Quisthoudt-Rowohl, EPP shadow, said, "up to now there has been a lack of transparency, but now we are moving towards more transparency". ECR shadow Emma McClarkin said the agreement reached "sets out more positive priorities for how we are moving forward". ALDE shadow Marietje Schaake insisted that, "a good TTIP should ensure that globally, we avoid a race to the bottom and we strengthen rules-based trade". Meanwhile, GUE/NGL shadow Helmut Scholz lamented that "there wasn't enough courage to take a major step and say we need to exclude ISDS now and in the future". Yannick Jadot, (Greens/EFA) accused groups that had previously been opposed to ISDS of having "fallen in line with a resolution which has been determined by the EPP, ECR and ALDE groups". EFDD shadow Tiziana Beghin was equally critical, accusing parliament of having stood up "not in the defence of the citizens who elected us, but businesses".



Movers and shakers

In outgoing MEP news, Andrzej Duda (ECR, PL) has left his seat in parliament to become president of Poland. Hans Jansen (NI, NL) died on 5 May. Incoming MEP Pirkko Ruohonen-Lerner (ECR, FI) has replaced Sampo Terho. Anneli Jäätteenmäki (ALDE, FI) has also been elected as vice president of the parliament, following the resignation of Olli Rehn (ALDE, FI), who was elected to the Finnish parliament.

In committee and the delegation news, Nicola Danti (S&D, IT) became fourth vice-chair of the committee on internal market and consumer protection, replacing Sergio Gaetano Cofferati (S&D, IT). Syed Kamall (S&D, UK) has left the delegation for relations with the Maghreb countries and the Arab Maghreb union (D-MAG) and the delegation to



the parliamentary assembly of the union for the Mediterranean and joined the delegation for relations with Japan (D-JP). Raffaele Fitto (ECR, IT) left D-JP and joined the committee on budgetary control (CONT), D-MAG, the delegation to the parliamentary assembly of the union for the Mediterranean. Bernd Kölmel (ECR, DE) left CONT. Pirkko

Ruohonen-Lerner (ECR, FI) joined the committee on economic and monetary affairs and the delegation for relations with the United States. Ian Duncan (ECR, UK) has left the delegation to the ACP-EU joint parliamentary assembly, with Tomasz Piotr Poręba (ECR, PL) taking his place. Marco Zullo (EFDD, IT) left the delegation to the EU-Montenegro stabilisation and association parliamentary committee (D-ME).



M SORA's company success through EU projects



WINTHERWAX project is the latest European project coordinated by M SORA d.d. M SORA is a Slovenian producer of timber and timber-aluminium windows of high quality. Project which started on 1st March 2015 and has duration of 22 months is co-founded by European commission in the scope of Horizon 2020 – SME Instrument. WINTHERWAX was the first successful project which started and is coordinated by Slovenian company in the scope of SME Instrument. Project consortium complements another Slovenian SME – Silvaproduct d.o.o. which is thermally modifying wood and is producer of naturally

based wax. All three elements – internationally awarded passive window, patented thermally modified spruce and innovative wax were jointed together in new product WINTHERWAX - WINdow based on THERmally modified wood with high performance WAX coating. Such windows will be tested in different climatic conditions around Europe by WINTHERWAX subcontractors from Germany, Sweden, Spain and Slovenia. A prototype of chamber for accelerated ageing will be developed in the scope of project to additionally test windows in artificial and extreme climatic conditions with an aim to simulate ageing of such windows of approximately 10 years. A strong goal of WINTHERWAX project is to successfully introduce a special window to market which will be first of its kind on the world. More information can be found on www.winterwax.si.

ECO-S project was a success story for company M SORA d.d. and GS Stemeseder GmbH. In the scope of the project four different window types, curtain walls and entrance doors were developed with wooden insulation and all of them were placed on the market. We have attended 23 different EU window fairs, patented the insulation, won national and EU awards (PHI certificates, Green mission, ...) and have been able to establish strong relationships in EU countries and wider (USA, Canada). Based on the amount of produced windows (0,5 mio €) we can state that nearly **7 tonnes of CO₂ was reduced immediately**. The reduction should however be calculated on the life-time of windows and therefore this reduction is higher. If considered entire lifetime the reductions are; **897 tonnes of CO₂, 159 tonnes of oil, 41.449 tonnes of water and 346 tonnes of wood**. More information can be found on <http://www.m-sora.si/en/development/eco-innovation>.



CaReWood project is another European project in the frame of ERA-NET Plus initiative Wood Wisdom-Net+. Project is coordinated by Technical University of Munich whereas M SORA is industrial partner with strong ambitions to develop recycling procedures and products from old timber windows and other waste wood.

The aim of 3 years long project CaReWood (Cascading Recovered Wood) with 15 partners from 5 EU countries is to innovatively recapture, reuse and recycle wood products. So far M SORA developed several innovative products made of recovered timber (and glass) from old windows: window made of larch and meranti wood, window made of spruce and larch wood, terrazzo bench, club table, timber wall covers and hybrid boards. More information can be found on <http://carewood.eu/>.

FUNDED BY THE European Commission's 7th Framework Programme, the project 'Food Planning and Innovation for Sustainable Metropolitan Regions (FOODMETRES)' has developed a series of assessment and decision support tools allowing stakeholders from Berlin, London, Milano, Ljubljana, Rotterdam and Nairobi to enter a knowledge-driven debate on how to optimize the regional supply function of metropolitan areas around cities. Two assessment strands are key to FOODMETRES: (1) a quantitative approach addressing the spatially explicit dimension of regionally grown food in terms of 'local footprint hectares'; and (2) a qualitative assessment of the impacts of short food supply chains linking consumers with regional producers. In practical terms this has meant that the FOODMETRES data management approach is rooted in both European as well as regional domains, allowing cross-scale assessments at different resolutions. Central to these efforts has been the attention to different types of food chain innovation, namely product, process, governance and various social forms of innovation (see Figure 1).

METROPOLITAN FOOTPRINT ASSESSMENTS

FOODMETRES defines metropolitan regions as a result of urban (food) consumption patterns, rec-

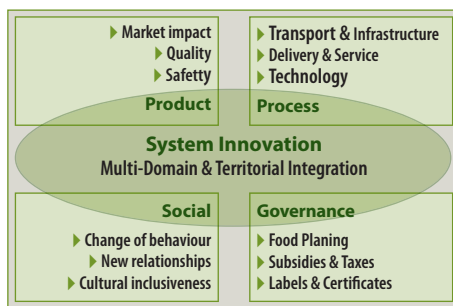


Figure 1: Different innovation dimension relevant for sustainable food chains

reational behaviour and preferences, infrastructure and urbanisation processes. Metropolitan regions are therefore dynamic in terms of size and character. In order to frame and communicate the impacts of urban food consumption on metropolitan regions we developed two distinct, yet complementary footprint assessment tools:

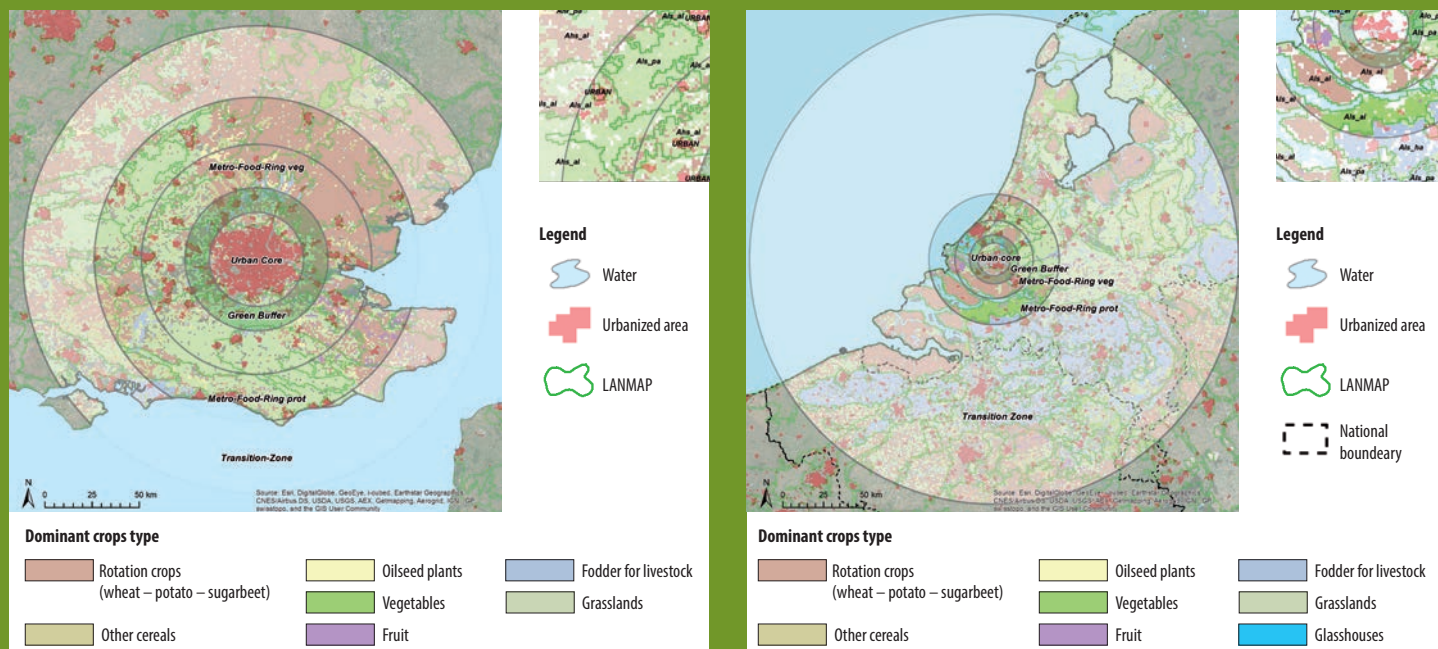
- (1) the European 'Metropolitan Foodscape Planner (MFP) *supply* tool (Wascher et al. 2015), a spatially dynamic approach based on GIS-technology, and
- (2) the regional Metropolitan Area Profiles and Scenario (MAPS) *demand* tool (Zasada et al. 2014) producing scenarios at the level of administrative units.

These two tools are complimentary: while MAPS uses exclusively national census data on food consumption and national land use statistics, MFP primarily uses European data making it – to a certain degree – independent from national/regional data sources.

The Metropolitan Foodscape Planner (MFP) allows users to detect concrete spatial locations and the available amounts of suitable farmland (supply) around cities for 8 to 9 food groups using the European data sets. Building upon the classical market-centred von Thünen (1826) model, but translating it into contemporary agri-environmental and spatial planning strategies, we developed the following concept of metropolitan zones: (1) urban core area, followed by (2) a green buffer reserved for nature and recreation, (3) a metropolitan food production zone differentiating a plant-based and a protein-based supply zone, and (4) a transition zone which is meant to provide food also for adjacent urban areas. Figure 2 shows the MFP results comparing London and Rotterdam.

One application of the MAPS tool is analysis of the local/regional self-sufficiency level, i.e. the percentage ratio between supply and demand expressing the ability of a territorial unit to meet its own food requirements. Figure 3 reveals for instance, that for the Berlin Metropolitan region

Figure 2: Application of the Metropolitan Footprint Assessment Supply tool (MFA) using the von Thünen-inspired spatial zoning for London and Rotterdam ; inset: the LANMAP landscape units for defining land use allocation rules (Wascher et al. 2015)



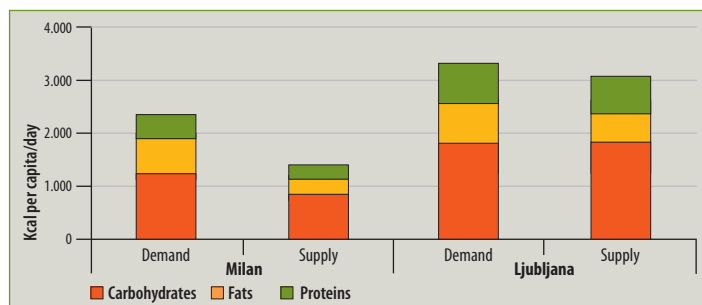


Figure 4: Demanded and supplied calories per energy source

food demand is very much concentrated in the centre, leaving the periphery with large food surpluses. Whereas in the London region, the core city faces a strong food deficit, but the majority of urban places can easily be supplied by the near surroundings.

METROPOLITAN ECONOMIC FOOD PROFILES

A simple and replicable methodology has been applied to Metropolitan Agro-Food Systems (MAS) at the case study level, expressing the potential food self-reliance of the region according to different points of view. One analysis reveals the relationship between the relative importance of each food category and both total demand and supply, distinguishing them according to their potential for commercial exports or, conversely, orientation to local markets.

FOOD SECURITY has been assessed as the regional capability to ensure nutritional and calor-

ic requirements expressed by the population dietary pattern. This element is related to the level of fulfilment of dietary caloric intake per macro-nutrient (Figure 4).

Making use of the digital *Maptable* technology, stakeholders can engage in 'serious gaming' exercises and develop proposals for increasing the supply with regional food for the 8 food groups on the basis of the urban consumption needs.

KNOWLEDGE BROKERAGE is more than simply the transfer and management of information. In contrast to conventional science-policy interactions which are often perceived as 'one way', knowledge brokerage aims to create dialogue between the 'producers' or creators of scientific information and the users, or decision-makers. FOODMETRES produced a knowledge brokerage 'toolkit' containing an A-Z of activities which has been used in knowledge brokerage settings such

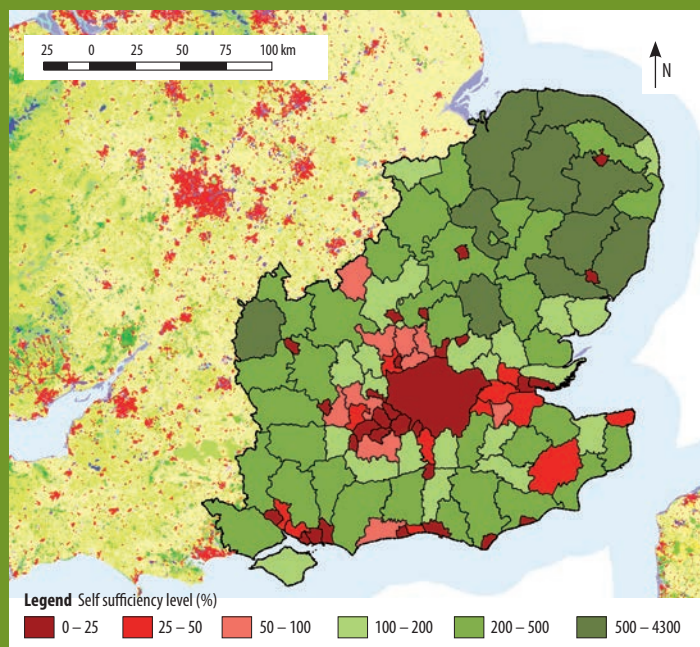
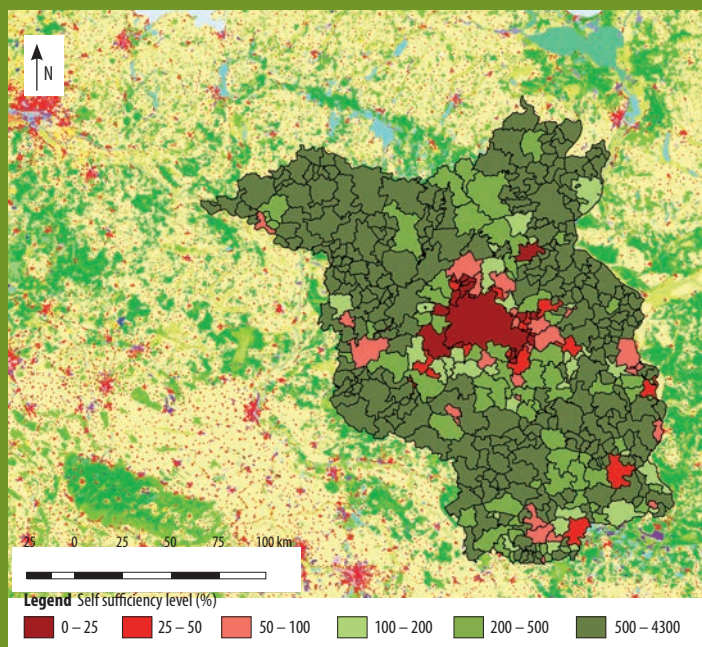


Figure 5: Sustainability Impact Assessment Workshop in Nairobi

as Sustainability Impact Assessment workshops (see Figure 5). During the latter, stakeholders received knowledge brokerage guidance while in order to base their decisions on a set of relevant references when making qualitative judgements regarding the social, environmental and economic impacts of different food chain types. The project has also fostered active knowledge brokerage through the inclusion of a number of small and medium sized enterprises in the consortium: through their interactions with the researchers, these have played a vital role in ensuring that the case study work has been responsive to local innovation issues. In addition, a 'knowledge brokerage portal' will enable users to access project outputs and information, as well as being able to interact online with the different tools.

