

Peatlands

International

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Renewability and classification of peat - a status report

Baltic Peat Producers Forum 2013



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Changing times...

Peatlands International has now been published for over a decade. My home country, Germany, just celebrated an amazing 23 years of reunification and I have been working for the International Peat Society for almost 12 years. Time goes by so fast. I remember, during my first days at the IPS Secretariat in 2002, it was difficult for me to distinguish between all the publications that the International Peat Society has on offer to its 1,400 members.

There were, besides hundreds of interesting older and newer books on the shelves of the Secretariat's former log house, the **International Peat Journal** for scientific papers and the thinner and larger magazine, **Peatlands International** for people who wanted to read about peatlands from a general perspective. The magazine had accompanying photographs - most still in black and white - and even some personal information on our "peat family" members.

The IPS website was very green and very basic back then and there was enough work to do for a newly appointed Communications Assistant. We began publishing **Peat News** as a monthly email newsletter and redesigned our website many times - slowly but steadily following technical and visual developments.



Now, it is once again time for a change. With increasing printing and delivery costs and an ever faster moving environment with more elaborate devices being designed all the time, IPS is trying to better keep track of trends by offering its members a fresh magazine in digital format. We and our partners in **42 countries** have so much to tell that we believe we can publish a colourful collection of news, stories and opinions every two months, provided that all of you are interested enough to stay on board as readers and authors.

Peatlands International is the global magazine of the International Peat Society (IPS). It provides the more than 1,400 corporate and individual members of the Society with up-to-date information on peat and peatland matters, reports and photos of conferences and workshops, background reports and publication reviews.

To serve all of our members, we provide always a good balance between economic, social and environmental points of view. To receive Peatlands International in your email every two months, visit www.peatsociety.org/join-us and sign up as a member.

During this autumn, the IPS Secretariat will test publishing our main magazine not on paper but by email, as a browsable epaper and on a special blog website at www.peatlandsinternational.wordpress.com. Please let us know how you like the new magazine: www.bit.ly/17VfJF2.

If you want to meet your friends and colleagues face to face, come to our **Annual Meetings next August in Riga**, the beautiful capital of Latvia. We will be combining our event with the 2014 Baltic Peat Producers Forum and hope to see many of you under the theme **"Peat and Technology"**. Mark **25 - 29 August 2014** in your calendars now - the Latvians are putting together a really interesting and variable programme in respect to peat production, rehabilitation and the use of new tools and applications for our "old" business.

With best regards

Susann Warnecke

IPS Communications Manager
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For the online versions of our articles and more background information, go to Peatlands International's own website and blog at www.peatlandsinternational.wordpress.com and type ->

password: **ipsmember13**

This will give all IPS members reading access during October - December 2013.

www.peatlandsinternational.wordpress.com

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Photo: Susann Warnecke

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or by email to ips@peat.society.org.



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Viewpoint

Why going digital?

Dear reader,
Welcome to the brand new electronic Peatlands International magazine, for the first time in digital format. I hope you find much of the information useful and like the new layout and structure.

IPS' own colourful magazine Peatlands International was established in 1998. This means that now in 2013 we are celebrating the 16th year of the publication.

The printed version was published mainly twice a year and sent to all IPS members by post. Now IPS is planning to distribute a digital magazine even six times a year. Overall, the magazine is very much appreciated by the IPS peat family, and that is the target for the future, too!

So why has the IPS now changed the format from a printed magazine to an electronic one? The first and most important reason of all is an economical one. The costs of printing and distribution of the magazine two times per year are about 20,000 Euros annually, of which half is printing and the other half mailing costs.

Advertising income has been recently about half of the total costs, which means that the magazine is in economical terms highly unprofitable.

Do you agree? Mail us at ips@peatsociety.org or discuss at www.facebook.com/peatsociety.



Photo: Susann Warnecke

In addition, a printed magazine takes some more work, several visits and much time for communication and printing at an actual printing house – while an electronic magazine can be produced fully inhouse at the IPS Secretariat.

Of course, one could say that the Peatlands International magazine is a membership benefit and therefore a printed magazine should be covered by the Society's membership fees. That's a fair comment. On the other hand, our aim at the Secretariat, with support of the IPS Executive Board, is to develop an even better and modern magazine in an electronic format - with more value for your work than before.

This means that instead of two printed magazines per year you will receive six electronic publications per year by email and on a special website, meaning one every two months. This translates

to more up to date news, more articles and more communication between members. Even though the number of pages per issue will probably be less than before, the total annual output will increase.

The digital format also increases IPS' possibilities to deliver the magazine and its message to all peat people within its member organizations, like companies, NGOs and universities, as more people can be reached by email and via their internal distribution lists. This has not been possible before. In addition, we are now able to add links and additional stories to the articles, and to provide more background information than before, including graphs, photos and even videos! This is something we want to develop further within the next few months, and each author's input is very welcome.

By going digital, IPS wishes to serve our individual and corporate members as well as partners faster and better than before, using modern communication ways. Please support us and send your feedback as well as development ideas to the IPS Secretariat.

As you probably also noticed, the old "Editorial" section has changed and is now called "Viewpoint". We will invite key persons from different IPS bodies, our members and different stakeholders to participate and tell their own view on this page.

Finally a message to our corporate members and other potential customers willing to advertise in the magazine: Because of the new electronic format we can provide manifold visibility with the same price as before – and you can add links, videos and other promotion material to your ads. Welcome to participate and use this important marketing channel.

And now, at the end of this first viewpoint – it is time to say goodbye as Secretary General. I would like to warmly thank all IPS members and all of you who have devoted your time to the IPS. And my heartfelt thanking to the IPS staff! I am most grateful for your support and cooperation through these nine years - it has been a privilege to serve you. Time has come for me to carry on with new challenges. However, I'm not leaving the peat family! Let us keep in touch!

Jaakko Sipilä

IPS Secretary General 2004-2013
30 September 2013



Finnish Peatland Society excursion participants at a rewetted peatland in Western Finland. Photo: Susann Warnecke

News from Leiden

The IPS held its 2013 Annual Assembly of National Representatives, together with a range of lectures and business meetings in Leiden, the Netherlands during the week of **17-21 June**.

The ISHS-IPS “International Symposium on Growing Media and Soilless Cultivation - Water Efficient Horticulture Word Wide”, which we had joined, attracted some 226 participants from 36 countries. Among these were 51 IPS members from Burundi, Canada, China, Estonia, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Poland, Sweden, the Netherlands and the United Kingdom.

Most importantly, the Executive Board and Scientific Advisory Board of the Society discussed in Leiden the following future projects for the IPS, provided that funding can be obtained:

- Updated inventory of world peat resources
- Global peatland rehabilitation guidelines
- Practical guidelines to supplement the Strategy for Responsible Peatland Management (SRPM)
- Provide a databank of national peatland policies and their implementation
- Policy and action plan on Climate Change, including interface with IPCC and REDD
- Producing educational materials and providing seminars and courses for all affecting peat and peatland matters
- Provide basic information about peat and peatlands on the IPS website
- Digitalization of the IPS archives and proceedings
- Conservation and management of peatlands in emerging nations
- Peatlands and indigenous and local people(s)
- Pilot projects to examine the feasibility of IPS meeting specific research needs



ISHS-ISHS Conference in Leiden.

National Representatives 2013.



These will be challenging tasks for the next few years, to be carried out in addition to the general activities of the IPS (see also Peat News 6/2013).

The IPS Award of Excellence 2013 was presented to Professor Harri Vasander from the University of Helsinki, Department of Forest Sciences. Prof Vasander was nominated by the Finnish National Committee “for his long career as a scientist, expert and lecturer promoting the Wise Use of peatlands throughout the world”. The Award comprises a framed scroll and a cash prize of € 1,000.



Nominations for the Award can be sent to the IPS Secretariat by 31 January of every year and the decision concerning a winner is made by the Executive Board. More information is posted at: www.peatsociety.org/about-us/award-excellence.

