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COUNTRY Side

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ELO - European Landowners' Organization

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Editorial

A new year is also an opportunity to reaffirm our convictions, i.e. that private businesses and properties offer an ideal environment for the development of a prosperous countryside throughout Europe, one which balances social, environmental and economic concerns. One cannot be achieved at the cost of the others! This must be a holistic approach, allowing the countryside to develop its own wealth, to provide unique benefits to society as a whole. The wealth of the countryside is a direct result of placing public action and expectations in the hands of a multitude of private managers, who are well qualified to provide this service. We are convinced that the future of Europe's countryside will largely depend on individual management decisions taken by these millions of land owners and businessmen and women. Restrictive, heavy-handed regulations are therefore counterproductive.

We recognize the fact that without proper land management, society and the natural environment are in trouble. But it is a two-way street: the management of land and of society depends on the natural environment; but in areas as densely populated as ours, the countryside needs to be properly managed too and land management, farming and society make vital contributions to maintaining it.

We seek to shake up this outmoded philosophy which consists in believing that the best way to attack society's problems and in particular its environmental ones is through a new glut of regulations. We recommend a softer approach emphasizing encouragement, especially as it is far more efficient to get people on your side – and this includes the private sector as well as associations and administrations.

Thierry de l'ESCAILLE

UNFCCC COP 15 in Copenhagen

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The UN Framework Convention on Climate Change (1992) aims to stabilise concentrations of Greenhouse Gases in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, and the developed countries (listed in Annex I to the Convention) agreed cuts of some 5% for the period 2008-12 by the Kyoto Protocol (1997), which the US later refused to ratify.

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There is now broad consensus, following the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007), that a mean global warming of + 2° Celsius above pre-industrial temperatures (i.e. about + 1.15° above present temperature) is the maximum that could be sustained without major damage to the climate system.

Given the scale of emissions and the length of the carbon cycle, this implies limiting atmospheric levels to 450 ppmv CO_2 equivalent, requiring emissions to peak by 2015-20 and then decline annually by some 5%, and reducing to about 80% on 1990 levels by 2050.

However, land temperatures would still be higher than the mean, and even stabilisation at + 2° would mean a rise of perhaps + 3° to + 4° in northern Europe, which would potentially trigger the melting of the Greenland ice sheet with a gradual increase of some 7 metres in mean sea levels.

The ELO has had observer status with the UNFCCC since 1999 and Copenhagen was the sixth meeting of the Conference of Parties (COP) which we have attended. A full policy statement is available at www.elo.org

The COP 15 negotiations

The Bali Action Plan in 2007 recognised that 'deep cuts in global emissions' will be required to achieve the objective of the Convention' and began a process to agree long-term cooperative action (LCA) up to and beyond 2012 with measurable, reportable and verifiable (MRV) mitigation commitments, including quantified emission limitation and reduction objectives (QELRO) by all developed countries and nationally appropriate mitigation actions (NAMA) by developing countries. Within this, special attention was to be given to reducing emissions from deforestation and forest degradation (REDD) in developing countries.

During 2009, the US offered 17% cuts on 2005 levels of emissions by 2020 (this is the amount currently before the Senate, but only 4% on 1990 levels), 30% by 2025, 42% by 2030 and 83% by 2050. China offered cuts in carbon intensity. The EU made an opening offer of 20% on 1990 levels by 2020 and was ready to go to 30% to get a global agreement.

However, there remained serious issues arising from:

1. the structural asymmetry in emissions per capita between the two biggest emitters, China and the US (Chinese emissions per capita are about 30% of those in US) and the unwillingness of the two countries, who were sparring from the start, to improve their offers;

2. the target for temperature limitation, i.e. + 2° or + 1.5°, with big support for + 1.5° from the Association of Small Island States (AOSIS) and Africa;

3. the size of the funding package for adaptation and REDD in the developing world, and confirmation that this would be in addition to existing aid programmes;

4. resistance to verification by China and India, who construed this as an infringement of sovereignty;

5. whether the agreement would be twin-track (KP for developed countries and a second protocol for developing countries) or a new single structure. Many developing countries wanted strong targets based on a twin-track approach, with binding KP targets for the developed countries, but the US

T. de DORLODOT

was unwilling to re-enter KP for just the reason that it only requires Annex I Parties to make legally binding commitments to QELROs.