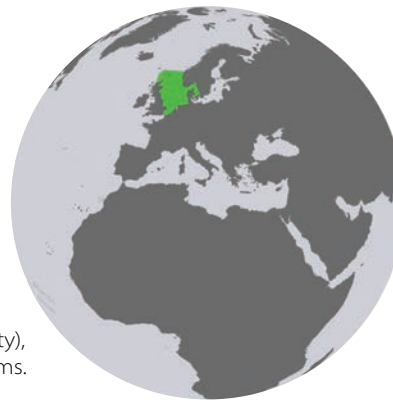
Dirk Wascher,
 Alterra, Wageningen UR
 Dirk.wascher@wur.nl

Figure 3: Self-sufficiency level at municipality level for Berlin and London Metropolitan region (red = under-supply, green = over-supply), (Zasada et al. 2014)



What may happen to bony fishes in the North Sea?

Climate change is predicted to change the distribution, number and composition of species of bony fishes around the world during the upcoming century. In the North Sea, these changes have been projected to 2100 based on modelled environmental conditions under the Intergovernmental Panel on Climate Change's A2 emissions scenarios. This is of relevance to Aichi Biodiversity Target 10 (Convention on Biological Diversity), showing potential climatic impacts on community composition in ecosystems.



The EU BON project seeks to build a European Biodiversity Observation Network that facilitates access to biodiversity information of relevance to policy.

www.eubon.eu

ECONOMIC VALUE

€620.5
MILLION

Annual total value of landings for 2006, comprising over 67% of total fisheries landings revenue in the North Sea.



€238.2
million
Cod, haddock, etc.



€167.4
million
Flatfishes



€91.3
million
Herring, mackerel, etc.

Bony fishes include a broad range of fishes with bony skeletons. In the North Sea, these include commercially important species such as Atlantic salmon, Atlantic herring, European anchovies, Atlantic cod, haddock, and Atlantic mackerel. Bony fishes form an important part of the North Sea food web and contribute to local economies and international food security through fisheries.



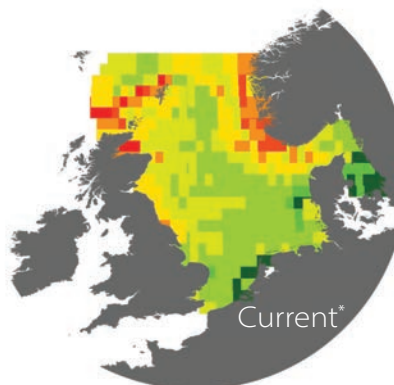
Atlantic mackerel
(*Scomber scombrus*)

2

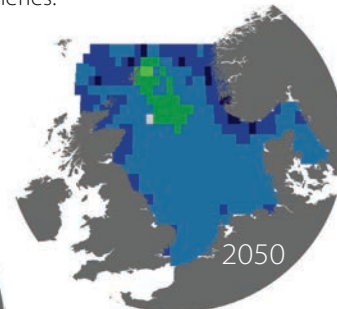
SPECIES DIVERSITY

NUMBER OF SPECIES
PER GRID CELL

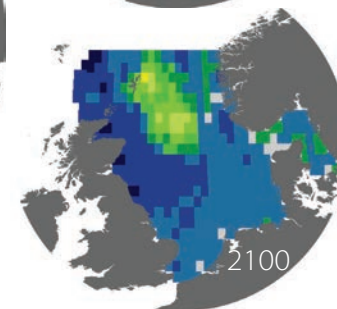
224 - 251
196 - 223
168 - 195
141 - 167
113 - 140
85 - 112
57 - 84
28 - 56



Current*



2050



2100

NUMBER LOST
OR GAINED

31 to 45
16 to 30
1 to 15
0
-1 to -15
-16 to -30
-31 to -45
-46 to -60
-61 to -75

REFERENCES

* Time frame based on data obtained from Kaschner et al. (2013).

** All species counts based on modelled predictions.

1 Obtained from the Sea Around Us project (www.seaaroundus.org) at the University of British Columbia, Canada.

2 Atlantic mackerel graphic produced by Lauren Weatherdon at UNEP-WCMC.

3 Kaschner, K., J. Rius-Barile, K. Kesner-Reyes, C. Garilao, S.O. Kullander, T. Rees, and R. Froese. 2013. AquaMaps: Predicted range maps for aquatic species. World wide web electronic publication, www.aquamaps.org, Version 08/2013.

4 Aboriginal Mapping Network's Icon Collection for Use and Occupancy Maps (version 1.1, March 2012; www.native-maps.org; CC BY 3.0).

Infographic produced by Lauren Weatherdon (UNEP-WCMC).

SPECIES COMPOSITION

AquaMaps methodology available at <http://aquamaps.org/am.pdf>.

3

Current*



412 SPECIES IN THE NORTH SEA**

2050



403



41

9

2100



397



48

15



Original species



New entrants



Species lost



≈ 10

4



Nature has important role to play in a healthy European economy

Nature is vital for our health and our wealth. We depend on it for the food, energy, raw materials, air and water that make life possible. Nature drives the economy and its extraordinary diversity brings us inspiration, knowledge and recreation.

Nature forms an important part of our cultural heritage and also plays a key role in creating jobs and stimulating new investments. You can't have a good economic system without a good ecosystem, so it makes obvious sense to protect both at the same time. Over the next few days during Green Week, we'll be looking at how we depend on nature, how we can best protect it, and how we can be sure that our economic and environmental policies are pushing in the same direction.

As you would expect from a con-

ference that showcases the work going on at European level to protect our nature, it's no small affair – with 27 sessions, an exhibition space with 44 stands, and around 140 related satellite events taking place across the EU. We've chosen the theme, 'Nature – our health, our wealth' for a number of reasons. This will be an important year for nature and biodiversity policy in the EU. A 'fitness check' of the birds and habitats directives is well underway and we are looking for ways to improve implementation and reduce the administrative burden without compromising protection levels.

"You can't have a good economic system without a good ecosystem, so it makes obvious sense to protect both at the same time"

Recognising the importance that many people attach to this legislation, our emphasis is on transparency, so this exercise is being done in consultation with member states and key stakeholder groups. Civil society's voice is an essential

Thanks to EU legislation, Europe has managed to limit wildlife loss, but much more needs to be done to reach the 2020 targets, says **Karmenu Vella**



“As you would expect from a conference that showcases the work going on at European level to protect our nature, it’s no small affair – with 27 sessions, an exhibition space with 44 stands, and around 140 related satellite events taking place across the EU”

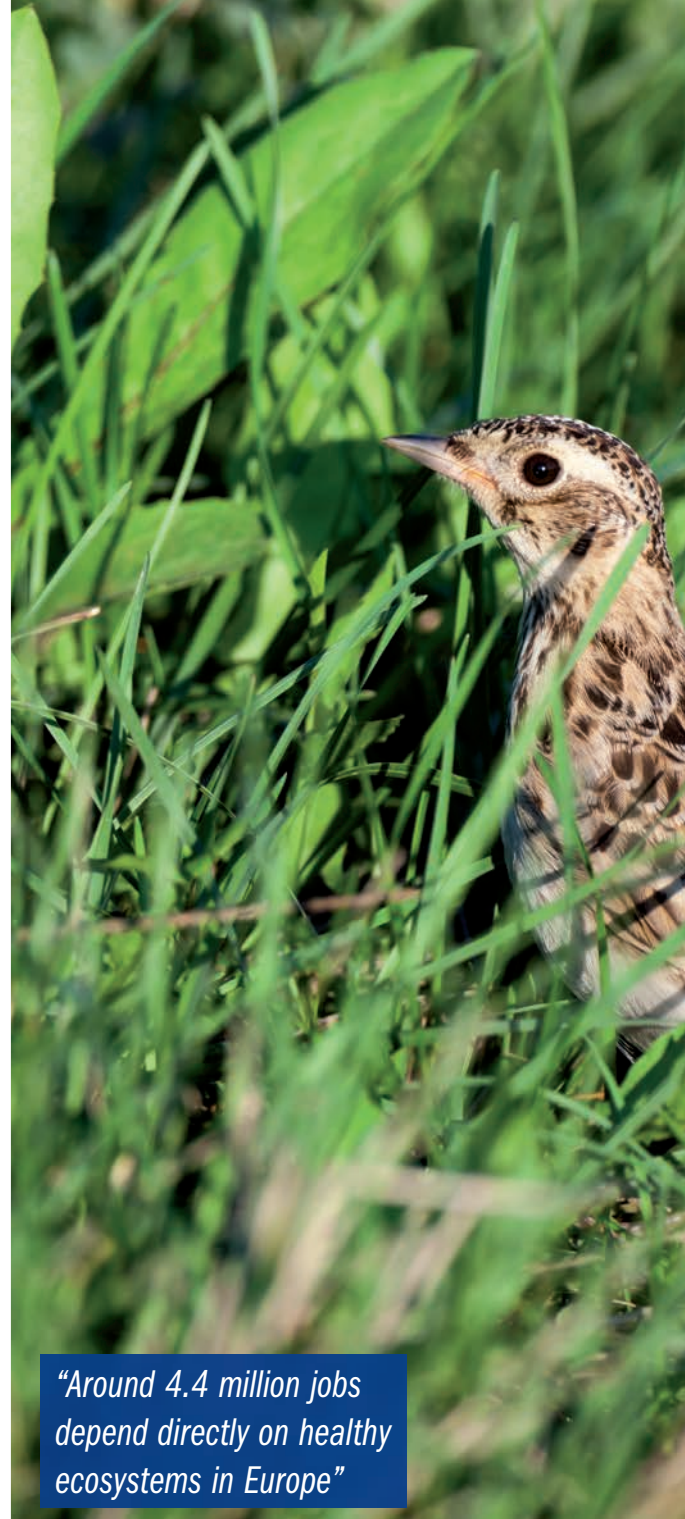
part of the process and the consultation is already receiving widespread attention. If you haven’t contributed yet, please tell us how you think we should protect it. Our actions and our success count on your voice.

We are also fast approaching our mid-term review of the EU biodiversity strategy. This will assess progress towards the 2020 target of halting and reversing the loss of biodiversity and ecosystem services. There will also be a need to ensure full implementation of the new EU regulation on invasive alien species, which came into force in January. It addresses one of the major threats to biodiversity in the EU.

For decades, our wildlife has been declining at an alarming rate. Valuable habitats have been lost as a result of rapidly changing land use, pollution, infrastructure development and continuing urban sprawl. The most up-to-date assessment of the European situation – the recently adopted ‘state of nature’ report – underlines the urgent need for action. That report is the fruit of the largest collaborative data-collection and assessment of nature ever undertaken across the EU’s member states. Overall, it gives a mixed picture: looking at birds, more than half of all wild bird species assessed – 52 per cent – have a secure status. However, around 17 per cent of species are still threatened and another 15 per cent are near threatened, declining or depleted, including once-common farmland species like the skylark and the black-tailed Godwit. Of the other species protected under the habitats directive, only a quarter – 23 per cent – have a favourable assessment. Over half – 60 per cent – are still in an unfavourable position, with grasslands, wetlands

and dune habitats a particular cause for concern. Green week will be looking at the reasons behind these trends, and ways to tip the balance in the other direction.

There are real successes we can build on. EU nature legislation



“Around 4.4 million jobs depend directly on healthy ecosystems in Europe”

has been fundamental in preventing the further decline of Europe’s most vulnerable species and habitat types. This is in spite of the ever increasing demand for land and resources. We can demonstrate that targeted conservation action led by the EU can be highly effective. The bearded vulture and the white-headed duck both have EU species action plans, and benefitted from the EU Life fund; their numbers have seen substantial improvements as a result. Natura 2000 is another success story. Europe’s network of protected areas now covers 18 per cent of the EU’s land area, and as we will hear during Green Week, it has had an important positive influence on the conservation

Natural Selection

- The habitats directive protects over 1000 animals and plant species and over 200 so-called ‘habitat types’ of European importance
- These include special types of forests, meadows and wetlands
- Natura 2000 is an EU-wide network of nature protection areas established under the 1992 habitats directive
- Its aim is to assure the long-term survival of Europe’s most valuable and threatened species and habitats
- The birds directive recognises that habitat loss and degradation are the most serious threats to the conservation of wild birds. It places a strong emphasis on the protection of habitats for endangered as well as migratory bird species
- The birds directive bans activities that directly threaten birds, such as their deliberate killing or capture, the destruction of their nests and taking of their eggs, and other activities such as trading in live or dead birds

Source: European Commission

"For decades, our wildlife has been declining at an alarming rate. Valuable habitats have been lost as a result of rapidly changing land use, pollution, infrastructure development and continuing urban sprawl"



status of species and habitat types.

Our network recognises that people should live within, and not parallel to, natural ecosystems, and as a result, it serves essential social and economic functions. Around 4.4 million jobs depend directly on healthy ecosystems in Europe. An ever growing number of these jobs are now on Natura 2000 sites. The financial benefits that flow from the network are estimated to be around €200 to €300bn per year. We celebrate the thousands involved with Natura 2000 with our annual awards. Projects from Denmark, Germany, Spain, France and a trans-boundary project that involves nine Danube countries

have all been winners. This year, we introduced a special prize: the first to be selected directly by a public vote. Almost 25,000 citizens voted, and the first citizens' award went to a project in Spain that raises awareness about the network.

2015 is also the European year for development and a very special year for sustainable development, as the international community will agree on the future global framework for poverty eradication and sustainable development. Many Green Week sessions will contribute to showcasing Europe's commitment to being engaged and involved in sustainable development worldwide. I hope to see you there. ★

Karmenu Vella is
European environment,
maritime affairs and
fisheries commissioner

Optimal use of ground water for drinking water production by ceramic membrane filtration:

– Reuse of spent filter backwash water, max. capacity 70 m³/h –

Case description

Treatment of spent filter backwash water to drinking water.
Increase amount of drinking water per m³ ground water intake
Demonstration plant realized and commissioned in 2014

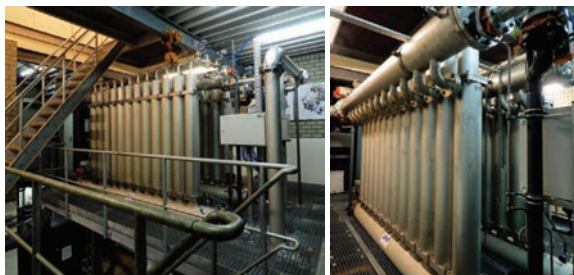


Location : drinking water production site Wierden, NL (Vitens N.V.)

I. Key features

- Increase plant efficiency by reuse
- Less ground water intake
- Reduction environmental impact
- Low energy input, dead-end filtration
- Long membrane lifetime and low OPEX
- Reduction of chemical consumption

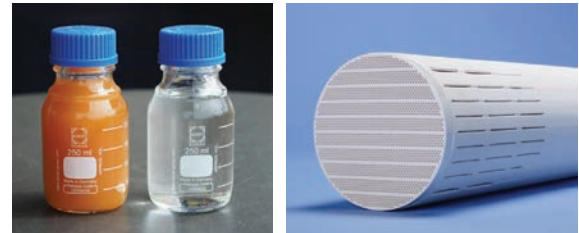
II. Plant design



Membrane pore : 0,1 µm
Element membrane area : 25 m²
Installed element no. : 2x 12

III. Performance

- Operational data 2015
- Clear permeate production: 0,042 NTU



Left to right: filter backwash water (feed), produced MF permeate (reused to produce drinking water), ceramic MF membrane (METAWATER Co., Ltd)

Key performance data

Drinking water production	620.285 m ³
Sand Filter backwash water	20.058 m ³
MF permeate	19.771 m ³
MF backwash water	287 m ³
MF recovery	99 %
MF energy consumption	3.024 kWh
MF specific energy consumption	0,15 kWh/m ³
Reduction coagulant consumption	>90 %

Outcome and future prospective

Spent filter backwash water in Europe is expected to be in the range: **1,85 – 3,70 billion m³**. With its reduction of groundwater extraction, low specific energy consumption (0,15 kWh/m³), reduction of coagulant (>90 %) and reduction of waste water effluent, ceramic membrane filtration is a promising solution to increase the source water efficiency in Europe without creating a significant increase in the drinking water production price.

Green Week 2015 Programme

WEDNESDAY 3/6/2015

09:30 - 11:00

Scene setter: Reconnecting with nature and biodiversity: thinkers and doers

Coffee break

11:30 - 13:00

- 1.1 The future of nature
- 1.2 Investing in nature
- 1.3 Nature protects

Lunch break

13:15 - 14:15

Launch of the 2018 European Green Capital Award and the 2016 European Green Leaf

14:30 - 16:00

Opening Session: Nature - our health, our wealth

Coffee break

16:30 - 18:00

- 2.1 Nature in our seas
 - 2.2 Jobs and growth through green infrastructure
 - 2.3 Forests for society
- Evening events

18:15 - 19:15

Workshop: Launch of European Red List for Birds and Marine Fish, with IUCN and BirdLife
Workshop: From the Iron Curtain to the European Green Belt

18:00-20:30

Welcome reception

THURSDAY 4/6/2015

09:30 - 11:00

- 3.1 Business Round Table
- 3.2 Farming for diversity
- 3.3 Nature & health

Coffee break

11:30 - 13:00

- 4.1 Is EU nature legislation fit for purpose?
- 4.2 The support of the Common Agricultural Policy for nature-based tourism
- 4.3 Linking cultural and natural capital

Lunch

13:15 - 14:15

Workshop: Mid-Term Review of the Biodiversity Strategy

14:30 16:00

- 5.1 Invasive Alien Species: the way forward!
- 5.2 Innovating cities with nature
- 5.3 Natura 2000 as a source of regional identity and values

Coffee break

16:30 - 18:00

- 6.1 Healthy soils for wealthy Europe
 - 6.2 Reconciling nature and economic activities
 - 6.3 Communicating nature & biodiversity: from awareness-raising to citizen engagement
- Evening events

18:15 - 19:30

Youth Forum – Nature speaks to youth and youths speak about nature

18:30 - 20:30

Best LIFE projects awards

Followed by a cocktail

FRIDAY 5/6/2015

09:30 - 11:00

- 7.1 The trade and biodiversity interface
- 7.2 Healthy ecosystems as drivers for sustainable growth
- 7.3 Engaging and rewarding private landowners: can we find new ways?