IPS and its 18 National Committees will continue to promote Wise Use of peatlands. We warmly invite each of you to actively participate in our international meetings, conferences and field trips



Harri Vasander (middle) receiving the IPS Award of Excellence.

City tour in Leiden.
All photos: Susann Warnecke



and to be a contributing author to Peatlands International and Peat News. Most of all, invite your colleagues and young partners to join IPS. We have a great network of experts available; let's use it for the benefit of our peatlands.

Susann Warnecke

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Neros Project:

Network Monitoring Re-wetted/Restored Organic Soils for Climate and Biodiversity Benefits

The biodiversity-climate change nexus is now well recognised and several studies have shown that it is possible to develop strategies that achieve mutually supportive outcomes. The European Environment Agency highlighted that more action is needed towards halting biodiversity loss and maintaining the resilience of ecosystems because of their essential role in regulating the global climate system. Wetlands, and in particular peatlands being at the heart of global climate system, are a prime example where maintaining and enhancing the resilience of the natural ecosystem (including biodiversity) is our best and most cost-effective defence against climate change.

Going one step further on the mitigation ladder, re-wetting and restoration of degraded peatlands has been considered as a “low-hanging fruit, and among the most cost-effective options for mitigating climate change.” (Achim Steiner, UNEP). At the United Nations Framework Convention on Climate Change (UNFCCC) meeting in Cancún (2010), it was agreed to allow parties to elect

*An exciting project
looking at the benefits
of rewetting Irish
peatlands!*

to include activities associated with re-wetting and restoration of wetlands as contributions to national actions on mitigation of climate change and this will be enshrined in the next successor of the Kyoto Protocol.

This project is well timed as the 2013 Supplement to the 2006 Guidelines for National Greenhouse Gas Inventories: Wetlands (aka ‘Wetlands Supplement’) will be formally adopted/accepted at the 37th Session of the Inter-Governmental Panel for Climate Change IPCC37 to be held in Batumi, Georgia, 14-18 October 2013. This Wetland Supplement represents the latest scientific and technical findings regarding greenhouse gas (GHG) emissions from drained and rewetted organic soils. Dr Florence Renou-Wilson, Dr David Wilson and Prof. Christoph Muller are Lead Authors of the Wetland Supplement.

This is a significant development for Ireland because of the extensive area of degraded wetlands, and in particular, peatlands. Even in difficult economic circumstances, Ireland should take the opportunity to be an international leader in the re-wetting and restoration of peatlands for a sustainable environment. Re-wetting and additional restoration measures together with conservation measures could provide synergies by reducing greenhouse gas emissions together with enhancing the biodiversity value of Irish peatlands.

However, neither biodiversity nor climate change policies currently fully exploit the potential synergy of the climate change-biodiversity nexus. More research is required to demonstrate co-benefit approaches. Restoration has usually been neglected in nature protection agenda but it has been demonstrated to be, in fact,



complementary not only to nature conservation but also to sustainable, equitable socio-economic development and this has been demonstrated for wetlands, and in particular peatland restoration.

Large re-wetting and restoration projects have already begun around the world. In Belarus, they have successfully demonstrated the reduction of GHG emissions and enhancement of biodiversity values through the restoration and sustainable management of large areas of currently degraded peatlands (Tanneberger & Wichtmann, 2011). Like other projects in Germany (www.moorfutures.de/en), they have developed a scheme for the sale of C credits to secure further peatland re-wetting activities and, therefore, future biodiversity protection and enhancement.

The NEROS project is funded by the Irish Environmental Protection Agency (2013-2015) with the aim to set up an Irish monitoring network of re-wetted/restored organic soils in order to appraise their climate and biodiversity benefits.

Dr Florence Renou-Wilson at Moyarwood, Co. Galway, 188ha of raised bog previously drained but never in production and re-wetted by Bord na Móna in 2012 and 2013. Photo: Florence Renou-Wilson

This project builds on previous research which were funded at different times by the EPA and Bord na Móna, namely the CarbonRestore project (Wilson et al, 2012a, 2013), the Calisto project (Renou-Wilson et al, 2011, 2012) and the Reedflux project (Wilson et al, In prep.). In addition, it will incorporate past investigation on all types of restoration work carried out on peatlands in Ireland (Farrell, 2009).

Objectives

Our knowledge of the carbon (C) sequestration potential of Irish organic soils, especially peatlands is poor and together with management practices, should be further investigated in order to provide



Dr David Wilson at Blackwater, Co. Offaly, a rewetted industrial cutaway peatland owned by Bord na Móna. Photo: Florence Renou-Wilson

key outputs that will support Tier 2 level national reporting of GHG inventories in drained and rewetted peatlands. Similarly, the full biodiversity potential should be further explored in order to increase our understanding of the potential of these co-benefiting measures as an effective mechanism for sustainable utilisation of our biological resources, while contributing to the development of national policy for the sustainable management of peat soils.

The NEROS project will establish a network to monitor GHG fluxes and biodiversity components of both degraded and re-wetted and restored organic soils throughout Ireland. The ultimate aim is to provide high quality information to guide policy decisions in recognising the climate change-biodiversity nexus and its benefits in facilitating Ireland's commitment to a more sustainable environment through the reduction of GHG emissions and conservation and sustainable use of a natural resource.

The project is divided into three cluster studies: (1) GHG studies; (2) Biodiversity studies; (3) Strategies appraisal and policy development studies. Their specific objectives are as follows:

GHG Studies

- To carry out a survey of data so far and identify gaps: to provide an overview of the most up-to-date state of knowledge regarding Irish peatlands and their associated GHG emissions/sinks (known and unknown) and implication for policy
- To fill gaps with new research: to quantify through field research the annual fluxes of CO₂ and CH₄ and N₂O and develop emission factors (EFs) for identified degraded and rewetted peatland land use categories (LUC)
- To carry out an exercise using both default EFs (IPCC) and Tier 2 EFs (this study) with associated uncertainties in order to determine

the most advantageous reporting level for Ireland in terms of re-wetting of degraded peatlands.

Our study sites

A number of the sites have already been established and GHG fluxes are currently monitored under EPA and Bord na Móna funded projects. In addition, we selected new sites where field measurements will be carried in 2013/2014.

1. Grassland on organic soils. Location: Co. Donegal. GHG fluxes have been quantified for this drained and rewetted grassland over organic soils, since April 2011 under the EPA funded Calisto project (www.ucd.ie/calisto).

2. Acid wetland (industrial cutaway). Location: Co. Mayo. GHG fluxes have been quantified in rewetted areas (*Juncus effusus*, *Sphagnum cuspidatum* and *Eriophorum* dominated stands and areas of bare peat) since November 2008 and in drained areas (bare peat and *Juncus effusus* stands) since February 2012. To date, around 6,500 ha of acid industrial cutaways have been rewetted with the potential for another 20,000 ha over the next decades (Wilson et al. 2012). Funding for the *CarbonRestore* project: EPA (2008-2010) and Bord na Móna (2010-2013).

3. Alkaline wetland (industrial cutaway). Location: Co. Offaly. GHG fluxes have been quantified in drained (bare peat) and rewetted areas (*Phragmites* and sedge dominated stands) since April 2011. Funding for the *Reedflux* project: Bord na Móna (2011-2013). To date, around 5,000 ha of alkaline industrial cutaways have been rewetted with a potential for another 20,000 ha over the next decades (Wilson et al. 2012).

4. Raised bog. Location: Co. Galway. GHG fluxes measurements started April 2013 at this drained and rewetted raised bog owned by Bord na Móna.