As at Friday afternoon 18 December, the draft Copenhagen Accord included a commitment to reduce emissions to 50% of 1990 levels by 2050, with Annex I countries committing to cuts of at least 80%. This was lost in the final hours of the COP, due to opposition from China, whose premier had left the talks. The reference to a timetable for reaching a legally binding agreement had already gone. The process was complicated by the gratuitously obstructive behaviour of certain other countries, notably Venezuela and Sudan.

Eventually President OBAMA opted for a non-binding agreement supported by China, India, South Africa and Brazil which formally engaged these large non-Annex I countries in commitments for the first time. At the same time, the US, with energy and climate legislation still before the Senate, avoided making any additional commitments on cuts.

The Copenhagen Accord

The Copenhagen Accord, which is not legally binding (although a legally binding agreement was no longer expected at COP 15), reiterates the need (as already stated in Bali) for 'deep cuts' and recognises the scientific view that increase in global temperature must be kept below 2°. It is agreed to cooperate 'in achieving the peaking of global and national emissions as soon as possible'. However, no global target for cuts in emissions by 2050 is yet set. Annex I Parties to the Convention are to commit to targets for 2020 in the form of QELROs, which are to be notified to the Secretariat by 31 January 2010 and subject to MRV. Annex I Parties that are also Parties to Kyoto thus 'strengthen' their KP commitments. Non-Annex I Parties will implement NAMAs, also to be notified by 31 January 2010, with subsequent measures to be added biennially. These will be subject to domestic measurement, reporting and verification, but those for which international support is given will be subject to international MRV. A fund approaching US$ 30 billion for the period 2010-12 is established collectively by developed countries for mitigation (including REDD), adaptation and technology transfer in developing countries, rising to US$ 100 billion by 2020. A mechanism for REDD is to be established immediately. The contributions of individual Annex I countries to the funding has yet to be finalised, however. An assessment of the implementation of the Accord is to be completed by 2015, including strengthening the target limitation of temperature to + 1.5°.

Potential evolution of negotiations post-Copenhagen

Work on the negotiating texts summarised above continues with the aim of achieving a legally-binding agreement and agreed targets for global cuts in Mexico in December 2010. The detailed architecture would logically be tripartite, based on Annex I KP, Annex I non-KP (US) and non-Annex I, but with an overarching framework based on Copenhagen. The length of the second commitment period under KP will also need to be decided: for example, should it be 2013-17 or 2013-20? The EU, in particular, will need to decide whether to increase its offer of cuts to 30% and confirm its contribution to the adaptation fund (including REDD).

■ Michael SAYER

UNION OF EUROPEAN HISTORIC HOUSES ASSOCIATIONS

Ancient monuments and modern technology: Castle HOWARD sets the example

It is an extraordinary place, both in its architectural beauty and its size. Castle HOWARD (east of York) is one of the most sumptuous castles in the United Kingdom, a palace begun in 1699 on which building continued in compatible styles until 1810. It took the same amount of time as building a castle in the middle ages. This was the time when the great families of the British Empire were accomplishing marvels in the new industrial world, by always placing themselves at the forefront of modernity. The same can be said of their homes, in both town and country. But in the 20th century a more traditionalist attitude led the next generations to be content with what they had in terms of comfort. Pulsed air and gas lighting was replaced by electricity and central heating as long as 120 years ago.

© S. HOWARD

However, successive energy crises pushed up the cost of oil and this has led to the younger generations, reaching fifty now, deciding to manage their heritage more effectively. Castle HOWARD is an example of good governance. Its immense size could disqualify it in our eyes. But if you look more closely, everything is a question of proportion and this castle is a living home, inhabited by Simon HOWARD, his wife and their twins Octavia and Merlin, descendants of the youngest son of the fourth duke of Norfolk. This branch of the family took the name of HOWARD at the end of the 16th century.

It was only in 2002 that the two HOWARD brothers began to adjust to "carbon" criteria and to think that their estate, a business which employs 250 people, should comply with European standards. The most recent is the European EPB (Energy Performance in Buildings) directive. Castle HOWARD has a restaurant and various areas open to visitors, a shop, offices, accommodation and annexes where over fifty computers are in use.