Coffee break

11:30 - 13:00

- 8.1 Averting global biodiversity loss
- 8.2 Biodiversity and climate change
- 8.3 The WEB and IT for nature

Lunch

13:15 - 14:15

Workshop: Biodiversity in Outermost Regions and Overseas Countries & Territories

14:30 - 16:00

Closing Session : Where do we go from here?

16:00-18:00

Cocktail reception ★

REWASTEE:

Manufacturing Eco-Innovative Construction Products from Steel Manufacturing Waste

What if we could eliminate a hazardous steel manufacturing waste whilst creating new jobs, reducing costs for steel producers and providing a value added construction product for the building sector all at the same time? That would be great and it is coming soon, as it is exactly what the REWASTEE Eco-Innovation project consortium is working on.

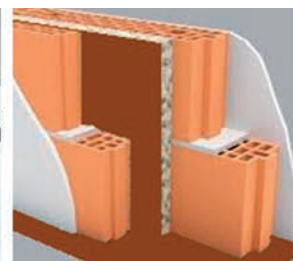
REWASTEE, a research project co-funded by the European Union, stands for REcycling steel making solid WASTes for added value Energy Efficiency building products. Using an innovative Spanish patent, REWASTEE uses a polymer mix to bind and make non-hazardous the Electric Arc Furnace Dust (EAFD) - a waste by-product produced by 42% of EU steel production. Currently, over 166 million tons of this hazardous material is handled by workers and transported by truck, ship and rail to specialist recycling points where zinc is extracted before the remainder is chemically stabilized and landfilled.

REWASTEE provides a better solution. The REWASTEE membrane can be produced directly at steel manufacturing facilities, minimizing EAFD waste, its transportation and disposal. The resultant rubber-like product is intrinsically safe and its high surface density (approximately 7kg per m²) makes it ideal as acoustic insulation. With the addition of Phase Change Materials it also presents a useful thermal buffer that can smooth temperature variations. The membrane can be applied directly to surfaces in a variety of stand-alone applications or can be integrated into manufactured building products such as sound insulation panels and multilayer wall partitions. Furthermore, as a recycled and eco-sustainable product, its use enables access to certain incentive programs and points for sustainability accreditation. The costs are also promising; 25-30% lower than competing insulation solutions giving REWASTEE the potential to shake up the existing market.

Hard at work, the 8 project partners include specialist researchers, material manufacturers, construction companies and exploitation specialists from four European countries (EURECAT (ESP), University



of Barcelona (ESP), University of Lleida (ESP), Nobatek (FR), R2M Solution (IT), Trimdelson Trade S.L. (ESP), FCC Construction (ESP), and BRE (UK)). The team's current activities consist of material prototyping and the initial fabrication of integrated building products. These first results will be tested in real-life conditions at the University of Lleida demonstration park to characterize their performance. In parallel, market analysis and business planning activities are identifying which applications the consortium should target first. This includes establishing contacts with a number of steel producers and material manufacturers in order to develop potential collaboration opportunities. The team are confident that in a few years the current practices surrounding EAFD handling and treatment will look much different than they do today.



For more information please see www.rewastee.eu or contact Biotza Gutierrez (biotza.gutierrez@eurecat.org)

EU running risk of another year of biodiversity and ecosystem failure

In 2010 – ironically, the international year of biodiversity – the EU failed to reach its target for that year on the reduction of biodiversity loss. Of course, ambitious new plans were immediately set up to replace the previous goal, with the hope the past mistakes had been learned from. Now, halfway to the 2020 end date for these new targets on halting biodiversity loss and the degradation of ecosystem services, there remain serious challenges. And it would appear that this new strategy will meet the same fate as the 2010 goals. As the European environment agency – in its 2015 report on the state of the environment – indicates, the EU is unlikely to meet its main 2020 biodiversity objectives. Consistent loss of habitat, widespread pollution, over-exploitation of resources and the growing impact of invasive alien species and climate change contribute to this disaster.

Nevertheless, on a more positive note, it is important to acknowledge that thanks to current EU biodiversity policies, the protection of certain species and habitats has seen some

progress, and consequently pressures on biodiversity have been somewhat reduced. Freshwater ecosystems are reaping the benefits of an improvement in water quality. There is less pressure from agriculture, thanks to a reduction in nitrogen losses from fertilisers and a boost in organic farming. Europe's forest area is slightly increasing, and timber harvests from European forests are generally sustainable. Natura 2000 covered some 18 per cent of EU land area in 2013, offering habitats and species a certain degree of protection. The EU's 'nature directives' have become a backbone of European biodiversity protection policies and, despite a long and complex process for their implementation, they contribute substantially to the conservation of natural habitats and species. Parliament and council agreed last year on a legislative framework to regulate invasive alien species, which, if implemented properly, could constitute a bold step towards fulfilling one of the six targets covered by the EU biodiversity strategy up to 2020.

In any case, implementation of the legal framework in the member states, proper financing and appropriate management of the protected areas remain a serious challenge and without major changes, 2020 will mark yet another year of biodiversity failure. Even the best laws, when ignored, have no impact on reality, but with the conditions outlined above in place, the

Europe's 2020 goal of reversing biodiversity loss is 'pure fiction', but there is still time to save what's left, writes **Pavel Poc**

"The degradation of ecosystem services, while they are being submitted to increasing human pressure, is likely to cost the world around seven per cent of its GDP by 2050"





"We need to focus on the five principal pressures directly driving biodiversity loss – habitat loss, overexploitation, pollution, invasive alien species and climate change, which are either constant or increasing in intensity"

existing legislative framework has shown itself capable of halting the decline of protected habitats and species.

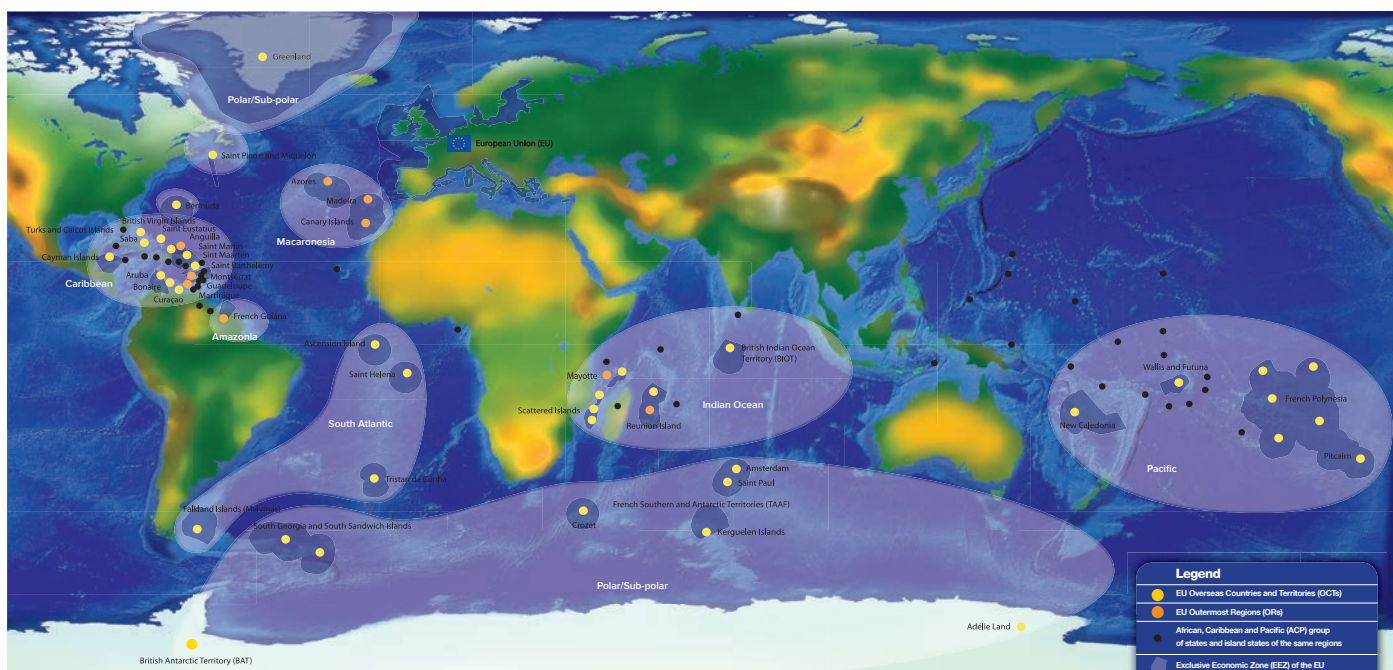
The new commission has launched a 'fitness check' of EU legislation in order to analyse whether EU actions are proportionate to their objectives and delivering as expected. Among others, European environment, maritime affairs and fisheries commissioner Karmenu Vella has been asked to 'carry out an in-depth evaluation of the birds and habitats directives and assess the potential for merging them into a more modern piece of legislation'. This is wasting time that we do not have. Instead of evaluating regulatory measures, we should ensure the full implementation of existing legislation as well as proper financing and management. We should not start rebuilding the basecamp when we are halfway to the summit. In this particular case, we should stick to the six targets covered by the EU biodiversity strategy to 2020 and focus more on how we can protect not only European, but global, biological diversity. We need to focus on the five principal pressures directly driving

biodiversity loss – habitat loss, overexploitation, pollution, invasive alien species and climate change, which are either constant or increasing in intensity.

I am against economic pricing in the field of biodiversity. It assumes that what is priced can be restored for that amount, but this is misleading. Once we lose a species, there is no way back and money won't change anything. Unfortunately, in this unhappy era, economic arguments are often the only ones that make a difference for some. Therefore, there must be an awareness that biodiversity loss is estimated to reduce the EU's GDP by three per cent each year, and the trend is worsening. It is estimated that the degradation of ecosystem services, while they are being submitted to increasing human pressure, is likely to cost the world around seven per cent of its GDP by 2050.

It is good to remind ourselves that the 2020 biodiversity strategy is titled 'Our life insurance, our natural capital'. While its aim to reverse the loss of biodiversity is pure fiction, we can still speed up the transition to a green economy, and salvage what we still have. However, without concerted and focused efforts, the EU is seriously failing to deliver – once again – on its biodiversity objectives, and ultimately, on growth and prosperity. ★

Pavel Poc (S&D, CZ) is a vice-chair of parliament's environment, public health and food safety committee





PIRAEUS
BANK GROUP
CULTURAL
FOUNDATION

NATURAL AND CULTURAL HERITAGE: CHALLENGES AND OPPORTUNITIES FOR PIRAEUS BANK



Sophia Staikou (Chairman of Piraeus Bank Cultural Foundation, Head of Corporate Responsibility Piraeus Bank Group):

"Greece is rich in biodiversity, history and culture. At Piraeus Bank we perceive this rich heritage as a driver for sustainable development. Through seven, soon to become nine, thematic museums spread across Greece, we preserve our history of production, focusing on the enduring connection between humans and nature. To this end we initiated the "Stymphalia Declaration", promoting a joint approach in managing cultural and natural heritage in Natura 2000 sites. Combining biodiversity and culture is a challenge for Piraeus Bank Group, but equally an opportunity to advance our corporate responsibility".

The LIFE-Stymfalia project

The LIFE-Stymfalia project aims at restoring the Stymfalia Lake, protecting it long-term, and systematically re-financing its management, which will be ensured by commercializing the area's biomass.

The project is implemented by Piraeus Bank in cooperation with the Piraeus Bank Group Cultural Foundation, the Municipality of Sikyonion, the Society for the Protection of Prespa, the Centre for Renewable Energy and Energy Saving and OIKOM, an environmental consultancy. It is 50% co-funded by the EU under the LIFE Nature and Biodiversity programme, has a total budget of € 2.013.290, and runs from October 2013 to September 2017. "If we succeed in raising funds from the commercial use of agricultural biomass to support the long-term management of the Lake, we will have succeeded in proving a case for business and biodiversity. It could become a business model to apply to other Natura 2000 sites and thus address the problem of funding shortage for Natura 2000 sites in Europe", said Dimitrios Dimopoulos, Head of Environment Unit and LIFE-Stymfalia Project Manager.





Cultural Landscapes in Natura 2000 sites

The EU Natura 2000 network and the 1992 Habitats Directive establish a strict system of species protection as well as an extensive network of habitat preservation sites to ensure ecological and economical sustainability of threatened land and wildlife. These standing EU environmental policies should take on board the importance of cultural heritage and its relevance to landscape protection. Through the initiative "Cultural landscapes in Natura 2000 sites", the Piraeus Bank Group Cultural Foundation (PIOP) promotes a joint approach for managing natural and cultural heritage in Natura 2000 sites. According to Assoc. Professor Constantinos Cartalis, Scientific Advisor of PIOP, "The project also aims to create a clear public understanding of how culture shapes the environment and vice versa, to develop an inventory of cultural landscapes in Greece and to devise methodologies to jointly manage natural and cultural heritage".

Piraeus Bank Group Cultural Foundation (PIOP) is also assessing the prospect of creating a culture route on "Cultural Landscapes in Natura 2000 Sites". The initiative, launched in 2014 and embedded in the network of PIOP's Museums through the theme "Museums and cultural landscapes", envisages a route that would cross several countries and connect them within a common cultural and environmental narrative.

Vrasidas Zavras (General Manager for GREEN BANKING, Piraeus Bank):

"It has been ten years since Piraeus Bank adopted its environmental policy. We have come a long way, and with the support of two LIFE projects co-funded by the European Union, we have developed strategies for reducing our environmental footprint, providing green products and services, managing our climate risk. In the context of a third, most recent, LIFE project, we are currently building a business and biodiversity strategy. Climate change and the loss of biodiversity and ecosystem services, are looming global challenges for which Piraeus Bank has identified solutions based on sound business opportunities".



Majority of Europe's species have unfavourable conservation status

Despite improvements Europe's biodiversity still faces multiple challenges, warns Hans Bruyninckx

Nature policy works when implemented well. The health of our natural environment is a key component of our health and wealth, but our recent assessments show that the majority of habitats and species in Europe have an unfavourable conservation status despite significant improvements for many species in recent years.

The results are mixed, but clear. When implemented well, conservation measures work and improve the status of habitats and species on the ground. Nevertheless, improvements remain limited and patchy, and, unfortunately, Europe's biodiversity is still eroding and the pressures continue. Under the habitats directive reporting, 77 per cent of habitats and 60 per cent of species assessments are unfavourable while only 16 per cent of habitats and 23 per cent of species assessments are favourable.

Data on population trends show both worrying and encouraging results. On the one hand, there has been a dramatic

decline in grassland butterflies of almost 50 per cent between 1990 and 2011. Europe's common bird populations have declined by 12 per cent since 1990, while common farmland birds have declined by 30 per cent. Both trends are closely linked to pressures from agricultural activities.

Over half of the bird species in the EU are considered to be 'secure' – with no foreseeable risk of extinction. Many bird species for which member states set up special protection areas have recorded increases in their populations, but most of these species still face risk of extinction. Other bird species, including many that may be hunted, are showing declining populations. On the other hand, some populations of European bats and large carnivores appear to have recovered to some extent from past declines, demonstrating the positive results of conservation action and unplanned changes such as land abandonment. However, these improvements are currently limited to local or regional levels, and have not yet scaled up to European level.

As stated in our recent assessment

"Europe's common bird populations have declined by 12 per cent since 1990, while common farmland birds have declined by 30 per cent. Both trends are closely linked to pressures from agricultural activities"

'State of Nature in the EU' as well as in our integrated assessment 'The European environment – state and outlook 2015', human activities continue to exert pressure on Europe's nature. Habitat change – including loss, fragmentation and degradation –

due to land-use change remains one of the main pressures.

More concretely, urban sprawl and grey infrastructure developments cause fragmentation of the rural landscape. Similarly, agricultural intensification, intensive forest management and land abandonment cause homogenisation and loss of habitat. Over-exploitation of natural resources, in particular through certain malpractices in fisheries, and the





accelerating establishment and spread of invasive alien species also continue to cause concern. More than 12,000 alien species now occur in Europe. They do not only cause biodiversity loss, but also considerable economic damage to agriculture, forestry and fisheries. They also hamper ecosystems' capability to deliver services on which we depend. Climate change is already affecting some species' and specific habitats' distribution, range and interaction and is projected to become a more significant threat in the coming decades.