5. Restored forest site. Location: To be confirmed.



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Biodiversity studies

- To review the pressures on Irish peatlands and how these are likely to evolve
- To understand the drivers affecting the ecosystem services (in particular biodiversity) of natural and re-wetted/restored peatlands
- To improve our understanding of the ecology of re-wetted and restored peatlands by monitoring the development of biodiversity
- To characterise the environmental and management variables affecting the biodiversity indicators of re-wetted and restored peatlands

All the GHG monitoring sites will be included in the biodiversity monitoring network in addition to a number of other degraded/rewetted/restored peatland types including in particular:

- Long-term rewetted sites: abandoned cutaways
- Peatlands used for marginal grazing (drained and rewetted)
- Peatlands used for forestry (drained, rewetted and restored)
- Restored and/or rewetted cutaway peatlands (blanket and raised bogs)
- Restored and/or rewetted cutover peatlands (blanket and raised bogs)

This research will focus on the study of plant composition and plant functional type along the chronosequence of degraded/rewetted/restored sites in addition to the study of terrestrial invertebrates, in particular spiders.

Strategies appraisal and policy development

- To appraise current, alternative and innovative management measures for re-wetting and restoring peatlands with a view to the development of strategies to achieve the following objectives:
 - (a) mitigation of GHG emissions
 - (b) restoration of C sink function
 - (c) enhancement of biodiversity
- To provide high quality information to guide policy decisions in recognising the climate

change-biodiversity nexus and its benefits in facilitating Ireland's commitment to a more sustainable environment through the conservation and sustainable use of biodiversity.

This research is timely in the Irish political arena as it is hoped that the first National Peatland Strategy will be published in 2014 and it is hoped that this research will provide a critical review and re-formulation of policy with specific attention to the re-wetting of organic soils. In this view, we also hope to organise a workshop in relation to the rewetting of organic soils in Europe coinciding with the release of the Wetland Supplement and what it means for Ireland.

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War and Peat

A UK conference

Boulder at Burbage showing bullet holes from World War 2 training.

Burbage Valley mire area.

Around 60 participants from a wide range of backgrounds attended the 'War and Peat' conference that was held in the Sheffield Showroom and Workstation on 4 - 6 September 2013. Among them were several members of the UK Peat Society (UK National Committee of IPS) who were also holding their AGM during the meeting.

This conference that was organised by the Biodiversity and Landscape History Research Institute of Hallam University, Sheffield was co-sponsored by the British Ecological Society, the UK Peat Society and the Landscape Conservation Forum.

It brought together speakers and poster presentations from a range of disciplines including military history, landscape history, environmental conservation, ecology, history, heritage, tourism, archaeology, and geography with participants from different backgrounds such as academic, NGOs, Local Authorities, conservation trusts, businesses and the voluntary sector.

The conference began with a field visit to Burbage and Houndkirk Moors outside of Sheffield in the Peak District of Derbyshire to view the location of moorland and peatland impacted during WW2.

The Military Heritage of Moors, Heaths, Bogs and Fens

This was followed by two days of oral presentations and a range of posters. The oral presentations were as follows:

1. Military pastoral and the military sublime in British army training landscapes (Rachel Woodward, University of Newcastle)
2. Burbage and Houndkirk in World War 2: Defending Sheffield and Training the Liberators (Bill Bevan)
3. The Moorland Access Campaigns - (with some military and war time issues) (Terry Howard, Sheffield Ramblers Association)
4. Modern battles on Thorne Moors (Kieran Sheehan, JBA Consulting)
5. Into the Bog: 'Silently and in Good Order. German fashion...' (Chris Burgess, Northumberland County Council)

6. Cannock Chase - conserving the military heritage (Stephen Dean, Staffordshire County Council)
7. The impact of the Falklands War (1982) on the peatland ecosystem of the Islands (Jim McAdam, Queens University Belfast)
8. An Island of Dry Deserts and Constant Rain: conserving the military heritage of St Helena Island (Edmund Simons, Atkins Consulting)
9. The development of military environmentalism on Ministry of Defence estates (Marianna Dudley, University of Bristol)
10. Bogs as defence in the seventeenth century Dutch Republic (Michiel Gerding, International Peat Society)
11. The role of wetlands in warfare in early modern Europe (Sean Bell, Archemis Archaeology)
12. Battle of Northampton (Wars of Roses) and the River Nene (Peter Burley, Battlefields Trust)
13. The impact of military activity on peatland landscapes, ecology and archaeology (Paul Ardron, Sheffield Hallam University)
14. War and Peat: an exploration of the interactions between human conflict, peatlands and ecology (Ian Rotherham, Sheffield Hallam University)

The pre-conference proceedings are available to purchase and there will be a post-conference book in due course. Details can be found on www.ukeconet.org.

The event looked at:

- The impacts of military activity and defences on both upland and lowland moors, heaths, bogs and fens;
- The evidence and heritage associated with archaeology and landscape history of military activity over the past 200 years or more;
- The roles of wetlands in warfare and in military campaigns;
- The portable antiquities of military activity in moors, heaths, bogs and fens;
- Problems and issues of managing this heritage;
- The recovery and recording of forgotten or 'secret' history;
- The importance of oral histories; and
- The tourism potential of this heritage.

Jack Rieley

UK National Committee
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Field Visit Group at Burbage.

Peat dikes and strength parameters

Unexpected results

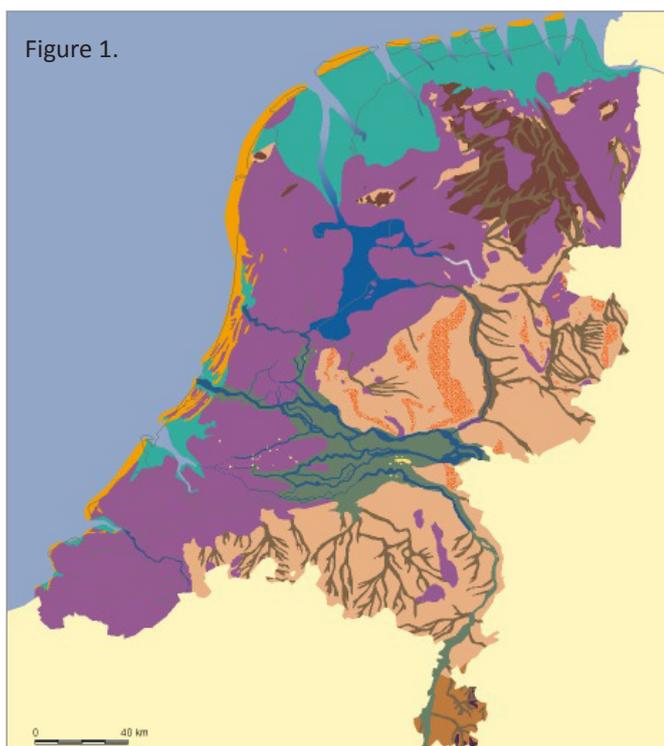
About 26% of the Netherlands lies below sea level while 55% is susceptible to flooding - therefore dikes are an essential part of the Dutch infrastructure. Of the approximately 16000 km of dikes, roughly 3500 km contain significant amounts of peat.

In order to guarantee the safety of the inhabitants living behind these dikes these are checked regularly according to national standards. Strength parameters of the peat dikes' soil form an important input for geotechnical stability calculations. Collecting data for these calculations is costly and labour intensive. Therefore the idea that a useful relationship might exist between

the botanical composition and other properties of the peat and their mechanical strength was worthwhile to investigate.

To this aim geotechnical descriptions of a large number of peat soil samples have been compared with results from laboratory tests to investigate if there is indeed a useful relation between the botanical composition, degree of weathering, amount of fibres and strength parameters.

These characteristics have been determined by traditional tests. An elaborated version of this article can be found via the link at the end of this excerpt.



Background

Approximately 2000 years ago a large part of the Netherlands was covered with peat. From the 10th century onward people started to drain peatlands to make them accessible and suitable for agriculture.

At the end of the 15th century a large part of these areas was transformed into agricultural land. A dense complex network of canals drained surplus water to the sea. Due to subsidence additional measures became necessary to continue the use of the peatlands.

Polders were created where windmills on the dikes that surrounded them were used to raise the water from the ditches in the agricultural plots to the canals.