"Three major aspects needed to be taken into account to control energy spending," says Simon HOWARD, "Firstly the bay windows, secondly oil heating and finally the whole problem of the light fittings. It was crucial that we improved our carbon balance sheet, and studies carried out with the help of the public authorities (The Carbon Trust) and some private individuals helped us understand how the building(s) worked. The independent attitude of the Carbon Trust experts was more effective for our castle than advice from the private sector, in particular regarding heating where the advisor had interests in the wood sector."

As far as the bay windows were concerned which are undoubtedly numerous and of different sizes, there was a difficulty in that the building is listed and changing the frames was not an option. The castle was analysed as a whole and cracks were found in the insulation; another area of improvement was the network

of fire alarms and extinguishers which were changed in the winter of 2008/2009. Wherever improvements could be made around the three major sites, they were made. The foreman took the opportunity of the building work to check the state of the roofs and for the presence of insects in the beams etc.

As the owner says, like any other residence a castle is subject to the same constraints in the law as the rest of us. Energy saving requires technological research, but this must not ignore the character of the building.

Simon HOWARD tells us with a dash of humour that they did a "bulb audit" in the castle. "The house was being lit with 38 different types of bulb: incandescent, halogen, tungsten, fluorescent, low tension and even lights from small cars, the most recent versions of which were discontinued in the nineteen fifties. The lighting over the paintings is of yet another type and there are at least 1400 lit areas in the house. The wiring was completely modernized. 220 incandescent bulbs were changed initially. But the new versions were ugly and didn't provide enough light. So tungsten lighting was put in everywhere which cut consumption by 30%. There was another problem with the 440 economy bulbs. The Chinese saved us in the end, because they are ahead in this sector. They do the same bulbs in tungsten.

As far as the heating is concerned, until five years ago we used 85,000 litres of oil a year with the boilers going up to 75-85°. After studying the situation we opted to supplement the heating with geothermal energy by drawing heat from the ground at the pond 250m north of the castle. The water in the house is now heated to 55-60°. We cut our consumption to 55,000 litres, except in the winter of 2007/2008 where the level climbed to 65,000 because of the harsh weather." In the last two months of summer last year the geothermal contribution saved 75% in energy.

The new installations have therefore improved financial management, have more effectively distributed the heating and provided better protection for the indoor part of the monument. Geothermal energy also greatly reduces carbon emissions. The system which has been installed is very stable, requires little maintenance and the underwater pipes (there are 6 km of them) are built to last fifty years. The total cost of converting the heating system was 170,000€, 120,000€ of which was co-funded by the public authorities. The return on investment will take six years.

So Castle HOWARD is ready to face the future and is still keeping pace with modern developments as its builders intended. Everyone can make their own contribution to saving energy and respecting the environment. After all a castle is just a very big house.

■ Philippe FARCY

This article was already published in La Libre Belgique (week of 5-11 November 2009).

While world leaders struggle to agree on what policy to follow to fight climate change, Europe in spite of everything is trying to move forward, taking measures to cut greenhouse gas emissions. In the building sector for example the European Union has just revised the Directive on Energy Performance of Buildings (DEPB) by tightening up standards intended to promote energy saving. Even if the EPB directive contains a waiver for historic monuments to avoid conflict with national heritage conservation policies, the owner-managers of these sites are making great efforts to cut energy consumption.

A recent study in Great Britain has revealed that in the real estate sector it is historic buildings which have made the greatest progress in energy savings. The example of Castle HOWARD – a landmark in the Yorkshire countryside – presented by European Historic Houses (UEHHA) won the Heike Kamerlingh Onnes heritage prize in 2009 with the help of the glaziers St Just (Saint-Gobain group). Its owner the Hon. Simon HOWARD, an innovative manager, has considerably reduced the carbon footprint of his beautiful home by a multitude of clever adjustments – an example to us all.

■ Ghislain d'URSEL

Chairman of European Historic Houses

THE INSTITUTIONAL ECHO

European Biodiversity conference: the private sector offer

What is the role played by biodiversity in all human activities? What is the contribution of landowners and land managers to preserve biodiversity and provide "public goods"? These were the questions asked during the 2nd conference "Biodiversity: the Private Sector offer" organised by ELO, MEP Véronique MATHIEU, FCS, RISE and European Foundations for Biodiversity, at the European Parliament on the 1st of December.