European policies and efforts by member states, including the expansion of protected areas, have made some improvements on the ground. Today, Natura 2000 – the network of protected areas created by the EU's habitats directive – covers 18 per cent of European land and four per cent of EU marine waters. With this achievement, the European Union has met its part of the Aichi target for global coverage of protected areas by 2020 of at least 17 per cent of the terrestrial and inland water areas. The target of protecting 10 per cent of the coastal and marine areas remains to be met.

Encouragingly, some pollution pressures have decreased such as the nutrient enrichment of European waters and the balance of nitrogen found on farmland. However, given the already high levels of nitrogen in ecosystems, the eutrophication risk is predicted to remain high in 2020.

It will be very challenging for Europe to meet the overall target of halting the loss of biodiversity and the degradation of ecosystem services by 2020. Many of the influences on biodiversity loss arise from a range of sectors and policies that exert considerable pressure on biodiversity. Biodiversity concerns need to be effectively integrated into sectors such as agriculture, forestry and fisheries, as well as into various policies,

regional, cohesion and climate policies in particular. This can increase ecosystem resilience and provide nature-based solutions to tackling climate change adaptation.

In addition to integration into sectors, a full and effective implementation of the EU biodiversity strategy to 2020 is a vital step towards halting biodiversity loss. Conserving and managing the Natura 2000 network effectively, and developing green infrastructure, such as wildlife corridors, and restoring degraded ecosystems are additional steps towards protecting Europe's biodiversity.

We also need to understand that when dealing with maintaining and enhancing biodiversity, it takes time for our actions to make a difference on a large scale. European efforts to halt biodiversity loss on its continent should ensure that pressures are not transferred to other parts of our increasingly globalised world thereby exacerbating global biodiversity loss. ★

“Today, Natura 2000 – the network of protected areas created by the EU's habitats directive – covers 18 per cent of EU land and four per cent of EU marine waters”

Hans Bruyninckx is executive director of the European environment agency



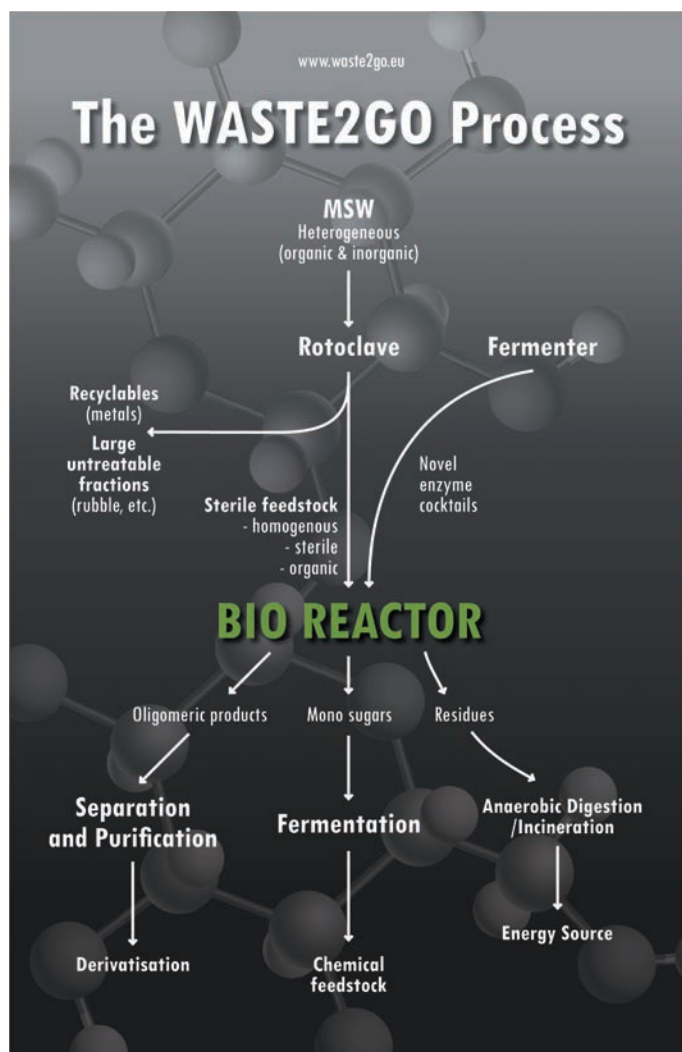
The bleeding edge of municipal solid waste management

Each year, over 180 million tonnes of Municipal Solid Waste (MSW) are discarded in the EU, which is in excess of 1kg per citizen every day. Technologies such as incineration, anaerobic digestion and composting all have a role to play in the processing of this waste but these technologies fail to exploit the chemical value contained in this material. This is where Waste2Go comes in.

Waste2Go (www.waste2go.eu) is an EU funded research and development project that is developing technologies to improve waste management and increase value - social, economic and environmental. Its main objective is the innovative transformation of the biogenic fraction of MSW, which accounts for over 55%, into chemicals with an economic value greater than its use as an energy source. During the 3-year project the primary focus was on transforming specific organic waste streams such as waste paper, dry mixed recycling and black bin bag waste to useful chemical feedstocks.

Once various strains of microorganisms were developed at the Norwegian University of Life Sciences for producing cellulose degrading enzymes research was shifted to the UK, where CPI developed small-scale industrially-relevant processes for cell growth and enzyme production. With knowledge gained from this work, the production processes were then successfully run at 750L scale, yielding sufficient stocks of six key enzymes to enable the project to use them in trials for the conversion of biogenic waste cellulose to valuable chemicals. In parallel a bespoke mixing vessel was also developed which enabled the project to process a range of waste derived substrates at high solids loadings in excess of 20% dry weight (w/v) which would not have been feasible in conventional stirred tank reactors. This engineering feat has expedited the scale-up of novel feedstock hydrolysis protocols producing a range of mono/oligosaccharides which are of significant commercial interest.

The project results so far demonstrated that the conversion of pre-treated waste paper may be successfully converted to lactic acid, which is an important building block in Industrial Chemistry. Within the frame of Waste2Go this lactic acid has been further processed to n-butyl lactate which is widely used as a biodegradable solvent in agri-chemical and other applications. In addition, the novel sub/supercritical water oxidation technology was investigated and a custom-built 1 litre autoclave was designed and developed by Separex (FR) for further processing to fractionate and/or purify the waste cellulosic material resulting from the degradation process in order to obtain several cello-oligomeric fractions.



Beyond the cutting-edge scientific results there are a number of serious economic impacts of the project. Waste2Go will improve the competitiveness of European SMEs (5 SMEs in the consortium) in the waste management sector, which has the highest proportion of SMEs and the lowest proportion of valued added of any EU industrial sector. Valorisation of waste encourages practices which create a circular economy and will ultimately reduce dependency on imported raw materials, as well as decouple process input costs from the price of fossil oil, which mitigates risks associated with feedstock availability, price fluctuation and supply bottlenecks.

EU governments failing to exploit low-carbon and green job potential

Arguing the need for a coherent, long-term policy on investment in resource efficient, low-emission sectors and workforce engagement to ensure a 'just transition' is not always easy. Especially when governments seem intent on propping up coal rather than supporting low carbon energy and job creation. But we need to fight this battle, and this is why I am authoring a report on the green employment initiative: tapping into the job creation potential of the green economy in parliament's employment and social affairs committee. It picks up on the former European commission's paper and is informed by expert input from the international labour organisation, social partners, including the SME sector EU agencies, training bodies and other relevant stakeholders.

With political will, many things are possible. Between now and 2023, direct and indirect employment in the wind, wave and tidal energy sectors alone could grow from 34,000 in 2013 to over 100,000 within the EU. The potential to create and support many thousands of green jobs should be viewed as an attractive and sensible opportunity, especially given current unemployment rates, and it's worth considering just what such a job is. It could be a park ranger or landscape gardener. One definition of a green job is any decent job that contributes to preserving or restoring the quality of the environment: whether it is in agriculture, industry, services or administration. And it must be a decent job that is fairly paid with good working conditions. The green agenda is intrinsically linked to jobs, skills and economic issues. As we extract more polluting oil from the earth's crust we will have to drill deeper to reach new wells. Eventually

this will become so uneconomical that it will be cheaper to invest in other forms of power. Why wait for that to happen? We are starting to see real change, yielding real results from the fossil fuel divestment movement. It is a worldwide movement, growing fast and gaining popularity, with universities and other institutions committing to divest from fossil fuels and reduce carbon emissions.

These are welcome developments but as well as divesting we need to invest, for example in solar. There are many opportunities for pension funds to invest in a clean energy future, whether putting solar panels on schools and car parks in large cities or supporting sensitively sited tidal and wave technologies. Looking at the built environment, there is still so much more we can do in order to increase energy efficiency and reduce consumption, emissions and fuel poverty.

According to the European environment agency, the green goods and services sector grew by more than 50 per cent

Member states are wasting time propping up job sectors and energy sources that have no long-term future, argues **Jean Lambert**



"Between now and 2023, direct and indirect employment in the wind, wave and tidal energy sectors alone could grow from 34,000 in 2013 to over 100,000 within the EU"



between 2000 and 2011, generating over 1.3 million jobs that have benefited the EU's export balance and its economic competitiveness. The EU2020 strategy to promote sustainable and inclusive economies recognises the pivotal role of a transition towards green and socially fair economies.

Perhaps the real question that needs to be answered is will we let government timidity choke this much needed growth sector? We know much of what works: a shift in taxation from labour to environmental taxation – while counterbalancing any regressive effects; investment in energy and resource efficiency and developing the supply chain from concept to production, through a clear industrial strategy.

Stakeholders were generally clear about the need for a coherent, consistent and clear policy framework and that appropriate binding targets play a role in providing that sense of direction and consistency. Many mentioned the importance of ambitious outcomes for the 'circular economy' package and this December's Paris conference on climate change.

In bringing about this transition to a green economy, workforce engagement is not only desirable but also necessary. It is a fact that some sectors will undergo considerable change, even decline, and managing that change will be more positive with the provision of effective support mechanisms retraining and possible change of production. EU funds can really contribute if they are used efficiently. Local and regional government have a key role to play – not least through developing 'just transition roadmaps' – so they can manage change for the benefit of workers and communities and not simply just react to circumstances.

Change is inevitable, in the light of increasing pressure on our environment, climate change and growing demands on the world's resources – with all the social pressures this can bring. We therefore need to do our utmost to maximise the job potential of measures taken to tackle these problems and target our policies, investment and skills development in that direction – not cling to yesterday's ideas. ★

Jean Lambert (Greens/EFA, UK) is parliament's rapporteur on the green employment initiative: tapping into the job creation potential of the green economy

"One definition of a green job is any decent job that contributes to preserving or restoring the quality of the environment: whether it is in agriculture, industry, services or administration"





The Technopol Program and the Cluster Program of Lower Austria is co-financed by the European Regional Development Fund (ERDF) and the province of Lower Austria.

Lower Austria in pole position in the race for green solutions

With our 4 clusters awarded with the European Cluster Management Excellence Gold Label focusing on eco innovations, Lower

Austria and ecoplus are well positioned when the race for new and greener solutions continues. In order to cope with an increasing global population, rapid depletion of many resources, increasing environmental pressures and climate change, Europe needs to change radically the approach to production, consumption, processing, storage, recycling and disposal of biological resources. This leads to a more circular economy with increased focus on lean production and how to increase the value-creation from the side-streams of core business. It gives new business possibilities through innovations, innovations that can often be found at the interface between existing businesses and between clusters.

In February 2012, the European Commission adopted a strategy for "Innovating for Sustainable Growth: A Bioeconomy for Europe". This strategy proposes a

comprehensive approach to address the ecological, environmental, energy, food supply and natural resource challenges. Sustainable production and exploitation of biological resources will allow the

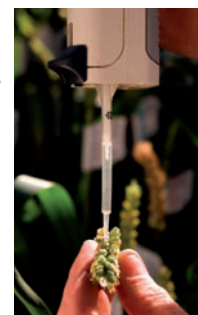


production of more from less. This fits well the eco innovation focus topics of clusters and Technopols in Lower Austria.

ecoplus clusters have more than 550 members in total representing about 80,000 employees. The clusters are supporting the establishing of a stronger culture for innovation. As a cluster member the businesses strengthen their own capacity for innovation and thereby get an advantage in the market.

In the Green Building Cluster nearly all of the 216 collaborative projects are a part of the resource revolution in the green economy. One project deals with the setting up of new innovative services in the field of life cycle cost calculation for buildings, following the carbon footprint "from cradle to grave". Other projects are focusing on the possibilities in new technology: e.g using Building Information Modelling (BIM) for making the planning and construction of buildings more lean, accurate and efficient. There are also projects focusing on refurbishment

of buildings on high standards – such as passive house standards - or development of new ecological prefabricated wall systems.



In the middle of the bioeconomy stands the Food Cluster with their 69 collaborative projects focusing on food quality and safety and more market opportunities for organic and regional products. Bringing innovative food processing industry, agricultural production and trade together with consultants, research and education institutions the cluster helps creating solutions for the future and giving new possibilities to local food.

The green wave increases the need for cross-cluster cooperation within ecoplus. Residues from forestry- and/or food-industry can be valuable input for bioplastics that are one of the focus areas of the Plastics-Cluster. The Mechatronics-Cluster contributes know-how on energy efficient production processes. Together this is a strong platform for further development to become one of the winners in the bioeconomy.

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ecoplus. The Business Agency of Lower Austria
www.ecoplus.at

Green Building Cluster of Lower Austria
Food Cluster of Lower Austria
Mechatronics-Cluster in Lower Austria
Plastics-Cluster in Lower Austria
<http://www.ecoplus.at/en/ecoplus/cluster>

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MINERAL EXTRACTION AND NATURE EVERYONE CAN BE A WINNER

© Airphoto Corné Netten, Maastricht: ENCI, an active limestone quarry, in Limburg, Netherlands, that is already partially restored with some public access and a visitor centre. When extraction ends in 2019, the management of the site will be passed to the nature conservation NGO, Natuurmonumenten. Management will be paid for through renting converted industrial units to local businesses.



Imagine the scene, the wind whispers in the reeds and dapples the water as the setting sun frames a marsh harrier floating effortlessly over its wetland home. A home that is there by design, created as a living legacy of gravel extraction, part of an exciting initiative on former industrial landscapes across North West Europe.

Aggregates are essential to economic development in Europe, and with around 250,000 ha of quarries in NW Europe, offer a huge potential to contribute to targets and themes within the EU Biodiversity Strategy and the Green Infrastructure Strategy. New and restored habitats can fit into a broader landscape-scale vision of linking existing areas of important habitat and providing stepping stones for species to re-colonise suitable habitat patches. Currently this potential is not being realised.

The RESTORE Project was initiated to build on this potential through seven partners working in collaboration across four countries within NW Europe (co-financed by the European Regional Development Fund through the INTERREG IVB NWE programme). The project aims to ensure that decision-makers have access to best-practice on restoring nature, and understand the public services provided by the restored ecosystems and their value to local communities.

Innovative design is being promoted and piloted by the RESTORE Project, with exciting results. It is clear that nature is

winning, with yellow-bellied and midwife toads, eagle owls and bitterns, all European protected species, thriving in former quarry sites. Our natural resources are also benefitting, with measures to improve water quality becoming a feature of the project's restoration work at 't Pompje in Flanders, contributing to the EU Water Framework Directive.

The elegance of the design and planning of these projects is that they not only contribute to significant wildlife gains, but provide valuable public benefits, allowing people to also win. A featured case study is within the Grensmaas in southern Netherlands, where gravel extraction on a huge scale is delivering natural flood management and new accessible wetland wildlife habitat. This is one example where communities are at the heart of transformative projects that can really improve their quality of life and develop a real sense of well-being with a renewed connection to nature.

Mutual understanding is being built between the aggregates industry and conservationists as real projects come to life. This is also deepening the understanding that nature needs a clear regulatory framework, such as that provided by the Birds and Habitats Directives (together known as 'the Nature Directives'). The role played by the Nature Directives in enabling this industry to operate effectively while safeguarding and enhancing nature has been recognised by CEMEX and Cembureau joining with BirdLife International in calling for the safeguarding of the EU's world leading nature legislation.

Article written by Andre Farrar (RSPB)

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The RESTORE Project Final Conference, a Green Week Satellite Event, will be held in Brussels on 17th-18th June to showcase the project's results.

Please visit the project website for details:
www.restorequarries.eu



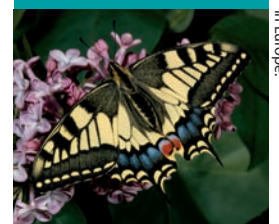
© Nigel Smeets (rspb). Yellow-bellied toad.



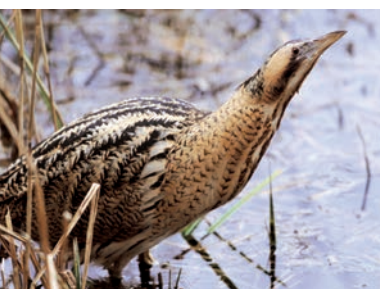
© Andy Hay (rspb-images.com): A former UK gravel extraction site restored by the RSPB. An important bird watching site with about 30,000 people visiting each year.



© Andy Hay (rspb-images.com): "Bearded tit - a reedbed specialist, commonly found on wetland restoration sites."



© John Markham (rspb-images.com): Swallowtail butterflies are found on restored quarry sites in Europe.



© Andy Hay (rspb-images.com): Bittern, a very rare bird due to dependence on reedbeds. 15% of all breeding bitterns in the UK are found on restored quarry sites.