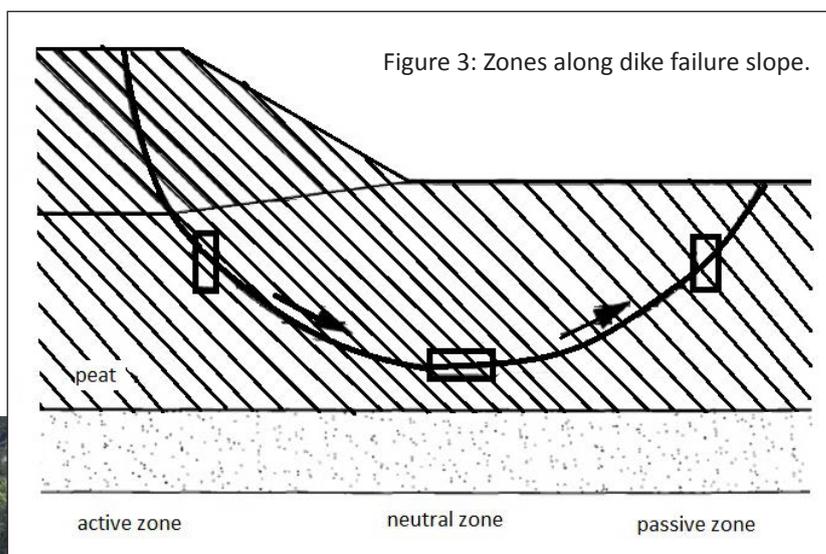
In the 17th and 18th century large amounts of peat were used for fuel. As the cities grew larger the demand for fuel increased. The availability of wood from the higher sandy areas diminished, further increasing the pressure on the peat production.

Until recently it was not well known that many dikes did contain peat and were not designed and built as dikes, but were strips of peatland left over after the removal of peat on both sides, often centuries ago. This is clearly not an ideal situation, as history shows.

To reduce the risk of dike failure it is essential that the dikes are stable. Strength parameters of the dikes' soil are important properties in this respect. Correlations between various parameters could probably reduce the costs of investigations for safety management.

Geotechnical description of peat dikes

After a dike failure near Amsterdam in 1960 a technical commission was established. One of the reports produced by the commission was a technical report regarding the geotechnical classification of peat (1996). This classification was based on the geotechnical insights at the time as to allow a first indication of the strength and compressibility of the peat.



The geotechnical description of peat comprised the following aspects:

- botanical composition (sphagnum species, reed, sedge, wood, cotton grass peat)
- degree of decomposition according to the Von Post¹⁾ and PVI²⁾ indices ;
- water and ash content, specific mass; fibre content;
- anisotropy of shrinkage: vertically more than horizontally.

Figure 3 shows a typical surface failure for a dike. Along a potential failure slope three zones can be distinguished. In the active zone the horizontally oriented peat fibres act as reinforcement.

Figure 2: This dike along a canal near Amsterdam was actually a strip of old peatland; left over after the peat was removed from both sides. It failed not due to too much water, but due to dryness-induced cracks.

In the neutral zone the fill material between horizontal fibres plays an important role. In the passive zone the fill material also plays an important role because stretching of the fibres may occur.

Looking at the results

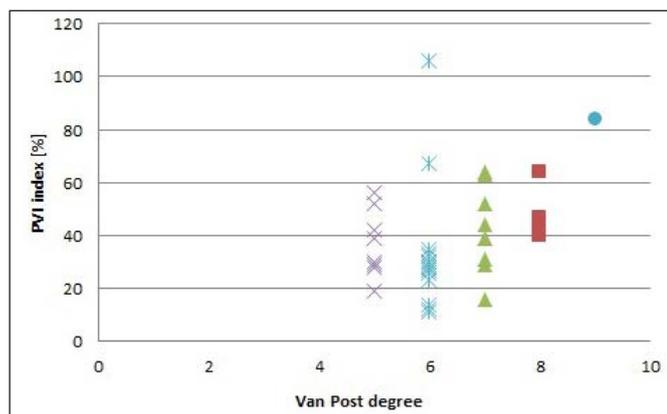
Test results of 252 samples from undisturbed peat from the body of peat dikes were used. The cylindrical samples were taken at different locations in the Netherlands. The laboratory tests were carried out at the geotechnical laboratory of Wiertsema & Partners in Tolbert, the Netherlands.

The conviction that the degree of humification and the botanical composition influences the strength of peat soil is very strong. The findings were quite surprising as well as disappointing.

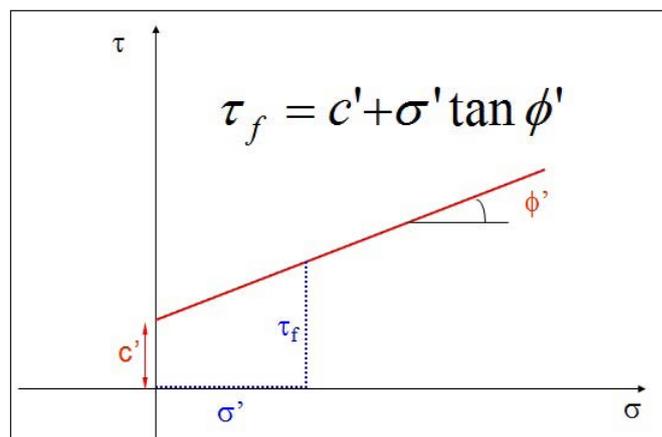
The Van Post degree is the most popular method to estimate the decomposition of peat. To do it in a proper way requires a lot of practical experience and instructions from experienced people in order to produce reproducible results. Using the method that determines the decomposition degree which is less affected by human error, the PVI index was also tested to determine whether it has a useful relation to strength parameters.

The relation between the Van Post degree and the PVI index was obviously investigated. From 30 samples both parameters were determined, see graph 1. Unfortunately no relation between the two techniques, which aim to estimate the same property, can be found. For the aim of this research, to find a cost-saving relation between, in this example, the degree of decomposition and

Graph 1: The Van Post degree vs the PVI index.



Graph 2: The estimated relation between the confining pressure σ' on a peat sample and its maximum resistance to vertical stress τ_f .



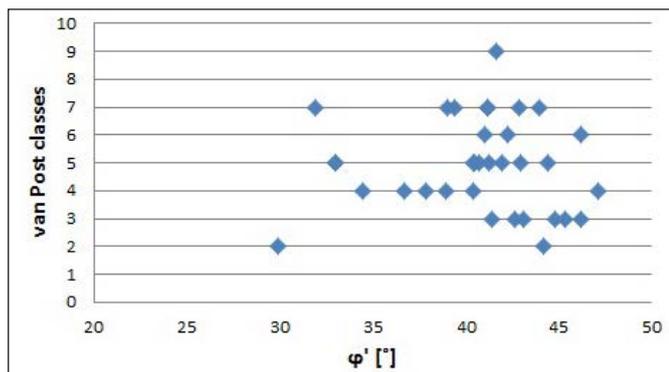
mechanical strength, this lack of such a relation is disappointing.

Other tests were also conducted, for example, the so-called Triaxial Compression test. Here the samples are first consolidated under the desired stresses by applying the chamber pressure (confining pressure) which can be regarded as the confining stress at a certain depth of the soil. All tests are executed on a cylindrical soil sample with a diameter of 1.5 inches.

The specimen is vertically enclosed by a thin rubber membrane and placed between two pressure heads at the top and bottom of the specimen inside a pressure chamber. After finalizing the consolidation phase, the shear phase is started by deforming the sample vertically with a constant speed. During this phase horizontal stress is kept constant, while the vertical stress gradually increases until a maximum is reached. The sample then fails or collapses, called “failure of the sample”, represented by the point (σ', τ_f) . It has reached its maximum shear strength, see graph 2.