Julia MARTON-LEFEVRE (IUCN) developed different partnerships maintained by IUCN with businesses, landowners and farmers. A very useful tool in this context is the TEEB report (The Economics of Ecosystems and Biodiversity), which details the economic aspects of biodiversity and ecosystems services. It was presented closer by Patrick TEN BRINK (IEEP), one of the 50 authors and reviewers of this report.

MEP MAiread McGUINNESS commented on the "EU voluntary and regulatory framework: what are the policy needs for biodiversity?" and the Politics of Biodiversity. She asked herself and the audience what are the reasons which can explain the lack of understanding from the public on the issue of biodiversity ? Is it because we have set too ambitious and therefore unrealistic targets? Is it because we follow a too project-based approach? She also addressed the question of public goods in agriculture. Within our current economic model, the price doesn't take into account the environmental and biodiversity costs and benefits.

Martijn QUINN, Deputy Head of cabinet of Commissioner DIMAS, pointed out two global challenges of equal magnitude for EU Biodiversity: Climate Change and the loss of biodiversity. The main difference between these two environmental problems, he said, is that the effects of Climate Change can be reversed, while the extinction of species can't. Another difference is the extent to which both issues are complex: the loss of biodiversity is far more complex than Climate Change. He recalled the Athens conference on Biodiversity, and the resulting "Message from Athens", identifying 8 areas for action. Communication is also one of the main obstacles to find the best solutions for biodiversity. Today, Natura 2000 network covers approximately 17% of all EU territory but we shouldn't forget to look outside theses areas.

Börje ALRIKSSON, Swedish Ministry for the Environment, spoke about Swedish priorities, including the key role of the private sector (topic of the conference organised in Abisko).

Ladislav MIKO, Director for Biodiversity DG Environment, said that we needed to find new ways to engage the public and the policy makers on biodiversity, as action is now urgently needed. No matter what kind of policy we put in place, biodiversity won't respond to it immediately. He underlined two important concepts: green infrastructure and natural capital.

Corrado PIRZIO-BIROLI, CEO of RISE Foundation, said that as long as Member States want to keep their contribution to the EU-Budget under 1% of their GDP, it would be very difficult for biodiversity to be better funded.

MEP Véronique MATHIEU

François WAKENHUT, European Commission, Head of unit, nature conservation and biodiversity welcomed the fact that more and more focus is

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given to environmental and ecosystems services. Christoph KÜNAST, ECPA- Agriculture and Biodiversity, underlined the intrinsic link between biodiversity and agriculture, structuring his presentation around three important aspects: the dynamics of landscapes, birds and the private initiatives. "How much change is acceptable and how much conservation is needed?" was answered from birdlife by Gareth MORGAN, RSPB. He referred to an ELO-RSPB-ECPA publication "Agriculture and Biodiversity", which identifies 6 factors responsible for declining farmland bird populations.

Alain-Dominique QUINTART, Syngenta, emphasised the role of Syngenta in providing farmers with innovative and sustainable techniques that increase their productivity. A typical example of best practice in this context is the pollinator project, where creating habitats for some species allow them to survive. Another example of Syngenta's good practices is its work with individual farms to increase biodiversity.

More best practices about the engagement of the private sector in favour of biodiversity conservation were presented. Christian VERSHUEREN, ACE, described the voluntary commitment to protect biodiversity and high-conservation values in forests presenting the case of beverage cartons, creating a "certification" that proves that the wood used for the beverage cartons come from "certified forests". Geva BLACKETT, former Chief Executive of the Scottish countryside alliance, presented the Wildlife Estates initiative (WE). Started in 2003, it aims to create a network of exemplary estates with good management and conservation practices. They are rewarded by obtaining the WE label. The initiative is supported by Commissioner DIMAS, as creating synergies between conservation and sustainable land use.

João Gomes FERREIRA, CE Liège, addressed the cork issues. It contributes to a large extent to the economic, social and environmental sustainability of the surrounding region. He pointed out that our failure to protect nature is often due to a failure to understand its value. He warmly encouraged the audience to always buy bottles with cork stoppers, since the cork forests and all they benefits are threatened by the growing plastic stoppers/screw tops market. By doing that, we would be environmental friendlier consumers and we would all contribute to preserving the biodiversity of these forests.