EU ready to work with cities and rise to environmental challenges

With a major environmental conference such as green week 2015, during which thousands of participants are zig-zagging between fascinating sessions on aspects of EU biodiversity policy for three days, it's difficult to single out one event above the others. This is a crucial year for our nature policies, and green week will be looking at what works, what can be improved, and how we can make sure it all fits together. But the week isn't just about nature – it will also highlight other aspects of EU environment policy, with the launch of the process to find a European green capital for 2018, for example.

In one of the great demographic shifts of modern times, city dwellers now far outnumber rural populations, with nearly two out of three Europeans living in an urban environment. That means that towns and cities are the places where emerging environmental challenges impact most on people's health and wellbeing. The European green capital award, now in its ninth year, publicly recognises cities that are rising to the challenge, actively creating a sustainable future for their citizens.

The UK city of Bristol holds this year's title. Last year's recipient was Copenhagen, and next year's award will go to

Ljubljana. These cities are at the top of their game where a good environment is concerned: they are places where urban decision-makers understand that when citizens say they want clean air, green spaces, safe cycle paths and a well-run public transport system, they mean it, because it matters to them and to their families. They are places that have found the right balance between preserving and innovating, between respecting citizens' demands for their environment, and attracting investment to provide the prosperity and employment opportunities on which any modern city depends.

The green capital award – like its recent offshoot, the European green leaf, aimed at smaller cities, which is about to enter its second year – is anything but window-dressing. It is a policy tool used by the European commission to draw attention to urban environment challenges and to the fact that decision-makers in cities can empower themselves to bring about durable solutions. Winning the title boosts tourism, investment potential and the city's reputation, but equally important for the commission is building up a stock of leading proponents for sustainable city living – city authorities – committed to enhancing urban life. Green capital winners also

The green capital award, as well its sister initiative the European green leaf, serve to empower cities to promote environmental sustainability, writes **Karl Falkenberg**





"In one of the great demographic shifts of modern times, city dwellers now far outnumber rural populations, with nearly two out of three Europeans living in an urban environment"

commit to sharing what they have learned and act as ambassadors to inspire others to strive for a cleaner, greener and healthier future for their citizens.

Cities differ enormously, and sharing examples of what a green capital can look like is set to become ever more interesting, with a growing variety of contenders competing for the award. The network of city-based 'ambassadors' includes not only the winners, but also the best-performing runners-up, providing a rich panoply of different examples – big, less big, coastal, riverside, post-industrial and others. The green capital works and this is a message that can also extend beyond Europe.

Cities with populations below the green capital threshold – 100,000 – also seek EU recognition for their efforts and commitment in the areas of sustainability and environment. In response, the commission has launched the new European green leaf initiative. It is already growing in popularity, so the lower threshold – which was 50,000 for the 2015 pilot year – will be 20,000-100,000 inhabitants for the 2016 competition. The green leaf motto says it all: 'towns and cities – growing greener'.

These urban schemes are particularly relevant this year, because one of the sustainable development goals expected to be agreed by the UN in September concerns the urban

environment. Given the increasing number of people living in cities worldwide, European metropolises have an opportunity to share their experience in building better urban futures with poorer regions. In that context, and given the huge numbers of people attracted to cities in developing countries, careful monitoring of both European and international efforts to reach the sustainable development goals is called for. The EU and its member states can share experience on urban design, innovative solutions – for example, in addressing fresh water and waste management problems – and pioneering approaches that would enable poorer regions to avoid some of the errors made in European cities at earlier stages of their development.

After nearly 10 years of the European green capital award, much has been learned from how cities function and change. EU environment policy – which aims to safeguard people's health as much as it does the environment – can only be successful when properly implemented. One of the best ways to quicken the pace of change is to make sure that residents, communities, businesses and tourists are all made aware of what is at stake, becoming more involved in projects and decisions on all aspects of environmental sustainability. This is the key to keeping a city green and sustainable, and I think that it's the hallmark of our European green capital initiative.

One final thing: green week will reveal many things, but it won't tell you the name of the next winning city for 2017. That will be revealed – as will the first green leaf winner – in Bristol, on 18 June. ★

Karl Falkenberg is
director-general of the
European commission's
DG environment



EUROPEAN FOREST RESEARCH AND INNOVATION

EUFORINNO (7th FW project RegPot No 315982) supports research on climate change and biodiversity in forests to progress their resilience to rapidly changing environmental conditions and encourage the adoption of sustainable management practices. Reaching most of its goals in fostering the scientific excellence, research infrastructure and visibility of the Slovenian Forestry Institute, Slovenian forestry and the role of forests for the environment and ecosystem services, the activities in 2015 concentrate on organization of trainings in Slovenia, workshops abroad and on presenting results at and organization of scientific conferences. The publishing center *Silva Slovenica* and the open access repository *SciVie* have already been boosted in the national and international spheres.

The final project conference EUFORIA – EUROPEAN FOREST RESEARCH AND INNOVATION AREA – shall be organized on Rogla in the middle of high-montane forests from August 31st till September 4th 2015. It shall include 19 invited key-note speakers, providing emerging scientific break-through on the topics of climate change and biodiversity, monitoring of genetic diversity in forest ecosystems,

belowground complexity and carbon dynamics, net ecosystem exchange in time and space, and forest disturbance and management. The outstanding goal of the project and the final conference is to combine the efforts of worldwide leading scientists and experts to form a common European Forest Research and Innovation Area (EUFORIA), aiming at preparing today the answers to questions that will arise with climate change and extreme weather conditions tomorrow.

In summer 2015 EUFORINNO shall host a number of trainings for students and early stage researchers, such as the summer training school on application of R-statistics and modelling (combined with the COST action FP1305 BIOLINK), the summer training school on scientific writing and publishing, and a summer school on climate change effects on forest biodiversity and soil processes. Several workshops shall be organized in the South-East Europe, such as a workshop on dendrochronology and below-ground diversity workshop in Vojvodina - Serbia, and a workshop on forest genetic monitoring in Bosnia and Herzegovina.

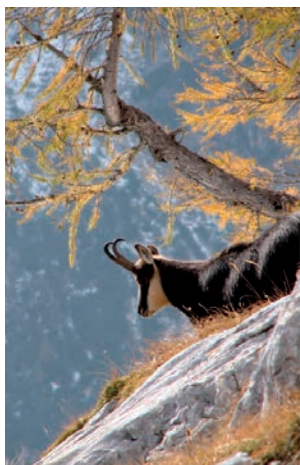
Beech (*Fagus sylvatica* L.) , growing on more than 70% of Slovenian forests. Myriads of other organisms live in leaf litter and decaying wood, which provides shelter, moisture and nutrients entering in the life cycle of a forest ecosystem.



forest ecosystems and long-living organisms as forest trees. The concept of research support infrastructure, based on 'super sites' in forest ecosystem monitoring, and development and implementation of the system of forest genetic monitoring shall be discussed at WFC, and the concepts, developed within the implementation project LIFE GEN MON (LIFE for European forest genetic monitoring system, a LIFE+ project LIFE13 ENV/SI/000148) communicated and disseminated.



Co-funded by the European Union



High plateau of Pokljuka with its vast native (predominantly spruce) forests in the Triglav National Park (Slovenia) offers habitats for a number of other species, such as the protected western capercaillie (*Tetrao urogallus* L.)

(All photos by Peter Čadež, Slovenia Forest Service)



A special EUFORINNO event on monitorings in forestry – methodological developments and policy requirements, shall be organized at the 14th World Forestry Congress (WFC) in Durban, South Africa, on September 9th 2015. In any monitoring, and in forestry especially, the TIME component is crucial to detect any changes in complex

The institute and projects public websites:
www.gozdis.si
www.euforinno.gozdis.si
www.lifegenmon.si

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EU embarks on clear pathway to sustainable forest management

Europe's forests and forestry sector provides our economy with a multitude of benefits, ensuring good quality of life, as well as sustainability, jobs and added value. Employing over 3.5 million people, the forestry sector is Europe's third largest employer, sitting directly behind the metal and food industries. Over 450,000 forest-based businesses contribute seven per cent to EU GDP while only 60 per cent of annual new-grown wood is felled.

Wood is a resource of major economic significance in rural areas. The careful maintenance and management of forests by businesses and over 16 million forest owners ensures that forests are able to sustainably fulfil their ecological, economic and social functions. More than 50 per cent of Europe's forests are privately owned.

Sustainable forest management means ensuring the long-term protection of forests for future generations. This was the overall concept at the UN environmental conference held in Rio de Janeiro in 1992 – “Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs and choose their lifestyle.” It was with guidance from these figures and concepts, that I prepared my report on the European forest strategy. In doing so, my constant concern was to further strengthen forests and the forest-based sector in their social, economic and ecological roles, and to focus on wood as a sustainable raw material and an important resource for Europe. I am very pleased that the constructive forces within the European parliament prevailed and a large majority of the house supported this uniform approach, ensuring a clear commitment to sustainable use.

Considering the fact that many European policy areas, such as energy, environmental and climate policy have an impact on the management of forests, I believe it is

essential that the new EU forest strategy includes a focus on better coordination. The forestry sector and forests must be better placed within the different European strategies so that practitioners' expertise can be better utilised.

My work also meant making sure there were no new bureaucratic constraints for forest owners and managers. The parliamentary majority in favour of a clear separation of forest management plans and the plans of Natura 2000 – an EU-wide network of nature protection areas – is a clear rejection of the shifting of public obligations on to private forest owners. Parliament's report also makes it clear that the criteria for sustainable forest management must constantly focus on the same sector – regardless of how the wood is finally used. Anything else would be uneconomical, lead to excessive red tape and would be pure planned-economy madness. Sustainability criteria serve as a seal of quality for our forestry sector and don't follow a 'one-size-fits-all' list of criteria due to the heterogeneous nature of European forests. Therefore, parliament explicitly supports the preliminary work as part of Forest Europe – the pan-European political process for the sustainable management of the continent's forests – focusing on proportionality and practicality.

In the interest of better coordination, we were able to place special emphasis on research and development. With its downstream industries, the whole forestry sector can benefit enormously from new, efficient production opportunities and product ideas. The potential for innovation and the further development of the bio-economy and sustainable use of raw materials are not just drivers of growth and jobs, but also a help in the fight against climate change.

Finally, I would like to emphasise once again that parliament has dedicated itself to implementing the new EU forest strategy with as little bureaucracy as possible, which will strengthen the forestry sector and bring no new obligations. We need the European commission to set real priorities – and these must be growth, employment and investment based. ★

The EU's new forestry strategy has its roots in both sustainability and cutting red tape, explains **Elisabeth Köstinger**

“Parliament has dedicated itself to implementing the new EU forest strategy with as little bureaucracy as possible”



Elisabeth Köstinger (EPP, AT) is parliament's rapporteur on a new EU forest strategy: for forests and the forest-based sector

EU biodiversity offers chance to craft prosperous economic future

Preserving biodiversity costs Europe very little yet yields considerable economic benefits, writes **Luc Bas**

It is great to see that this year's green week will focus on what is at the heart of the international union for conservation of nature (IUCN)'s mission: conserving and protecting nature and biodiversity. I would argue that this should also be at the core of all European policies, for the sake of our long-term prosperity and wellbeing. Few people recognise the close link between biodiversity, healthy ecosystems and Europe's prosperity. In our modern world, it is easy to forget that nature is our planet's life support system – essential to addressing some of our most pressing challenges.

Our natural capital – including biodiversity, fertile soil, productive land, seas and rivers – delivers valuable ecosystem services and provides us with clean air and water, food, materials, ingredients for medicine, protection against natural disasters, and mitigation against the effects of climate change. Crop pollination, for example, is worth more than €14bn annually in Europe, while wetlands provide an estimated €6bn of ecosystem services each year – high financial returns when you consider there are little or no upfront costs.

Protecting these assets requires effective policies, based on robust knowledge on the status of biodiversity. For over 50 years now, we have compiled a red list of threatened species – the world's most comprehensive information source on the global conservation status of animal, fungi and plant species.

The red list is an invaluable health check for our planet – a barometer of life. To further inform policymaking at EU level, IUCN and the commission launched the European red list of threatened species in 2006. Since then, we have assessed over 9000 European species and will release the European red lists of birds and marine fish this week during a green week workshop. The European red list has become a powerful tool to measure progress towards achieving the targets set out in the EU biodiversity strategy, in which member states have agreed to halt the loss of biodiversity and ecosystem services by 2020. Unfortunately, we are not on track to meet these targets. Instead, our biodiversity is declining and ecosystems continue to be degraded, with 25 per cent of European species currently threatened with extinction due to habitat loss, urban expansion, agricultural practices and climate change. The European environment agency in its recent reports on the 'the European environment — state and outlook 2015' and the 'state of nature in the EU' confirms this assessment. The rapid loss of Europe's natural capital should not only worry environmentalists, but also those concerned about the EU's prosperity at large. Indeed, economists estimate that loss of biodiversity costs the EU around three per cent of GDP per year.

The EU has some of the world's highest environmental standards. The birds and habitats directives have been the cornerstone of our nature legislation for decades, and are a prime example of effective, flexible and popular EU legislation. As a result, we have seen spectacular comebacks from many iconic species and the creation of the EU's unique Natura 2000 network of protected areas that also provide crucial ecosystem services. For these directives to fully reach their potential, we need more and stronger implementation at national and subnational levels.

This year's green week is an important opportunity to spread this message, reinforce existing partnerships and work with different actors to build new relationships. To truly protect nature and biodiversity, we need buy-in from all stakeholders – the return is a prosperous future for all Europeans. ★



"Crop pollination is worth more than €14bn annually in Europe, while wetlands provide an estimated €6bn of ecosystem services each year – high financial returns when you consider the little or no upfront costs"

Luc Bas is European regional office director for the international union for conservation of nature



INTERNATIONAL COUNCIL FOR GAME AND WILDLIFE CONSERVATION

CIC – For the sustainable use of wildlife.

HUNTERS UNITED AGAINST WILDLIFE CRIME

Poaching and illegal wildlife trade always occurred, yet today a true crisis has developed. If no action is taken against wildlife crime the survival of many species is threatened. Wildlife crime is a multi-billion euro criminal enterprise operating at all levels, from global to local. This has multiple negative impacts: the livelihoods of communities are threatened, peace and security are disrupted, and corruption is promoted.

To date, the focus has mainly been on international actions. The illegal killings occur at the local level, and without the full involvement of local communities and the private sector, efficient governmental and international action will fail.

One group, which should also be involved but has gone unmentioned so far, are the 30 million hunters who are managing and conserving wildlife on a daily basis. They are the guardians of nature and wildlife.

It is well-known that legal, well-regulated, and sustainable hunting is an important component of wildlife conservation since it includes demonstrable actions to contain wildlife crime.

The CIC called the global hunting community to unite and partner with all interest groups committed to arresting and reversing the present crisis. At the 61st General Assembly of the CIC in Milan, Italy in 2014, the historic World Summit brought together wildlife conservation leaders, law enforcement professionals, and hunters concerned by the devastating developments in wildlife crime.

The Summit reiterated that science-based, sustainable use of wildlife is effective, especially when the socio-economic and cultural needs of local communities and indigenous peoples are met, respected, and safeguarded while their role in wildlife conservation is ensured.

Read the Milan Declaration:



Containing wildlife crime is a strategic priority of the CIC. We have supported the anti-poaching *Selous Elephant Emergency Project* (SEEP) in Tanzania by providing valuable equipment and materials to rangers. This assisted in stabilizing elephant numbers in the Selous over the past year, after years of steep decline.

We will continue the fight against wildlife crime in April 2016, at our 63rd General Assembly in Brussels, ahead of the CITES CoP in South Africa. By uniting hunters and wildlife experts in the capital of the EU, we have a unique opportunity to take monumental steps against these criminal activities. This global forum is one that should not, rather cannot, be missed. The future of wildlife depends on it!

Do your part, be there!



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MEASURING PROGRESS TOWARD THE GREEN ECONOMY



Vasileios Rizos¹ and Lucas Porsch² discuss the challenge of measuring the green economy and the impact of the measuring-progress.eu web tool.



In recent years, and in the course of numerous global economic, climate, and food crises, the concept of a green economy has been at the centre of policy and academic debates. At the EU level, several policy documents have discussed the transition to a green economy, such as the 7th Environment Action Programme and the Europe 2020 Strategy. Indicators are essential for any transition to a green economy because they are instruments that help policy-makers identify priority issues, formulate policies and ultimately monitor and evaluate their impacts. In recent decades many international organisations, research institutions and non-profit

groups have developed indicators and measurement frameworks, resulting in a plethora of - often complex - green economy indicators. There are hundreds of indicator sets available, but in practice only a very small number of them find their way into the policy-making process. With the financial support of the European Commission, the NETGREEN team has developed an open-access, searchable web tool that provides policy-makers and other users with a unique point of entry to the huge landscape of green economy indicators. The tool, named "www.measuring-progress.eu", enables users to quickly identify the most relevant indicators that would help them measure the success of green economy policies and understand the key implications and challenges of the indicator results. Ultimately, the web tool is expected to improve the way policy-makers and other stakeholders involved in the policy process can access, understand and use indicators for sustainable development and a green economy.