Shear stress can be regarded as the resistance to shearing or failure. The σ -axis represents the surrounding pressure (kPa) the sample would experience within the body of the dike. Failure occurs when shear stress surpasses the maximum shear stress of the soil. Three specimens from the same sample are tested under different confining pressures until they fail. The three test results on specimen from the same sample of a dike give three failure points in the graph. The red line,

Fig. 4: No relation was found between the Van Post class and the rate the maximum resistance to pressure from above increases with the confining pressure.



the best fitting straight line through these points, estimates the soil's behaviour under a range of confining pressures and loads.

The shear strength depends on two sources: cohesion (c') between the particles and frictional resistance between particles. The "internal friction angle" ϕ' is the slope of the straight line; this parameter represents the increased shear strength of the soil when the confining pressure of the sample is increased. In other words, the strength of the sample increases with increasing confining stresses.

Conclusion

No correlation was found between the Von Post degree and PVI index. Of the many possible relations investigated only one is presented here:

Footnotes

1) Field method of determining the decomposition degree, depending on a visual assessment of squeezed samples of peat. The humification degree is a scale from H1- H10 where H1 stands for young peat and H10 is completely decomposed peat.

2) PVI index – laboratory method for determination the weathering degree, based on the absorbance of a solution of organic matter extracted by solution of sodium pyrophosphate, measured by photo spectrometer.

the graph depicting the internal friction angle ϕ' and the Van Post class of the samples. No obvious relation can be seen. Unfortunately no other useful relation has been found between strength parameters and measured properties of the peat dikes' samples. The seemingly obvious expectation that older and more humified samples would be less resistant to deforming forces was not corroborated.

A more detailed description of these and other experiments can be found at www.veengenootschap.nl/publications2.html.

I would like to thank Wiertsema&Partners for giving me the opportunity to do an internship, and especially Kees-Jan van der Made for his support and encouragement.

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Fens after Drainage

A workshop in Poland

Commission III “Agricultural use of peatlands and peat”, the Polish National Committee of IPS as well as other contributors organized an international workshop “Fen Peatlands after Drainage” on **9 - 11 July 2013** in Solec, Poland.

The workshop gathered 17 participants from Poland, Germany and Denmark and was divided into two parts: theoretical (lectures) and practical (field works on peatland). The lectures were aimed at presenting the knowledge on fen peatlands and their properties in general as well as describing the Solec peatland in detail.

Professor Ryszard Oleszczuk (Department of Environmental Improvement, Warsaw University of Life Sciences, Poland) presented two topics: Drainage of peatlands and criteria of water managements on drained peatlands and Drainage of peatlands and criteria of water managements on drained peatlands.

MSc. Geoökol. Ullrich Dettmann (Institut für Agrarrelevante Klimaforschung, Johann Heinrich von Thünen-Institut, Germany) prepared a presentation entitled Laboratory evaporation experiments in undisturbed peat columns for determining peat soil hydraulic properties.

Measurements of land elevation for determination of peatland subsidence.
Photo: Barbara Kalisz





The workshop participants. Photo: Magdalena Tkacz

Dr Edyta Hewelke (Water Centre Laboratory, Warsaw University of Life Sciences, Poland) talked about Spatial distribution of moisture content in selected profiles of drained peat-moorsh soils (case study), Monika Gąsowska (PhD student from the Department of Environmental Improvement, Warsaw University of Life Sciences, Poland) described Solec peatland - history of drainage, current state of peatland.

Dr Barbara Kalisz (Department of Soil Science and Soil Protection, University of Warmia and Mazury in Olsztyn, Poland) outlined the issues connected with Peatlands in Poland, classification and distribution and Labile organic carbon in drained peatlands, after which Dr Paweł Sowiński (Department of Soil Science and Soil Protection, University of Warmia and Mazury in Olsztyn, Poland) presented the results of the research on Phosphorus in drained peatlands.

To look closer at fen peatlands after drainage, after the theoretical session, the participants were shown how to measure physical properties using various methods, and they could measure all properties by themselves and calculate the results using appropriate formulas. The field works comprised measurements of saturated hydraulic conductivity, soil moisture at differently used parts of peatland, measurements of peat thickness,

depth of drainage-irrigation ditches, peat decomposition and subsidence of soil surface, description of peat-moorsh soil profiles, type of moorsh and muck as well as depth and state of muck-forming processes.

The results of the field works were later discussed. After the fruitful discussion all the participants participated in an excursion to the Całowanie peatland - the biggest peatland in central Poland. The workshop thus enabled the exchange of theoretical and practical knowledge concerning fen peatlands and initiated cooperation in this scientific area.

To be more specific about the location of the field workshop... Poland is a lowland country, with only 10% of its area above 300 m a.s.l. The climate is temperate with a transitional (and highly variable) maritime-continental character. Almost the whole country is drained by two rivers, the Wisla (Vistula) and the Odra.

Poland has a total peatland area of 12 547.58 km². The northern zone on the Baltic coast comprises 74 percent of all Polish peatlands (8 268 km²), the midland zone 24 percent (4 247 km²), and the southern zone along the Sudety and Karpaty mountains 1.5 percent (268 km²).

Fens are the most common mire type and occur throughout the country, with the largest areas in the young-glacial zone of northern Poland. Fens occupy 92%, transitional bogs 3% and raised bogs 4% of the total peatland area. Most Polish peatlands are used as hay meadows and pastures (70%).

Although most Polish peatlands have been drained to some degree, very few areas have been transformed into ploughed arable fields. The preferred land-use for peatlands is permanent grassland, with the result that Poland has a great number of meadow communities on (mainly decomposed) peat soils, many of which have a high biodiversity value. Maintenance of these systems offers a spectacular opportunity to conserve traditional human landscapes as well as rare species and ecosystems.

The Solec peatland (N 52° 02' 22.18" E 21° 05' 57.20"), where the workshop took place, is located in central Poland, approximately 25 km south of Warsaw. The area of this fen peatland is 280 hectares and it is built of strongly decomposed sedge and sedge-reed peats. In 1968-1970, the peatland was drained with a sub-irrigation system.

Nowadays, only part of the peatland is used as grassland. Discontinuation of grassland farming caused succession of vegetation and occurrence of bushes and brushwood. The drainage system is

no longer used. Over forty years, the thickness of the peat deposit has been substantially decreasing and drainage ditches have become shallower (from 1 meter in the original project to 0.3-0.4 m nowadays). The physical, chemical and hydraulic properties as well as water retention abilities of peat have become unfavorable. This fen is an example of peatland degradation, which was also discussed during the workshop.

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New IPS members

The following individual, corporate and research institute members (or their contact persons) have joined IPS within the previous four months. The IPS membership list is regularly updated by information from our National Committees or directly from our members. (status 7 October 2013). To see an online list of members (those who have opened their contact information in their personal profiles), log in to the IPS website and go to www.peatsociety.org/members.

Individual members

Canada (CSPP): Marc Desrosiers

Finland (Suoseura): Marja Maljanen

Ireland: Connie O'Driscoll

United Kingdom: Paula Baillie-Hamilton,
John Henderson, Ian Rotherham

USA: Mike Gracz, Frederic C. Wurster

Corporate members

Argentina: Nicolas Dagna (Daasons s.a.)

Canada (CSPMA): Regis Berger (Berger Peat Moss),

Francois Kirouac (Premier Tech Chronos), Véronic

Laliberté (FCC Agribusiness and Agri-Food)

Czech Republic: Martin Simonek (B3 Holding s.r.o.)

Estonia: Triin Anette Kaasik (AS Estiko Plastar)

Germany (DGMT): Christian Rotthaus (Terracult GmbH)

South Korea: Sue Song (Eco Global Energy Co., Ltd.

Sweden (Torvforsk): Torbjörn Claesson (Neova AB)

Netherlands (Nederlands Veengenootschap): M.R. de Voogd (Yara)

Ukraine: Oleksandr Iusupov (Peat Land Ukraine)

USA: Randy Hofman (Sungro)

Research Institutes

Finland (Suoseura): Hannu Lassila (Seinäjäki University of Applied Sciences)

Indonesia: Budi Intra Setiawan (Indonesian Peat Association)

Student members

United Kingdom: Deborah Land



How can I become a member?