Bart VERCOUTERE, Royal Haskoning Company, presented the issue of Natura 2000- from a threat to an opportunity, underlining that private initiatives prefers the second option.

The conference included also two important moments: the awarding by Guiseppe NATTA of the Belleuropa Prize, a yearly award promoting outstanding initiatives of land rehabilitation and biodiversity enhancement in EU rural lands, to Pr. Dr. Eberhard HAMER, owner of the estate "Forstbetrieb Morsleben". His project "Renaturation of a former iron curtain", aimed at recovering and managing damaged natural habitat. He "re-naturalised" this area (planting a few millions of trees) in a way that allows for diversification to take place.

The second one was the nomination by IUCN facilitator Sebastian WINKLER of Pierre CRAHAY and Ignace SCHOPS as new Countdown 2010 Ambassadors for Belgium.

Veronique MATHIEU and Thierry de l'ESCAILLE closed the conference by warmly thanking all the participants to have come and taken part in a lively debate, and all the speakers for their stimulating presentations. MEP MATHIEU reminded the audience of the necessity to see biodiversity as part of our lives, from our garden to the policy making arenas.

■ Louise KNOPS

■ Emmanuelle MIKOSZ

THE ENLARGED EUROPE

Land Reform in Lithuania: Next Step is Land Consolidation

On the 26th-27th of November 2009, the Secretary General of ELO, Mr. Thierry de L'ESCAILLE, and Miss. Emmanuelle **MIKOSZ,** Adviser for New Member States, **participated in a conference held in Lithuania, organized in cooperation with the Ministry of Agriculture of the Republic of Lithuania and Lithuanian Landowners' Organization (ELO member). The topic of the conference was Management and Disposal of the Land: Experience and Perspective of Implementing Rural Development Plan 2007-2013.The above mentioned subject is crucial for the Lithuanian landowners' and policy makers due to the fact that the ongoing land reform is taking one of its most important steps, i.e., process of the land consolidation.**

During the two day event three essential issues were discussed: land consolidation and new issues of the process, establishment of the State land fund as well as its main functions, and finally, legal framework and experiences of the process of land consolidation in other EU member states.

Thierry de L'ESCAILLE and Emmanuelle MIKOSZ respectively gave informative presentations on, 'The Legal Framework of Land Ownership in the EU Member States' and 'Experiences of the European Landowners while participating in the Consolidation projects'. The ELO presentations proved to be very beneficial and sparked numerous debates. Indeed, there is no doubt that the examples provided by ELO regarding practices from other member states will help to avoid possible mistakes during the land consolidation process in Lithuania.

During the conference, one Lithuanian policy maker remarked that modern land reform is just starting at the moment with the process of land consolidation. The latter idea was explained by the fact that present land reform, which was started in 1991, aimed only to restore land ownership rights. Therefore, at the beginning, policy makers were in a hurry, restoring previous land ownership rights and without taking into consideration the fact that newly formed land plots were too small, scattered or of irregular shapes. As a result, landowners have faced inefficiency problems, for example, using new modern technologies while cultivating their disorganized parcels of land. As a result, Lithuanian farms could not compete with farmers from other EU member states. Consequently, inefficiency in the agricultural land use resulted in 400000 hectares of abandoned land. Accordingly, the dominance of all and fragmented land plots in agricultural sector, as well as undeveloped infrastructure in rural area abandonment of the land, leaded to the need in defining a new policy for land management based on land consolidation. The latter process is not only the solution for the above mentioned problems, but, in addition, according to the agricultural experts, after the reduction in distance from the center of a farm to cultivated land and improvements on the land form, the cost of production drops by 10 percent. Besides, it is important to mention that this is the right time for consolidation, since financing of the process at rate of 100 percent is foreseen from the EU structural funds according to Lithuanian Rural Development Plan 2007-2013. Therefore, a landowner does not have to invest his /her own money.

During the conference, it was noted that hopefully policy makers and landowners have learnt from their previous mistakes made during the process of the land restitution. Regarding that intensive preparations have been done as a result of which since the year 2000 several pilot projects on land consolidation have been carried out in Lithuania in order to prepare for this action on a larger scale. Also the general legal basis for land consolidation has been enforced with the Law on Land where the land consolidation is defined as a complex readjustment of land parcels when their boundaries and location are changed according to a land consolidation plan prepared for a certain territory, with an aim to enlarge land parcels, to form rational land holdings of farms and to improve their structure, to establish necessary infrastructure and to implement other goals and tasks of the agricultural and rural development as well as environment protection policy.