NETGREEN is an EU-funded project that aims to advance progress towards a green economy. The key output of the project is an open access, interactive website (www.measuring-progress.eu) providing information on green economy indicators.

¹ Vasileios Rizos is a Researcher at the Centre for European Policy Studies (CEPS)

² Lucas Porsch is a Senior Fellow at the Ecologic Institute

The final **NETGREEN** Conference will be organised in Brussels in September 2015 - details will be announced on the CEPS website in August 2015

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WHY DO PEOPLE ACT FOR NATURE? ECOSYSTEM SERVICES?

Biodiversity in Europe continues to decline. Ecosystem services and their economic valuation are widely seen as prime 'motivators' to reverse this trend. The FP7 project BIOMOT has studied why in fact committed action for nature is undertaken in government, civil society and business. The project looked at 200 individuals and 34 projects in Europe.

Ecosystem services are nowhere to be found in the results. Instead, people move for nature because nature is meaningful to them, fitting in a life that makes a difference in the world. Meaning is established especially in early youth, in intensive encounters with nature and outside adult supervision. Nature anywhere: forest, brownfield, beach, meadow, city park, garden.

Policy makers can use these results in many ways. One is the fostering of free-roaming opportunities for children in nature, including urban brownfields as wilderness for children. A second is to offer supportive contexts for self-determining groups, projects and networks, fostering their intrinsic motivations to work for nature. Finally on the level of public discourse, they can help to see the limitations of ecosystem services and re-allow language of connectedness with nature in decision-making.



Much more on the website
www.biomotivation.eu
and the Final Conference,
10-11 June in Brussels!

Nature can provide key to tackling European urban health problems

Health concerns are multiplying in our increasingly urban Europe. Ambient air pollution causes respiratory diseases and early death: 90 per cent of urban populations are exposed to air pollution that exceeds world health organisation standards, leading to around half a million cases of early mortality annually in Europe. Traffic noise creates stress, can impair hearing and leads to cognitive difficulties in children. Risks of heat stress in urban areas are also rising in densely-populated cities that are facing the effects of climate change.

These health and social problems add to the strains on our already overstretched and underfunded public health systems, and they call for lateral thinking. The solutions will be multiple; there is no single magic bullet. However, nature-based solutions offer one promising approach that deserves particular attention.

Over the last decade, there has been a revolution in scientific research on the variety of benefits of nature for humans.

Urban, peri-urban and rural parks, green living and working environments, tree-lined streets, green roofs and ecological sound barriers each offer nature-based solutions to health challenges, often addressing several health concerns simultaneously. For example, research shows that a 10 per cent increase in urban green cover can mitigate four degrees centigrade of temperature rise, while at the same time offering many other health and social benefits.

Science has shown that children's learning and development benefits from engagement with nature and early exposure reduces risks of allergies later in life. Increased outdoor exercise helps with obesity. Improving access to and use of green spaces can support the recovery and rehabilitation both of hospital patients and those being cared for at home. There are proven benefits for dealing with depression, burn-out and dementia. Practice has also demonstrated that working with nature can

support self-esteem, learning, sense of identity and self-worth. It can help the reintegration of struggling children and the unemployed into society.

There is now an opportunity to integrate this new understanding into policy, focusing on nature-based solutions that offer the greatest benefits. Engagement with such solutions must come from policymakers dealing not only with environmental policies, but also with health, education, employment, social inclusion and culture. This requires understanding of the multiple benefits of nature at the highest levels, and cooperation in decision-making at all levels, from the European to the local.

It needs prioritisation in the European research agenda. Furthermore, better use of EU funding is certainly a priority. For example, more should be made of funding under the European structural and investment funds for nature-based solutions – this will set an example for the member states, and perhaps also globally.

In addition, we need investment and support for a well-managed Natura 2000

network of protected areas. Advancing the EU green infrastructure strategy will help drive forward health benefits, especially in cities. Environmental policies can be partnered with other policies, for example in the health, regional and urban planning fields. Parliament and council's support in this regard will be crucial, as will national to local implementation.

In effect, the loss of nature is decreasing our natural insurance – our social security. We need to invest in our natural capital to ensure that we have healthy and resilient cities, and more sustainable societies. This will have the added benefit of reducing the burden on public funds from dealing with the growing health challenge.

Addressing these multiple challenges will hardly be a walk in the park, but I find it encouraging that some doctors are beginning to prescribe just that – as an effective means of improving both physical and mental health. ★

Nature is a powerful tool for improving people's mental and physical wellbeing, and deserves further EU investment, writes **Patrick Ten Brink**

"Research shows that a 10 per cent increase in urban green cover can mitigate four degrees centigrade of temperature rise"

Patrick Ten Brink is head of the Brussels office and environmental economics programme at the institute of European environmental policy

IMPORTANT INNOVATIONS UPCOMING IN ROAD TRANSPORT



Sustainable mobility is a priority for the European Union, with objectives of decarbonisation and introduction of alternative energies. When setting transport policies, the EU institutions should pay attention of the upcoming technology developments and the potential of innovative solutions. For road transport, important innovations are ahead of us and must be anticipated in the EU policies.



on energy storage systems, system integration and cost efficiency. The years to come will therefore request further investments in Internal Combustion Engines, requiring continuous R&D to push further energy efficiency,

reduced emissions, and optimization for alternative fuels such as gas and biofuels. The hybrid architectures will allow very low or zero emission driving in urban environments, while offering low fuel consumption on long distances.

Automation of road vehicles

Today, the deployment of advanced driver assistance systems allows users to experience first automated driving functions on the highway or in cities. In the coming years, more advanced systems will allow to evolve from this partial automation to higher levels of automation where the system is able to fully monitor the driving environment and execute all driving functions. While this technology development is taking place, it is very important that legislative frameworks and policies are adapted: firstly only to allow the testing of automated driving systems, and soon after to enable the market deployment of these systems.

Action must be undertaken at European level, to prevent that different legal requirements are being developed across the EU Members States, which could lead afterwards to market fragmentation. This risk should be seen in comparison to international competitors from the US and Asia, where automated cars have been identified as an innovation priority. As a European platform, ERTRAC has gathered the European industry, research community and public authorities in order

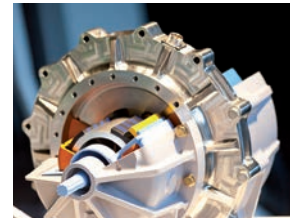
to build a common roadmap for automated driving, providing recommendations for Research and Development activities to be done collaboratively at European level. One example of these activities is to test in real traffic conditions the platooning of heavy-duty vehicles: such an innovation has road safety objectives combined with environmental benefits on fuel consumption and emissions.

Innovation in powertrains: energy efficient engines and electrification



In the coming decades, engines will continue to improve in terms of energy efficiency and fuel consumption. We have to consider the complexity and diversity of the transport needs, which will be matched by a range of powertrain architectures and energies. The electrification will play a very key role, but must be anticipated as a progressive process, requesting long term efforts

ERTRAC has developed several European roadmaps: on electrification, hybridisation, and on Internal Combustion Engines. The roadmap on ICEs is currently being revised in order to integrate new innovation opportunities and indicate the further R&D activities that should be done at EU level.



About ERTRAC:

Roadmaps and annual recommendations prepared by ERTRAC deliver the view of the road transport research community on the key research priorities to be funded in the coming years by the European research programme. ERTRAC plays its role of European platform by gathering all actors: vehicle manufacturers and suppliers, research institutes and universities, services providers, national ministries, local authorities, etc.

Collective European effort offers best hope for low-carbon future

For me, one of the most important aspects of the European Union is the structure it provides allowing member states to work together on moving towards a more sustainable and low-carbon future. The economies of scale that cooperation at economic, development and regulatory levels bring mean that it is easier to arrive at policy decisions that protect both people's health and the environment.

Nowhere has this been more obvious than in the field of air quality. Last year almost half a million people across the EU – well over 400,000 – died prematurely as a result of poor air quality. I represent London, the EU's largest city, where the problem is especially bad. Combining action on this, as well as on climate, brings greater cost efficiency and efficacy.

This is one of the reasons why, since the start of this mandate, parliament's environment, public health and food

safety committee has been working hard to ensure that files on air quality and on fuel and energy contain comprehensive provisions and targets to encourage countries to develop low-carbon solutions.

April's plenary vote on a package aimed at phasing out first generation biofuels in favour of advanced biofuels based on waste material and energy crops demonstrates the strength of will behind this drive. Although the end result can in no way be described as ideal it was a clear signal from the parliament that the EU must do more to diversify its energy mix and reduce carbon to the lowest possible levels.

Moving away from fossil fuels and to a low-carbon economy cannot be done in just one simple measure; it will clearly take more than a preference for advanced biofuels or simultaneous action on air quality. In addition to the piecemeal steps we are taking, we now need to create and develop innovative infrastructures that cater for different consumer demands in different member states. We need a smarter, linked energy grid and a system that ensures all consumer and industrial products conform to the highest energy efficiency standards, while at the same time keeping costs as low as possible for consumers and businesses.

It would be unthinkable for any member state, difficult as it is going to be for 28, to undertake such a wholesale economic revolution on its own. A collective effort is our best hope of achieving the technological change we need in order to limit our impact on the planet's climate and ecosystems.

The simplest demonstration of the need for cooperation and coordination across Europe is shown by the current situation we face with regards to renewable energy.

The differing geography across the EU means that there cannot be one source that is suitable for all. Where solar power may be an obvious option in some regions, wave or wind may be more applicable in others.

The challenge for the EU is to incorporate these differences and allow flexibility for member states to apply a different energy mix but at the same time

ensure cooperation and development of technology across the EU. At the same time it must ensure the collective mix can achieve the decarbonisation we desperately need. It is a big challenge, but one I believe we are equal to. ★

The EU must balance technological change and a new energy mix if decarbonisation is to become a reality, argues Seb Dance



"Last year almost half a million people across the EU – well over 400,000 – died prematurely as a result of poor air quality"

Seb Dance (S&D, UK) is a member of parliament's environment, public health and food safety committee

Maritime CO2 monitoring paves way for international agreement

José Inácio Faria says it is time the maritime sector contributed to the EU's CO2 reduction targets

According to a new EU regulation, ship operators will be required to monitor, report and verify (MRV) CO2 emissions. Currently, the transport sector is responsible for around 25 per cent of greenhouse gas (GHG) emissions, second only to the power sector. Maritime transport accounts for four per cent of the EU's CO2 emissions, and is the only mode of transport that is excluded from European commitments to reduce GHG emissions. According to the international maritime organisation (IMO) – the United Nations' shipping body – under a 'business as usual' scenario, emissions from shipping are expected to increase by between 50 and 250 per cent by 2050, due to demand for transport and growth projections for global trade. However, international negotiations have failed to deliver a deal to reverse this trend.

The EU has moved forward cautiously and used a staged approach in its aim to curb CO2 emissions. The MRV proposal would help achieve progress at international level. The system applies to all ships calling at EU ports, regardless of their flag, and requires the reporting of information on CO2 emissions and other relevant data in order to determine the vessel's efficiency. If an international agreement imposing CO2

reduction targets is ever reached, then a functional monitoring and reporting system for CO2 emissions would be a key stepping stone for the implementation of such goals. We can only assess progress towards the targets if we have a

functional measuring system. It is key that the EU's MRV system is accepted by stakeholders and our international partners. This effort must be made through the IMO.

The regulation is careful to avoid unnecessary administrative burdens. It only applies to ships bigger than 5000 gross tonnes – meaning 55 per cent of those in transit in the EU, but responsible for as much as 90 per cent of CO2 emissions – and it makes use of information already available on board – regarding cargo carried and distance travelled, for example – to fulfil reporting obligations. Ship operators can also choose between a number of different monitoring methods, and if the IMO adopts its own MRV system, the European regulation allows for the relevant alignment with the international agreement where necessary. Another important argument in favour of this legislation is economic. The commission will provide ship users with aggregate and transparent data identifying the most fuel-efficient vessels, bringing competitiveness to the sector, with new technologies and operational measures adopted to improve efficiency and lower operational costs. This in turn will translate into market opportunities that will open up a dynamic and innovative shipping sector.

An important IMO meeting took place last month. The Marshall Islands, which are simultaneously the third biggest global ship registry and a small archipelago threatened by climate change and rising sea levels, has called for a reduction target for maritime carbon emissions. Considering the pressing need for a global climate agreement later this year in Paris, it is time for the EU to ensure the shipping sector makes a contribution towards CO2 reduction targets. The world urgently needs an international agreement, and there now seems to be the right momentum. It is time to establish a fully-fledged diplomatic offensive that can deliver a fair deal for our planet. ★

José Inácio Faria (ALDE, PT) is parliament's rapporteur on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport

"Maritime transport accounts for four per cent of the EU's CO2 emissions, and is the only mode of transport that is excluded from European commitments to reduce greenhouse gas emissions"



GENluS (Graphene Eco Innovative Sorbent – www.genius-project.com) is a biennial project – **coordinated by Directa Plus SpA** (www.directa-plus.com) and co-founded by the EU within the Eco-innovation initiative – which comes up to launch into the European market, ecological and effective graphene-based adsorbents (**Graphene Plus, G+**), for the remediation of water contaminated by oil and hydrocarbons.

Directa Plus, founded in 2005 and currently one of the biggest producer of pristine graphene-based material in the world, has developed an innovative and patented process for the production of high volumes of its technological product. Last year (23rd June 2014) the company inaugurated the new industrial production plant “Graphene Factory” (actually 30 tonnes/year scalability), which has been developed and designed with a modular, repeatable and exportable logic in mind.

Grafysorber is the commercial name given to our oil-adsorbents products and promoted by GENluS project. Grafysorber products are characterized by unique performance in oil adsorbency, and at the same time absence of toxicity and flammability, oil recovery and reuse of adsorbed material reuse. **1 kg of Grafysorber is able to adsorb more than 90 kg of hydrocarbon before being saturated** (at least 5 times higher than adsorbent material actually on the market).

Grafysorber products are able to remove hydrocarbons even at low concentrations (range of ppm), **cutting down the pollutants contamination down to 0.5 ppm** (really close to potable limits) and can be used as loose materials or inside booms, pillows, pads, filters, etc. Therefore, they represent an effective solution for oil-contaminated water. Moreover, **the Italian Environmental Ministry for oil-spills clean-up activities already approved the product.**

In general, the use of Grafysorber generates the following environmental and economic benefits:

- Reduced remediation costs due to higher performance in terms of adsorbance capacity and treatment timescale;
- Reduced wastes for landfill disposal, both in terms of adsorbent material and adsorbed oil;
- Reduced use of traditional dangerous substances, such as dispersants, sinking agents, oxidizing chemicals, etc.;
- Reduced greenhouse gas emissions derived from wastes incineration;
- Reduced consumption of non-renewable resources;
- Reduced costs of transport thanks to on-site production;
- Possibility for the product to have a second life cycle in asphalts.

Grafysorber has been firstly industrially tested in a Romanian former refinery site, containing a basin with about 30.000 m³ of water contaminated with petroleum hydrocarbons. The product used as loose material was able to abate the hydrocarbons concentration from 200-300 ppm down to 0.5 ppm. Thanks to the very positive results obtained during the project, **Directa Plus was recently invited by the European Commission during the 18th European Forum on Eco-innovation (Barcelona, 20-21 May) to present GENluS as one of the best of Eco-Innovation projects.**

Thanks to Genius support, Directa Plus has foreseen for the next months an intensive commercialization activity of Grafysorber.



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LNG Masterplan for Rhine/Meuse-Main-Danube

Preparing European Inland Navigation for LNG as fuel and cargo



- The third vessel built in the project, the “EcoLiner” of **Damen**, is the first purely LNG powered inland waterway tanker, equipped with dedicated gas engines and using installations of the newly developed “Air-Lubricated Hull”. The EcoLiner is designed to deliver highest fuel economy for inland shipping operators by reducing fuel costs by up to 25%, while at the same time cutting emissions. The EcoLiner is expected to be launched in September 2015. Its modular design can be built to transport any commodity, including containers and dry bulk.
- LNG/MGO inland bunker vessel of **Argos Bunkering** and the LNG inland carrier of **LNG E-motion** are another two vessels that are expected in the first half of 2016.

The LNG Masterplan for Rhine/Meuse-Main-Danube is an ambitious project with the goal to facilitate the **deployment of Liquefied Natural Gas (LNG) as an eco-friendly alternative fuel and a new commodity** for inland shipping. Besides the conceptual work, the project triggers first steps in realising the LNG supply chain by making investments into LNG on-shore infrastructure and into LNG fuelled inland vessels and LNG inland carriers.

The LNG Masterplan is coordinated by Pro Danube Management together with Port of Rotterdam. It functions as a cooperation platform for authorities and industry stakeholders and brings together 33 project partners from 12 EU Member States and one associated partner from Switzerland.

IMPROVED AND HARMONISED REGULATORY FRAMEWORK

The project helps to remove market barriers. It contributes to the elaboration of technical provisions necessary for creating an encouraging regulatory framework for safe use and handling of LNG. Among other outcomes, LNG emergency and incident response guidelines for inland navigation were recently made available targeting emergency responders, such as

fire brigades and port authorities. These guidelines will be followed mid-2015 by guidelines for port rules on LNG bunkering, LNG (un)loading or risk assessments with the goal to ensure harmonised operations on European waterways.