If you live in Canada, Estonia, Finland, Germany, Hungary, Indonesia, Ireland, Latvia, Lithuania, Malaysia, the Netherlands, Norway, Poland, Sweden, the United Kingdom, Ukraine or the USA, please contact the Chair of your National Committee to join the IPS: www.peatsociety.org/about-us/national-committees.

Otherwise simply go to our website at www.peatsociety.org/join-us and apply for direct membership. You can pay online or fill in the downloadable membership form and receive a invoice by post.

Baltic Peat Producers Forum '13



The Baltic Peat Producers Forum 2013 was held in Vilnius, the capital of Lithuania, during **4 - 6 September 2013** by invitation of the Lithuanian Association of Peat Companies "Lietuviskos durpes". In addition to talking about peat as a growing medium, this year's forum dealt to a great extent with the use of peat to produce heat and energy, which is an increasingly important topic also in the Baltics. The almost 300 guests this year were of course from Estonia, Latvia and Lithuania and in addition from Germany, the Netherlands, Belarus, Czech Republic, Finland, Italy, Poland, Russia, and the United Kingdom, with more than 30 sponsoring companies present.

Some very interesting presentations dealt with energy peat and biomass use in Lithuania and Finland, the activities of the European Association for Peat and Growing Media and the renewability classification of peat. In addition, it was useful to receive the season's production statistics and to get some general information on the labour market and logistics issues. The IPS participated with a short presentation on its main member services and exciting upcoming projects.

The Forum was once again an excellent place to exchange ideas about practical questions with

regard to peat, but also covered environmental and sustainability topics. All presentations were translated simultaneously to English and Russian, which is always a great advantage to all international guests. For more information, please see www.asocdurpes.lt/forum2013. The post-conference tour took the participants to Anykščiai where discussions continued on an old narrow gauge railway. From Troškūnai station, the group continued to the railway depot at Panevėžys, which is being restored as part of an EU project.

On the whole, this annual series of conferences reflects true international cooperation in the context of the International Peat Society and is highly recommended to all interested in peat and peatlands. The next forum will be held in Riga during **25 - 29 August 2014**. We certainly hope to see you and your colleagues there.

Susann Warnecke

susann.warnecke@peatsociety.org





Presentations

- Welcome Announcement, Deputy Minister of the Ministry of Energy, R. Cytacka
- The Manufacturing and Local Resources Sector in Lithuania - Status and Perspectives, G. Rainys
- EPAGMA Activities 2013, G. Schmilewski
- Current Issues and Perspectives of the Labor Market, N. Songin
- Is Peat Renewable? M. Brandel
- Energy Peat In Lithuania, A. Sudintas
- The Use of Energy Peat in Finland, J. Rämö
- Peatlands in Lithuania. Sustainable Resource Extraction, G. Juozapavičius
- The Production Chain of Plants on Substrates and the Role of the RHP, M. Zevenhoven
- Biomass Energy in Lithuania: Current Situation, Opportunities and Challenges, A. Jakštas
- Transport Market Topicalities in Lithuania, J. Lekšas
- Adding Value - International Cooperation between Industry and Science, S. Warnecke
- Peat Production in Estonia in 2013, E. Niitlaan
- Peat Production in Latvia in 2013, I. Ozola
- Peat Production in Lithuania in 2013, G. Kavaliauskas

Photos: Vaidotas Vilkas and Susann Warnecke

See all other upcoming IPS events www.peatsociety.org/events

International Peat Production Statistics Summer 2013

Paul Short, Canadian Sphagnum Peat Moss Association: In Eastern Canada (NB, NS & PEI), the industry is considerably below average in its expected harvest volumes.

A late and interrupted start to the harvest season combined with a wet late summer has significantly restricted the production. In Québec's North Shore, the production has been at or slightly above expectations. However, due to weather related harvest challenges the harvest on Québec's South Shore is below average. In the Prairie Provinces (MB, SK & AB), Alberta has experienced a below average to well below average harvest level primarily due to adverse weather. However, this may be adjusted slightly due to favourable weather conditions the first part of September. Manitoba and Saskatchewan have experienced varied harvest weather conditions, however, an average level of production has been achieved in these provinces. Further adjustments to this August 31st report might be made dependent on the ability to harvest in the fall season, particularly in Alberta. Additionally, it should be noted that industry had carryover inventory volumes from the previous harvest season. In Eastern Canada, these volumes will help offset the reduced harvest. In the West the carryover inventory was less. This will have a lesser positive impact on the overall supply. The Canadian harvest was generated on 26,000 hectares of land base.

Erki Niitlaan, Estonian Peat Association: Estonia has experienced a relatively dry season with regionally about 1005-1320 sunshine hours, 67-87 dry days and 165-326 mm of rain with an average of 300 mm. The production 2013 amounted to 1,050 thousand tons of peat, compared to just 626 thousand tons in 2012.

Hannu Salo, Finnish Bioenergy Association: According to our last survey of 30 September we would achieve nearly 80% of the overall production goal. This is far better than last season 2012. However, it is not possible to fill the gap between the demand and production anymore

due to shrinking and ageing fields. Prior to the season we estimated that around 30 Mm³ of energy, horticultural and environmental peat could be produced from roughly 60.000 ha on production, if the weather is favourable. The production season started in mid-May more or less at the same time throughout the country. Very dry and warm weather boosted peat production nearly a month before the rainy period slowed down the production. In some areas, like south-eastern Finland, conditions remain quite favourable, but in the main areas of production in the west and north the period from mid-June to mid-August was quite disappointing. The last weeks of August and early September turned out to be very good again for the main areas. More or less final figures of the season are some 21.7 Mm³ of energy peat and 2.2 Mm³ of environmental and horticultural peat that have been produced.

Guus van Berckel, Griendtsveen AG, Germany/Netherlands: I would say the weather conditions in winter and summer were good and allowed a normal peat production (80 - 100%) in Germany on ca. 10.000 ha in total. For the Netherlands the peat production is very small. The weather conditions were good and allowed a normal peat production on less than 100 ha.

Pat Fitzgerald, Bord na Móna, Ireland: The weather was very good in Ireland this year so peat harvesting was above average with Bord na Móna making 166% of target. The private producers announced a very good year with some 150%.

Giedrius Kavaliauskas, Lithuanian Peat Producers Association: From the information we received so far, we can declare that this season Lithuanian peat companies collected about 2,5 Mm³ and i.e. near 90% of target, on around 14,000 ha.

Neil Godsman, Northern Peat and Moss Co., United Kingdom: My production was 100% this summer, could have produced much more but that's all I can sell!

Horizontal FFS bagging machine from Premier Tech Chronos

The FFS Series Horizontal Form, Fill and Seal (FFS) bagging machines from Premier Tech Chronos are fully automatic systems which make their own bags from rolls of pre-printed, center-folded polyethylene film (U film).

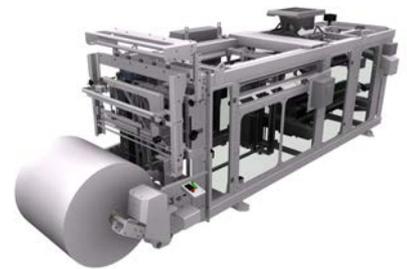
They are intended to package a wide range of loose fill materials such as growing media, minerals, seeds, chemicals, feed, food, etc. in bags ranging from 4.5 to 100 quarts (5 to 110 liters). They are equipped with a pneumatic closing mechanism on bag top drive belts providing many operating advantages such as greater safety, easy access to the sealer's components and an overfilled bag detection system.

It is a proven technology providing constant production rates of up to 35 bags per minute.