During the event, policy makers announced that existing systems of land management and administration in the state needs to be reorganized due to its inefficiency and, most important, it cannot carry functions of land consolidation. Following long discussions and recommendations provided by the Food and Agriculture Organization of the United Nations and experts from other states, it was

decided to establish State Land Fund instead. The new institution will start functioning in the year 2010 and in addition to the function of the land consolidation, it will also have to form rational land use, provide solution for abandoned land, promote investments and carry out other functions.

Furthermore, it was announced that there is a strong need to change attitude to the projects of land consolidation. The process cannot be based only on the transformation of the plots of private agricultural land. In order to achieve better results, it is necessary to include state forests and agricultural land plots belonging to the state. However, existing Lithuanian laws on the land consolidation currently do not allow including state land in the process. This seems to be another problem, which is being taken into consideration by the policy makers. The good news for the landowners is that state land will be included in the next consolidation projects.

During the second day of the conference, the participants had a possibility to visit place of a single finished land consolidation project in Marijampole County. During the visit, it was announced that the project was one of the biggest in Lithuania and a huge number of landowners expressed their enormous interest in the project. After long discussions finally, 71 Landowners and 1 trustee of the state land were involved in the project, which resulted in total around 482,959 hectares of consolidated land area. The project was a long and risky one, however, it showed that after the creation of the right structure for the farms, the competitiveness improved and expectations of landowners, who had participated in the project were fully met.

In conclusion, the conference was successful, and there is a belief that efforts, which were made together with the Ministry of Agriculture of the Republic of Lithuania, ELO and Lithuanian Landowners' Organization, will succeed and landowners will be able to use their land in the most efficient way in the near future.

■ Raminta STARKEVICIUTE

YOUNG FRIENDS OF THE COUNTRYSIDE

Growing jatropha to produce electricity and non-food oil in Brazil

It has been almost two years since I left my job at ELO and that of general secretary of YFCS. The world has experienced an unprecedented energy and environmental revolution and I wanted to be part of it. As well as returning to managing part of the family assets, for 7 months I have been working as a consultant for an Italian company which is setting up a business producing jatropha oil in Brazil for power stations in the south of Italy. We opted for cooperation with private landowners and local producers in the Val de Ribera, 200 km south of Sao Paulo. The jatropha fruits will be processed in Brazil, the oil exported and the residues used on the spot. The project is of course just beginning, and the objective is to move quickly to producing 50,000 tons of jatropha oil from an area of 25,000 hectares.

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Information about jatropha

The jatropha plant was practically unknown before 2004. Since then various public and private projects have been developed in Asia, Africa and Latin America within what is believed to be the 'production zone'. Jatropha is a very interesting plant but the publicity over the last few years has exaggerated its benefits somewhat. The plant can indeed be grown in difficult conditions but it has also to be profitable. It has certain requirements (size of bush, control of disease and pests, fertilization, must be grown near cattle, sheep or even goats etc) as well as growing conditions (average rainfall of 1000 mm/yr, well spaced etc).

It is still wild and the quality of its genetic heritage unrefined, compared to the industrial food crops of the West for example. To produce good crops the future seeds must be good quality (shape of the bush, resistance to drought and disease etc). So we decided to work with a Brazilian research centre currently developing a series of hybrids in the semi-arid zone in the north-east of the country. Once the hybrids have been cloned they will be tested in the Val de Ribeira region where rainfall is about 1500 mm a year. On maturity – that is after five years – we expect to produce 5 to 6 tons of seed or 10 to 12 tons of fruit per hectare and per year. In the meantime productivity will be lower.