CONCEPTS AND PILOT DEPLOYMENTS OF INLAND VESSELS

The project delivers a high number of advanced technical concepts for new and retrofitted vessels being propelled by LNG or transporting LNG and deploys several of them.

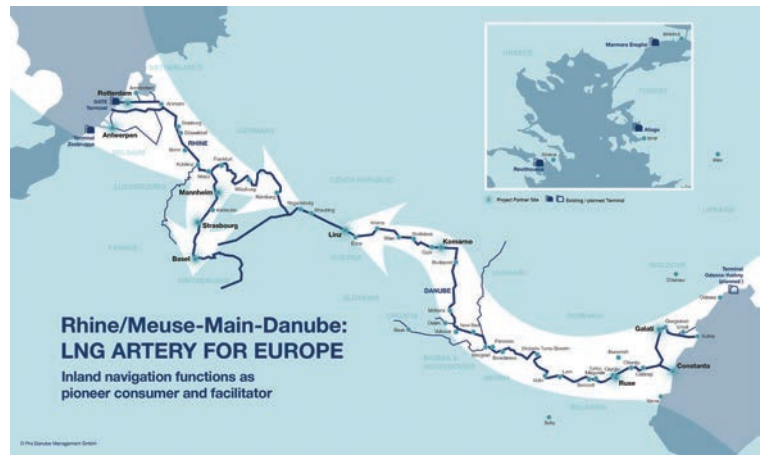
- The container vessel of **DCL Barge (Danser Group)**, the “Eiger-Nordwand”, was put in operation in June 2014. It is the first inland container vessel worldwide refitted to LNG. Equipped with a Wärtsilä dual-fuel drive system, the vessel gets 95 to 99% of its power from LNG.
- The second vessel, the conventional gas tanker “Sirocco” of **Chemgas Barging**, was delivered in September 2014. The “Sirocco” is the first newly built inland tanker with the LNG fuel tank located below deck inside the cargo area, a construction that ensures the highest safety requirements.



These tangible results are accompanied by a high number of technical vessels concepts, such as the first LNG inland pusher, an advanced river-sea LNG tanker, an inland barge for transporting LNG, a floating pier for unloading LNG from vessels and bunkering of vessels, and retrofit solutions for various Danube vessels.

SMALL SCALE LNG FACILITIES

Preparatory works and deployment activities are done in the field of Small Scale LNG facilities (inland terminals or bunker stations). The Bulgarian company



Bulmarket builds the first LNG terminal in the Danube region, in Ruse, with a capacity of 1000 cbm, equipped with a truck fuelling station and a pontoon to be used for future fuelling of inland vessels. The start of operations is expected in October 2015. Port of Antwerp elaborated a concept for a LNG bunker station and will launch a tender for its construction and operation. Other investigated locations for LNG on-shore infrastructure include the Ports of Mannheim, Strasbourg and Switzerland on the Rhine as well as Linz (Austria) and Komarno (Slovakia) on the Danube. Special attention is paid to the sea-river port in Galati and LNG terminal foreseen in the Port of Constanta (both Romania).

EDUCATION AND TRAINING

The highest priority for both shipping and LNG industry has always been safety, which is reflected in the enviable safety record. In order to maintain this, new requirements for education and training of personnel in inland navigation sector are elaborated in the project. Curricula, training materials and e-learning modules are being developed for several staff categories to ensure the technical competence along the entire logistics chain (crew members, terminal workers, bunkering and management personnel, competent authorities, logistics students). The first training classes were already executed with great success.



MASTERPLAN – STRATEGY & RECOMMENDATIONS

Besides the pilot deployments and the conceptual work, the project partners will elaborate a comprehensive **strategy for the deployment of LNG as fuel for inland vessels and as cargo**. This strategy together with recommendations will be presented in a policy advocacy document called “LNG Masterplan – Guidelines and Recommendations”.



Project partners:

A3PS (AT), Erste Group Bank (AT), EVN (AT), FHOÖ Forschungs- & Entwicklungs GmbH (AT), **Pro Danube Management (AT) – project coordinator**, Gemeentelijk Havenbedrijf Antwerpen (BE), Bulmarket DM (BG), Asociace NGV (CZ), DST (DE), DNV-GL (DE), Universität Duisburg-Essen (DE), Port autonome de Strasbourg (FR), Chemgas Barging (LU), Argos Bunkering (NL), Chemgas Holding (NL), DCL Barge (NL), **Havenbedrijf Rotterdam (NL) – Rhine region coordinator**, Stichting STC-Group (NL), Kooiman Marine (NL), LNG E-Motion (NL), APDM Galati (RO), CERONAV (RO), NAVROM Galati (RO), Transport Trade Services (RO), University of Craiova (RO), Danube LNG (SK), Výskumný ústav dopravný (SK), Staatliche Rhein-Neckar-Hafengesellschaft Mannheim mbH (DE), LINZ AG (AT), Italian Republic (IT), Schönherr Rechtsanwälte (AT), DAMEN Shipyards (NL), Bernhard Schulte (CY), Port of Switzerland (CH) as a non-TEN-T funded partner. In addition to the EU funded partners, more than 50 organisations support and follow the work.



The “LNG Masterplan” facilitates the use of LNG as fuel resulting into reduction of CO₂ by up to 15-20%, NO_x by 80-90%, almost zero particulates matters and SO_x compared to current diesel fuel. LNG not only gives back inland navigation its strong environmental advantage but can also cut fuel costs, which improve its competitive position. LNG must be seen as valuable energy source transported from seaside import terminals into the European economic hinterland. LNG as fuel and its cost-efficient and safe distribution by river barge supports major EU transport and energy policies, among them the Clean Power for Transport Package and the Directive on Deployment of Alternative Fuels Infrastructure. This is why the project receives EU funding from the TEN-T Program.

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Project website with access to downloadable outcomes:

www.lngmasterplan.eu

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Biodiversity and ecosystem loss impacts hardest on world's poor

Europe's biodiversity for life programme contributes to socioeconomic development and the eradication of poverty, writes **Roberto Ridolfi**

More than 70 per cent of the world's poor live in rural areas and depend directly on biodiversity and ecosystems for their subsistence. Ecosystem services provide livelihoods, enhance food and nutrition security, enable access to water and to health and contribute significantly to climate change mitigation and adaptation. For example, mangrove ecosystems, when sustainably managed, allow the maintenance of fish stocks at a high level, while at the same time protecting the coast from erosion, providing timber and fuel wood, and storing carbon in the roots and the soil.

An increasing population and global trade have put unsustainable pressure on renewable natural resources, such as bush meat, fuel wood or arable land, which is increasing

long-term poverty and leads to biodiversity loss. On the other hand, illegal wildlife trade of endangered species has a major impact on biodiversity, but also represents a real threat to national security and economic development for many African countries. Unprecedented poaching levels and sophisticated smuggling capabilities are indicative of organised criminal activity. Over €21bn of worldwide environmental crime is attributed to illegal wildlife trade, of which ivory is an important component. It is believed that this money is partly financing illegal groups, such as the Lord's Resistance Army, Boko Haram and Al-Shabaab, playing a part in destabilising the security of large regions.

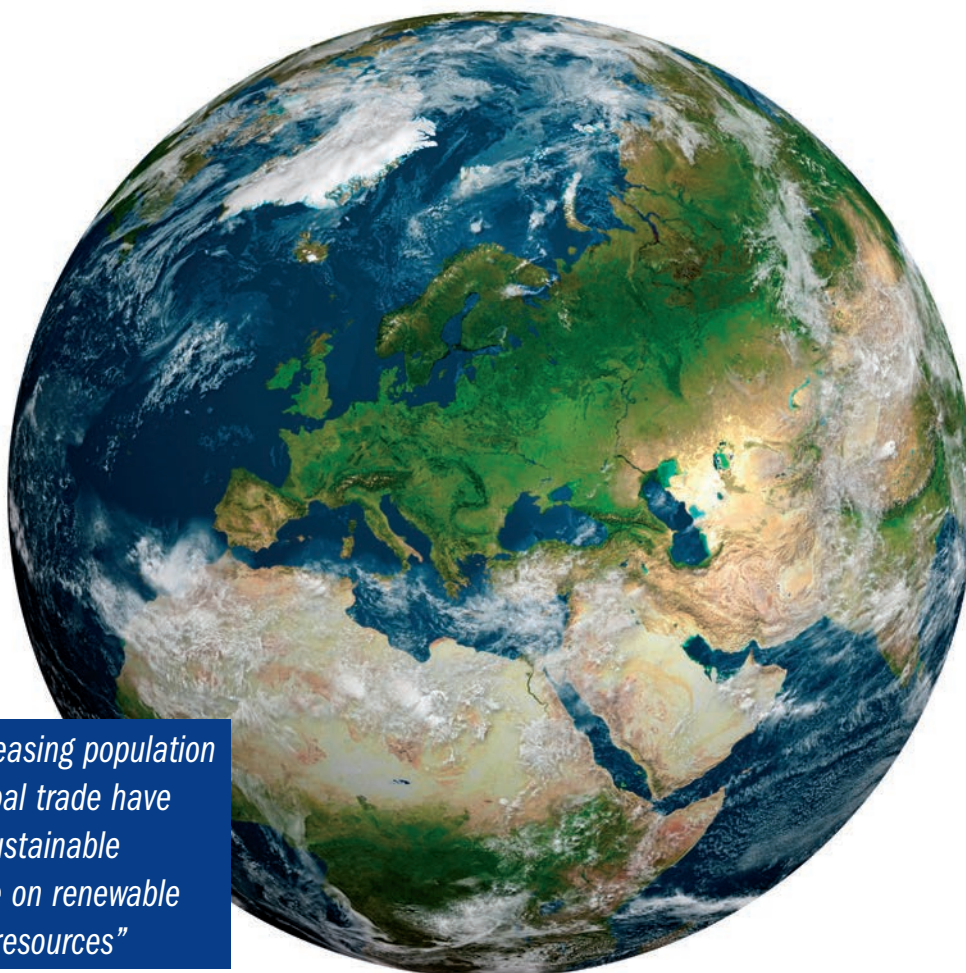
Since 1985, EU funding for biodiversity protection in sub-Saharan Africa went to direct support of protected areas management, with a special focus on Central and West Africa – for example, Virunga in Democratic Republic of Congo and Odzala in Republic of Congo. This approach was efficient in safeguarding large key protected areas and served as a foundation for efficient national and regional networks. Most recently, however, the wildlife crisis has changed in nature and magnitude and requires an adapted response to this new context.

At the political level, the commission is preparing an EU action plan against wildlife trafficking aiming to tackle the wildlife problem in a more comprehensive way by addressing both the supply and the demand side. More specifically, within its development cooperation actions, the commission has defined and is implementing the flagship initiative 'EU biodiversity for life' (B4LIFE) which aims to bring together all EU cooperation activities in the area of biodiversity and ecosystems under the same umbrella framework.

With actions financed from both the EU's thematic and geographical external cooperation instruments, the overall aim of B4Life is to contribute to halting biodiversity loss and averting ecosystem collapse, by fully integrating biodiversity and ecosystem conservation with socioeconomic development and poverty eradication. In line with the agenda for change, B4Life will concentrate its operations in three priority areas: good governance for a sustainable manage-

"The EU is one of the largest official development assistance contributors to biodiversity financing, and has seen its investments increase significantly from €132m to €319m"





"An increasing population and global trade have put unsustainable pressure on renewable natural resources"

ment of natural capital; ecosystem conservation for food security and sustainable rural development; and ecosystem-based solutions towards a green economy.

B4Life also offers a special 'window' of action to address the wildlife crisis caused by the dramatic increase in poaching and illegal trafficking seen in recent years. To better define its actions in this arena and eventually feed the EU action plan on wildlife trafficking with well-informed interventions, the commission has committed the expert study – 'Larger than elephants: inputs for an EU strategy for African wildlife conservation'. Endorsed by the entire conservation community the report contains detailed proposals along three main pillars. First, in-situ management of large key landscapes for conservation including conservation and local development programmes. Second, is the fight against illegal trafficking (from supply to demand sides) with a strong emphasis on law enforcement. The final pillar is the reinforcement of national and regional capacities for management and monitoring. The cooperation with the Democratic Republic of Congo offers a good example of the integration between conservation

and development. In five sites of exceptional importance – Virunga, Garamba, Salonga, Yangambi and Upemba – that are managed along traditional practices, development projects will improve the livelihoods of local population by increasing access to renewable energy, sustainable agriculture. This then favours the security and long-term economic development of these regions.

The EU is one of the largest official development assistance contributors to biodiversity financing, and has seen its investments increase significantly from €132m (2006) to €319m (2013). For the next seven years, EU will maintain its efforts to double its biodiversity financing in line with its international commitments from the Hyderabad conference in 2012.

Even though the lion's share of the European Union's investments in biodiversity goes to direct support for conservation actions – in particular the management of protected areas – indirect support tends to increase as well, through the integration of biodiversity in other sectors of cooperation, such as climate change, forestry, agriculture and coastal resources management. ★

Roberto Ridolfi is director for sustainable growth and development at the European commission's DG development and cooperation – EuropeAid

Trees4Future: helping European forestry and wood industries develop sustainable solutions for the future in the context of climate change



Dr Luc Pâques, Project Coordinator

"Trees4Future is a four-year Integrative European Research Infrastructure project which aims to develop, improve and integrate forest genetics and forestry research infrastructures across Europe. We've created a dynamic platform offering services and easy access to formerly scattered sources of information and expertise, with the help of 28 partners across 13 countries."



Sergey Nivens/fotolia.com

Opening up access to forest research infrastructure in Europe

Trees4Future's Transnational Access programme offers free access to 28 state-of-the-art research structures and facilities, focusing on:

- genetics, genomics and tree breeding
- (eco-)physiology and biotechnology
- wood science and technology
- data analysis/modelling

They include genetic databanks, biobanks, laboratories, models and decision-support systems. Since the Call for Access opened in 2012, 66 projects from 23 countries have had over 1,100 days of supported access.

"Trees4Future Transnational Access is a great opportunity for researchers to visit other institutions and collaborate with other scientists."

www.trees4future.eu/transnational-accesses.html

Preparing ourselves for the forests for the future

We need your help! Trees4Future is compiling a Strategic Innovation and Research Agenda (SIRA) in the fields of forest genetics, wood quality, wood products and forest management.

Provide your expertise and opinion by answering our short 4-question survey:

www.trees4future.eu



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 284181.



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EU regional innovation must unite public, private and third sectors

If we are to make research and innovation strategies for smart specialisation (RIS3) a success in our regions we must be led by three clear principles. First, RIS3 is above all a process – an economic transformation using innovations for the wellbeing of a region. Currently, high priority actions focus on a few crucial political and industrial business areas defined by regional decision makers.

Second, political decision makers need to start thinking about their region from the perspective of becoming innovation ecosystems built on strengthening human capital. The key success factor is a positive attitude towards curiosity, creativity, entrepreneurship and knowledge-sharing based on the principles of open innovation.

And third, pioneering regions which open new avenues for European success in RIS3 policy develop their collaboration mentality and working culture based on crossing boundaries and

creating European partnerships through the help of new digitalised open innovation platforms and processes. These platforms consist of several parallel physical and virtual elements forming processes for a strong co-creation culture.

In the Committee of the Regions (CoR) we have produced opinions in recent years calling for pioneering regions to be forerunners in implementing the Europe 2020 strategy and through that in creating our desired future. Lifelong learning and digitalisation are the cornerstones of this change in mind-set towards entrepreneurship and innovation. We need a dynamic understanding of regional innovation ecosystems where the public, private and third sectors learn to operate together. We need to modernise triple helix practices – creating more cooperation between companies, universities and cities – by increasing the role of citizens. In many cases citizens are the true drivers of development as customers but also as active

contributors throughout the innovation processes. We need methodologies that mobilise public-private partnerships and encourage people participation through user-driven open innovation and living labs. We need to speed up change through scalability and implementation for the benefit of people throughout Europe.