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These Form, Fill and Seal baggers can be integrated upstream from either a weighing or a volumetric feeding system, and downstream from conveying and palletizing systems. FFS systems allow you to greatly reduce your packaging material costs while offering you great performance and unrivalled reliability.

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Is peat renewable?

A summary and status report

This article is based on a presentation made for the **Baltic Countries Peat Producers Forum** in Vilnius on 5 September 2013. I will present the discussion about peat that starts in renewable and shifts over to sustainable. The question I will try to answer is as follows:

- Is peat a renewable resource or not?
- What does classification mean for the energy peat business?
- How has the discussion developed during recent years?

The EU Commission (DG Research, DG Energy and DG Environment) made together a statement in 2000 when discussing CEN-standards for biofuels: Peat is not a biofuel. Peatlands are protected under the Habitat Directive and the Commission policy is to not promote the extraction of peat in Europe.

Nevertheless, countries where peat extraction is sustainable, may desire to produce national standards. However, as the natural conditions of peat are not the same in all countries of the EU, the Commission considers the preparation of European standards as a potential conflict with its policy on nature conservation.

The Finnish Government funded 1998 a project to investigate the classification of peat in relation to woodfuel and fossil (Crill P, Hargreaves, K and Korhola A. 2000; we call it the Crill report). The report stated that peat could be classified as a biomass fuel to distinguish it from biofuels such as wood, and from fossil fuels such as coal.

Unlike fossil fuels but similar to biofuels, biomass fuels are renewable. But due to the long time span required for building up a harvestable peat deposit, in comparison to wood biomass, peat can be regarded as a slowly renewable fuel only.

The International Energy Agency IEA reviewed peat in connection with their annual country reviews and made 2002 the following statement:

Renewable energy is energy that is derived from natural processes that are replenished constantly. In its various forms, it derives directly or indirectly from the sun, or heat generated deep within the earth. Included in the definition is energy generated from solar, wind, biomass, geothermal,



Energy peat production in Sweden. Photo: Hannu Salo

hydropower and ocean resources, and biofuels and hydrogen derived from renewable resources. IEA found connected to peat that they currently do not consider peat as a renewable resource.

The Swedish Peat Commission (SOU 2002:100) stated that peat is a natural resource which is lasting and indigenous and could be characterized as a slowly renewable biomass fuel, or the same definition as the like Crill report.

What is the main argument for determining whether peat is renewable or not?

- Time dimension – the Crill report and the Swedish Peat Commission refer to the time for renewability of peat that is longer than for wood fuels.
- Conflict with biodiversity – the EU Commission states that peat production from EU's point of view will conflict with the EU Habitat directive.
- If peat is an abundant resource in a specific country – the Swedish commission found that peat is an abundant resource which is an argument for peat to be determined as a slowly renewable resource.

IEA on the other hand does not explain why they do not classify peat as renewable or not.

The crucial question is of course if peat is renewing and whether it is a renewable fuel. We could notice that peat as a resource is renewing but the time horizon is longer than wood fuels. But we can also notice that peat is not classified as a biofuel or as renewable in line with the EU renewable directive RES and the EU emission trading system ETS.

On the other hand, the EU and IPCC do not classify peat as a fossil fuel. Therefore peat could either be classified as peat or characterized as a slowly renewable biomass fuel, but not classified as biofuel. The Crill report has an important role for this statement.

The classification of peat by the EU and IPCC has created a problem for peat – peat should either be a biofuel or a fossil fuel – the classification between fossil/bio as peat is not very clear. Peat is therefore not an energy source recognized in the EU's energy policy.

From 2011, the energy and climate policy in the EU changed with the new Commission in Brussels. The European Council decided in February 2011 that the Energy 2050 strategy should contribute to promoting a more energy and resource efficient, sustainable, low carbon (my remark), secure, interconnected and competitive Europe, to the benefit of all consumers. In line with the decision, the strategy should include the longer 2050 energy and low carbon policy perspective. The Council



Peat from a new production site in Finland. Photo: Susann Warnecke

noted that low carbon are not excluding energy technologies that have low carbon emissions even if those technologies are using carbon-based fuel.

The commission has now replaced renewable with low carbon. Even sustainability is an important factor.

How does the future look for peat? Climate change will probably be the overall goal for the EU, and sustainability criteria for bioenergy mean that the boundary between bioenergy and peat will not be as stringent as today.

This has been underlined by the Green Paper – a 2030 framework for climate and energy policies from the European Commission in March 2013. The Green Paper raised the question if the climate goal should be the overall target for the climate and energy policy. Another question is of course to introduce sustainability as an important factor for the energy policy.

To summarize this presentation:

- Peat is not classified as a biofuel or a renewable fuel in line with the EU RES-directive and EU ETS.
- However peat is not classified as fossil fuel by the EU and IPCC.
- Peat could therefore in line with the Crill report be classified as a slowly renewable biomass fuel. Somebody could prefer to classify peat as peat.
- During recent years, the discussion has more emphasized the greenhouse gas emissions from energy sources. The discussion about renewable fuel or biofuel has shifted to a discussion about low carbon and sustainability.

Magnus Brandel

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IPS Peat and Technology Conference 2014

Riga, 25 - 29 August 2014
Opening your eyes!

5 QUESTIONS TO A MEMBER

Today: Nicolas Dagna, Daasons sa, Argentina



4. Why have you joined the IPS?

DAASONS sa is the biggest company in South America working with peat moss. It is an important opportunity for our company to be members of the IPS. We believe that being connected with other companies and organizations around the world contribute to exchange information, knowledge and experiences among people.

5. What is the environmental policy in your country?

In Argentina, the peatlands belong to the country. Producers need state authorization in order to work on a peatland.

Nicolas Dagna
Daasons sa
nicolasdagna@yahoo.com.ar

1. Who are you?

DAASONS sa. The company is located in Bahia Blanca, Argentina, the door to Patagonia. We produce and sell composted organic fertilizers and peat moss derived products.

2. What is your daily business?

The company produces, processes and sells different peat moss products: growing media for tobacco and horticulture; and organic oil absorbents.

3. What is so special about the peatlands in your area?

The peatlands are located at the "End of the World", the province of Tierra del Fuego in Patagonia. These peatlands have no wood residue and very few vegetation.



Klasmann-Deilmann: a century of shared history and sustainable growth

The year 2013 sees the Klasmann-Deilmann Group looking back on a hundred-year history. During this anniversary year, the company will thank its customers and suppliers along with all its employees, friends and partners who have in the past contributed to this success story. Both now and in the future, Klasmann-Deilmann will continue to experience growth, consolidate its existing quality advantage and competitive edge in the field of growing media, and further establish itself in the renewable energy and resources sector.

More than 350 invited guests from all over the world attended the celebrations to mark the Klasmann-Deilmann centenary on Friday, 14 June 2013. Carl-Gerrit Deilmann, Chairman of the Administrative Board, made a speech in honour of the occasion. He described Klasmann-Deilmann as a “vital company full of innovative energy” and acknowledged that it was prepared to redefine its own destiny again and again. Popular radio personality Steffi Neu was the MC for the whole event. Her job included chairing the panel discussion between Carl-Gerrit Deilmann, Dr. Norbert Siebels, Moritz Böcking and Dirk Kopmeyer, representing Emsland district authority. Surprise guest was Felix Finkbeiner, founder of the “Plant for the Planet” foundation. Felix called on the guests to donate trees that are to be planted in Malaysia later this year. Thanks to this initiative, the incredible sum of EUR 80,000 was collected, which corresponds to 80,000 trees.