Creating a win-win situation with local producers

First the tests and then the plantations will be set up in cooperation with private landowners and local producers. We are proposing to sign fixed, renewable contracts, producing and raising the plants in a nursery, providing the soil conditioning, technical, agronomic and scientific assistance, participating in the mechanical harvest of fruit and buying the fruit at the end. In exchange the producers buy from our nurseries, transport, plant and maintain the plantations and supply the fruit to the industrial site. We want to cooperate as closely and favourably as possible with the producers and the Brazilian company, given the socio-economic and environmental context. We propose a fair price for the fruit so the whole branch can benefit. The 25,000 hectares are not all in one place, but spread throughout the region, from a few hectares to several dozen or even hundreds of hectares. We intend no harm to the 'Mata Atlantica' (Atlantic forest) but wish to use areas which have already been deforested and which no longer are of value for the production of animal or human food.

Processing plant and product cycle

The fruit collected from each plot will be taken to a processing plant which we are currently acquiring. We have already received a favourable opinion regarding a site covering 3 hectares. The fruit will first be shelled. The husks will be used immediately to produce electricity and sold back to the network via a biomass power station, which will also be able to use other natural materials such as banana leaves which are very common in the region. The seeds will be taken to the pressing and filtering site before being stored for transport. They will then go to Santos Port 180 km away before being exported. The pressing residue will be sent to a bio-methaniser, or bio-digestor. Bio-methanisation is a gas production process using anaerobic respiration from a complex of bacteria. The gas will be sent to a turbine to produce electricity. A part of what is produced will be used to cover the energy needs of the whole industrial site. The residue will be used as a natural fertilizer and spread on all of the production plots. Without going into technical details, out of a ton of fruit 50% will be seeds and out of a ton of seeds 65% will be pressing residue and 35% oil. In this way we are trying to make the best use of jatropha. Other uses also exist.

The energy in the product

Raw jatropha oil after filtering has the same qualities as any other edible oil except that it also contains, inter alia, phorbolic esters - highly toxic molecules. The oil is also known for its high viscosity, which makes trans-esterification necessary to increase the liquid's fluidity. The energy value of the oil is close to 37 MJ/kg. The jatropha husks contain 18 MJ/kg, i.e. the equivalent of our wood. The bio-methanisation potential of the pressing residue is not yet known but private tests are under way in Europe.

Pennisetum pourpureum

As well as jatropha we are interested in elephant grass (Pennisetum purpureum) which grows extremely well in our region and is well-known to farmers as fodder. The aim is to produce both bio-ethanol from ligno-cellulose and processing residue to generate electricity. Although the plant produces about 20 tons of dry matter per hectare per year, the cost of producing the enzymes used in the fibre hydrolysis makes the operation unprofitable. However technology is moving in the right direction and experiments are being done with new degradation methods in the United States and in Europe in particular.

Conclusion

Although this is only a brief description, this project is part of the fight against global warming, the search for innovative energy solutions, the involvement of local stakeholders, land profitability, the use of natural and renewable resources and the production of green energy. Although we are only at the outset of our story, we are setting up a system which is already beginning to prove itself in Africa and Asia. We are at the dawn of a new market. Even if the road is still long and difficult, we are determined to produce our oil, our electricity and our fertilizer.

Whatever happens, it promises to be a fascinating and extraordinary life experience.

■ Robin du PARC
Bio-engineer

REGISTRATION FOR THE 3rd FORUM FOR AGRICULTURE
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Diary Dates 2010

12th January, Brussels
European Civil Protection information day
http://ec.europa.eu/environment/civil/infoday_2010.htm

18-19 January, Dakar
Summit of the World's Regions on Food Security, organised by FOGAR
http://www.regionsfoodsummit.org/en/index.php

28th of January, Malmo
«A Trans-European Road to Renewable Mobility» –Seminar organised by GasHighWay is supported by the European Commission under the Intelligent Energy - Europe Programme
http://www.gashighway.net/

31st January- 2nd February, Paris
Seafood Summit 2010
www.allianceproduitsdelamer.org/seafoodsummit.php

2-3 February, Kiev
Agrarian Forum of Ukraine: investments & innovations, with the support of the Ministry of AgrarianPolicy of Ukraine. The event is part of the International Agriculture and Horticulture Exhibition – Kiev AgriHort
www.agrihort.com.ua

16 - 17 February, Brussels
European Biowaste Forum- Complying with European regulations to minimise the environmental impact of biowaste
www.agra-net.com/

16th March 2010, Brussels
3rd Forum for the Future of Agriculture, co-organised by ELO and Syngenta
www.forumforagriculture.com

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