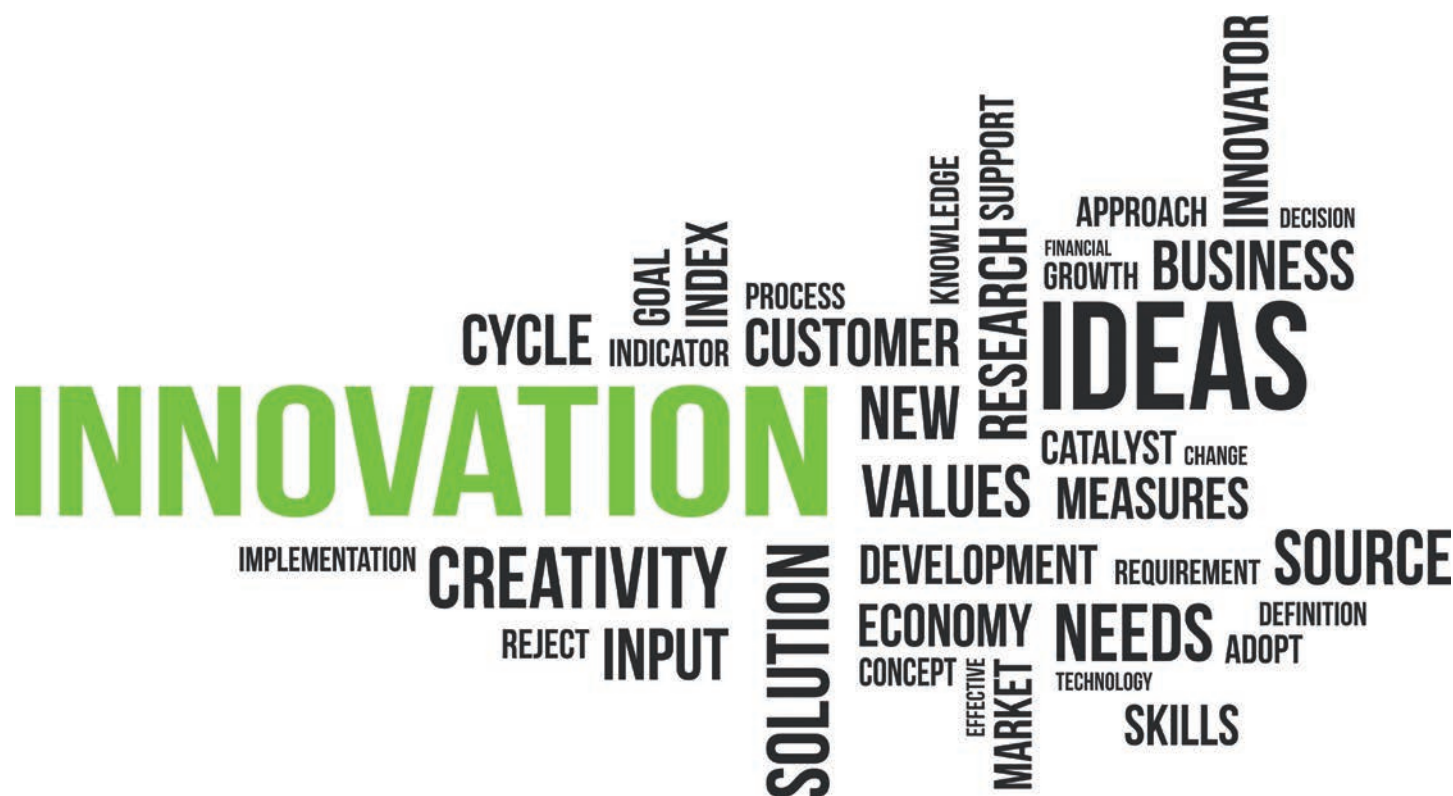
We must energise our urban ecosystems. Digitalisation through apps, the cloud, and other services enables new forms of learn-

Europe's regions must be encouraged to take a pioneering role in boosting innovation, argues Markku Markkula



“Political decision makers need to start thinking about their region from the perspective of becoming innovation ecosystems built on strengthening human capital”





ing and collaborative work. This also means new ecosystem creation, evolution, and business models. This development should have a strong influence on urban planning and construction industries.

The innovation garden is a regional innovation ecosystem in my home city of Espoo, the second largest city in Finland with close to 300,000 inhabitants. We have an extensive €20m research programme called 'energising urban ecosystems' which uses a multi-dimensional urban development approach. We combine physical and digital infrastructures on shared innovation platforms. This means that city decision makers must address urban development challenges as a mutually complementing integrated system of urban infrastructures, socioeconomic objectives, enabling technologies and facilitating mechanisms. Different stakeholder groups are integrated in different ways.

We describe this as a smart urban design process with a strong human focus. This can be portrayed as a layered structure of built and natural environments, integrating physical and virtual platforms, human-centric applications and user-driven collaborative processes, which constitute the emerging socioeconomic system. It is argued that this 'design' should and could be improved with digital means and with enabling digital technologies. Accordingly, in future cities (which are already emerging) hardware and ICT infrastructures become an integral part of urban infrastructures, ICT platforms merge with industry platforms, smart living labs and mobile apps complement human-centric living environments, eGovernance processes

"Learning is the key to innovation and we need to focus on our own learning processes – individually and collectively"

match with user-driven needs and systems, thus extending the reach, depth and relevance of the re-engineered socioeconomic realities.

Let me conclude by openly inviting and challenging the European commission's DG Research, DG Regio and the joint research centre to form a team of experts to review the outcomes of this and previous Week of innovative regions in Europe (Wire) conferences. This team will answer the following questions. How do we encourage regions to take a pioneering role? And how do we make use of the experiences of RIS3 strategies and their implementation processes in increasing the renewal capital of regions and giving a special focus on the role of decision makers? I would also bring three to four experts from the CoR to participate in this co-creation process. Why do I offer this open challenge? I have contributed to three of the recent Wire conferences and I value their atmosphere and their key findings. However, the potential for its outcomes is much higher than is currently being made use of. Learning is the key to innovation and we need to focus on our own learning processes – individually and collectively. Let us ensure future Wire conferences are instruments for European regions to become ever more innovative and learning-oriented. ★

Markku Markkula
is president of the
Committee of the
Regions

When research networks bridge

Europe's regional innovation divide

Regional development is all about creating dynamics, establishing dialogue and cooperation. Knowledge sharing and creation are crucial, and this is where COST, the European Cooperation in Science and Technology, is playing an increasingly important role.

WIRE 2015 is a great chance to emphasise on how European research communities benefit from COST funded Science & Technology networks, especially in the context of engaging research institutions regionally. Through its networking activities (meetings, workshops, training schools, short-term scientific missions), the COST Framework helps coordinate and stimulate national research, improving collaboration among regions.

The 350 COST Actions running every year are networks linking researchers, engineers and scholars from academia and private companies, across 36 European countries and beyond. These networks often outlive their four-year duration and see ideas grow, very often developing into highly competitive research consortia or public-private partnerships.

Fighting the innovation divide is particularly difficult for European city-regions in an age of multi-level governance having to reconcile competitiveness and social cohesion. Existing resources must be used to their full potential, and our 2014 impact assessment shows this is what COST Actions are doing.

What is more, we are focusing half of our seven-year budget on activities involving excellence from Europe's less research-intensive, "widening" countries. These countries are already active in all COST Actions, placing regional development and inclusiveness at the heart of their work. Be they a new socio-economic modelling of the EU, guidelines for a common EU social policy, or ways towards low carbon regional economies, researchers have turned to COST Actions to reach their goals.

We are also engaging young, outstanding investigators, while striving for gender balance. In 2014, there were 12.000 researchers participating in short-term scientific missions and training schools alone, out of the total 45.000 involved in COST Actions yearly. In fact, these types of activities are the most rewarding for participants' careers.



Enabling better access to Europe's top research hubs is key to capacity building and regional growth; such access is about knowledge and technology exchange. Both SMEs and industry directly benefit from the excellence and knowledge springing from COST Actions, which shows the added value of such networks.

Ultimately, this knowledge exchange coordinates research efforts all over Europe and beyond its EU borders; if researchers align their efforts, they can start looking at their own work from a new perspective. This is precisely why COST values and promotes interdisciplinarity across all its Actions and activities.

One could also argue that sharing knowledge and growing ideas involves developing relationships and building trust among Europe's people, regions and cultures. Closing innovation gaps depends on mutual trust, and our networks will continue building it.

Ángeles Rodríguez-Peña
President of the COST Association



COST is supported by
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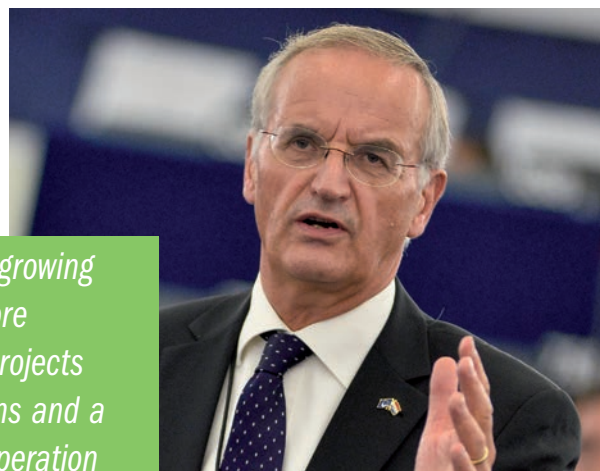
Europe can take advantage of its high regional innovation potential

The EU should take steps to bridge the growing innovation gap between its regions, says Lambert van Nistelrooij

As things stand, Europe is still not innovative enough. The European innovation scoreboard for 2015 shows us a way to improve this, pointing out that there is much to be gained in the field of regional innovation. So, at this year's week of innovative regions in Europe (Wire) conference in Riga, the focus on regional research and innovation will again be at the heart of our discussions. There is a growing need for more innovative projects in the regions and a smooth cooperation between the regional, national and European actors involved. With the 2015 budget having more funds available for innovation than ever before, there will be a shift from preparing policy to the actual implementation of regional smart specialisation strategies. However, we are still facing an increasing innovation gap between the more advanced regions and those that are less developed. The EU's mid-term review creates a perfect backdrop to this year's conference. We must ask ourselves what will constitute our next step towards a more balanced EU with more jobs and growth in the European regions.

It is well known that advanced regions in Europe invest more public money than the lesser developed regions. There is a clear interregional innovation-gap, what we call the 'innovation paradox'. The reason for this gap is that regional innovation systems in less developed regions are often underdeveloped and fragmented. The right framework and policy delivery systems are absent, the public sector is inefficient and there is a lack of understanding by policymakers of the regional innovation process. A striking disconnection between the academic landscape and the regional economy reinforces this problem. To bridge this gap, the European parliament entrusts the commission with preparatory action through the 'stairway to excellence' programme. The aim of this project is to help countries in the uptake of knowledge and innovation. After 25 years of investments by cohesion policy some countries are still lagging behind.

The most effective way for regions to move forward on this 'stairway to excellence', is further specialisation in their areas of expertise. That's where regional innovation and smart specialisation come together. EU funds now support competi-



"There is a growing need for more innovative projects in the regions and a smooth cooperation between the regional, national and European actors involved"

tive cross-border and transnational alliances and clusters. That's why smart specialisation is one of the key factors for future growth and jobs in Europe. A lot of innovative initiatives like the automotive campus in

Helmond, the Netherlands, are all set up from this strategy. However, there are many difficulties in the cross-border cooperation. According to the innovation scoreboard, investments in the private sector are decreasing. Venture capital as a proportion of GDP is going down and the introduction of innovative products from SMEs has declined.

Wire 2015 touches on the future of the European structural and investment funds. Today, richer countries get less regional EU money in their national envelopes and have a tendency to set cohesion policy aside due to excessive bureaucracy. Poorer countries have a bigger envelope and prioritise cohesion. That's why we have come up with a plan to combine the EU's smart specialisation strategy, the 'stairway to excellence' and the Horizon 2020 research and innovation programme in the coming years. By combining these instruments we can achieve better synergies at all stages of programming and implementation. This will allow us to reach the optimal outcome of a future for innovation, jobs and for all regions in Europe. We will especially focus on better access to EU funds for the SMEs which form the backbone of Europe's economy. I hope the results of the Wire conference can inspire us and provide viable and visible solutions for bridging the innovation and cohesion gap. ★

Lambert van Nistelrooij (EPP, NL) is a member of parliament's regional development committee and a speaker at the WIRE 2015 conference

Founded in 2005 at the initiative of the French government and the Languedoc-Roussillon Regional Council, and today also supported by the European Union, Transferts LR, a Regional Agency for Innovation, supports economic development through innovation and technology-based transfers in the Languedoc Rousillon.



The activities undertaken by Transferts LR can be broken down into two major categories:

Regional Development:

Transferts LR provides support to the Regional Council and the State in developing and coordinating its Smart Specialisation Strategy through methodological support and its knowledge of regional stakeholders. The Agency additionally provides assistance to the Regional Innovation Network which comprises structures supporting innovation within SMEs.

Company Services:

Transferts LR provides regional SMEs with the skills and expertise of 17 advisors who provide support in the following areas:

- methodological assistance for management of innovation and project development
- seeking the appropriate skills
- identifying suitable funding mechanisms,
- marketing approach and economic intelligence

Transferts LR is a member of Enterprise Europe Network.

Transferts LR is actively involved in the seven areas of expertise of the Smart Specialisation Strategy of Languedoc-Roussillon:

- H2O - Small and Large Water Cycles
- Industrial and Energy Transition
- Innovative and Targeted Therapies - Diagnostics
- Data acquisition, processing and visualisation
- Innovative and Sustainable Productions and Promotion of Mediterranean and Tropical Cultures
- Coastal Economy
- Entrepreneurship and Innovation

Close-knit ties with public research:

In each of these areas outlined, Transferts LR relies on a scientific commission comprising scientists and industrialists. Public research also plays a key role in governance of the Agency and Transferts LR acts as a bridge between SMEs and the scientific expertise of the region.

Governance through professionals:

The Association is chaired by a Business Leader and its Board of Directors primarily includes business leaders and research representatives. It has a total of 400 members.

Key figures summing up 10 years of activities of Transferts LR

2,900 companies and creators advised

1,500 supported R&D projects

1,650 contacts created among regional SMEs and research laboratories

380 market surveys provided to project leaders

900 opinions issued by our scientific council meetings

300 advisors from the Regional Innovation Network trained

Basic Facts about Languedoc-Roussillon:

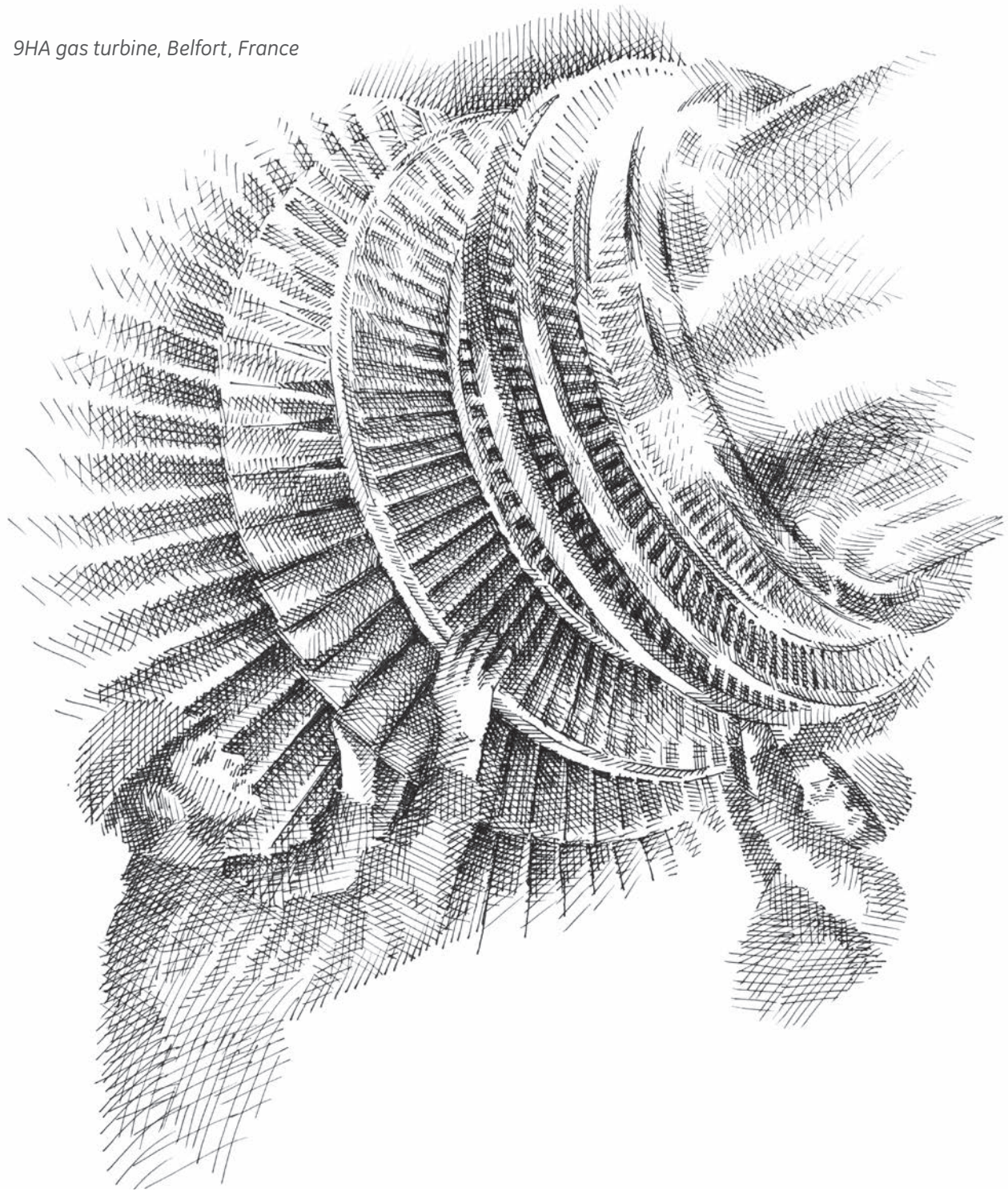
Located in the South of France (Capital: Montpellier), 2.6 million inhabitants and the highest population growth in France.

GDP/inhabitant is about 75% of the EU 27 average – R&D expenditures/GDP=3%

An average innovator region on the Regional European Scoreboard but at a higher rate of innovative companies than the European and National rates (CIS 2012)

Find out more at
www.transferts-lr.org

9HA gas turbine, Belfort, France



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