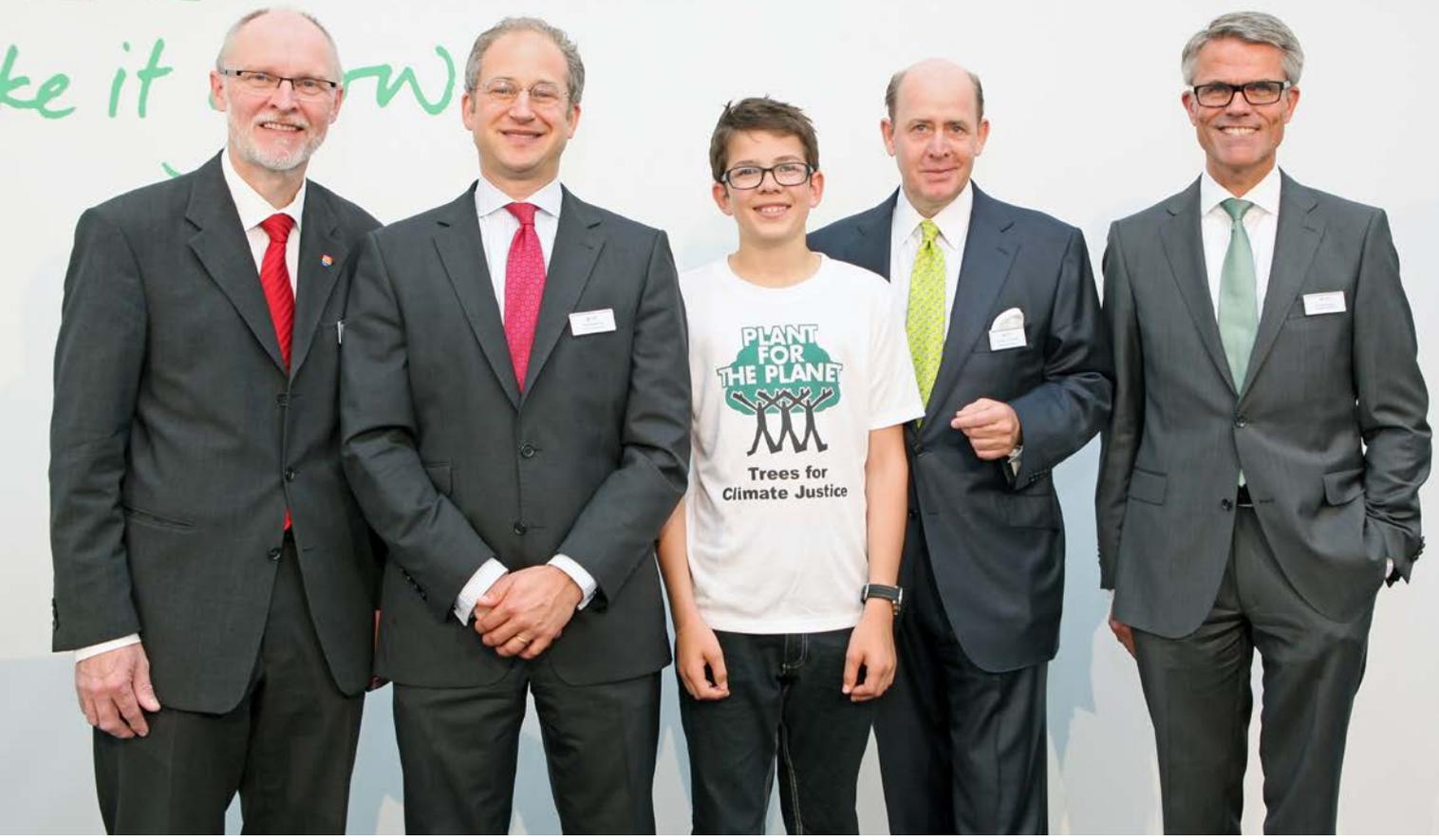
The history of Klasmann-Deilmann is marked by a series of decisions that determined its future direction. Those decisions required a great deal of entrepreneurial vision and were consistently proven right over time.

It was in 1913 that Georg Klasmann founded Hesper Torfwerk GmbH, which was renamed

Klasmann Werke GmbH in 1971. And 1920 was the year in which C. Deilmann AG began its peat production. In the first decades of its existence, the Klasmann company concentrated on producing fuel peat and litter for stables, and also set up its own peat-fired power station. The associated extraction of peat on an industrial scale provided the opportunity to concentrate on the special machinery for peat extraction for many years and to market that machinery worldwide. In the 1960s it became clear that producing energy from fuel peat was out of date. **At the same time, the company realised that peat has unique properties that promote growth. From that point on the company focused on producing growing media.** Concentrating on the production and marketing of growing media based on black peat led Klasmann and Deilmann to leave the Torfstreuverband (Peat Litter Association) in 1974. This association had been set up in 1919 but its strategy was limited to white peat.

The merger of Klasmann and Deilmann in 1990 created a business enterprise that combined the vigour of two experienced and flourishing companies. In anticipation of the rapidly growing markets, Klasmann-Deilmann has purchased extensive reserves of raw materials in Germany, Ireland, Lithuania and, most recently, Latvia, and invested in modern substrate factories at centralised locations. Alongside this, the company set up subsidiaries in key European countries, Asia and North America to ensure a direct, local presence in these markets. Additionally, a network of sales partners arose which today spans the entire globe.

Klasmann-Deilmann is still the leading player in the global growing media industry. Its growing media provide the foundation for plant cultivation and the success of horticulture enterprises all over the world.



The company has been dealing with natural resources such as peat, wood and compost and using them in various branches of industry for the last 100 years. Over that time it has accumulated comprehensive expertise that extends from the obtaining of raw materials and the development, production and marketing of growing media, all the way through to the restoration of former extraction sites.

Klasmann-Deilmann is currently putting this expertise to good use in the development of new activities in the renewable-energy sector. Projects include growing short-rotation forestry crops on its own agricultural sites in Germany and the Baltic region for subsequent use as raw materials and energy sources. With its corporate guiding principles based on ISO 9001 and ISO 14001 certification, sustainable management at Klasmann-Deilmann means being aware of its accountability towards humankind, the environment and future generations.

“Today the company is once again facing important policy decisions,” Norbert Siebels remarked. “We have decided to tackle the whole

Discussing the future of Klasmann-Deilmann: Dirk Kopmeyer (Emsland district authority), Moritz Böcking (Managing Director), Felix Finkbeiner (Plant for the Planet), Carl-Gerrit Deilmann (Chairman of Administrative Board), and Norbert Siebels (Managing Director).

issue of sustainability emphatically and in earnest. **Another decision involves our commitment to commercial horticulture, which we will continue to supply with top-class – and increasingly sustainable – substrates.”**

Talking about the development of the new business unit, managing director Moritz Böcking added: “Klasmann-Deilmann will also make use of the expertise it has acquired over a hundred years in the management of large expanses of land and the optimum utilisation of biomass for additional activities in the field of renewable energy and resources. Our company therefore now has an even firmer foundation that will benefit not only ourselves but also our partners, customers and suppliers for many years to come.”

Press Release
 Klasmann-Deilmann GmbH, Germany
www.klasmann-deilmann.com

Seamus Heaney: Death of a Naturalist

Landscapes have always provided inspiration for poetry and the peatlands of Ireland are no different. Seamus Heaney, the Irish poet (b.1939, Derry) who died recently in August of this year, is celebrated for his 'bog poems' and their great importance in Irish culture. Heaney is considered by many to be Ireland's greatest poet since W.B. Yeats (1865-1939) and he was awarded the Nobel Prize in Literature in 1995. His bog poems are a vital part of the canon of modern poetry.

Heaney grew up with the bog as an integral part of rural life and used it in his poetry to explore themes of national identity. Heaney references the

bog in the poem 'Digging' in his first volume of poetry. He writes of the traditions of his father and grandfather; whether that is his father digging potatoes or his grandfather digging for turf. The soil holds the memory of both these men and



Seamus Heaney: nobelprize.org

their connection with the land:

My grandfather cut more turf in a day Than any other man on Toner's bog. Once I carried him milk in a bottle Corked sloppily with paper. He straightened up To drink it, then fell to right away Nicking and slicing neatly, heaving sods Over his shoulder, going down and down For the good turf. Digging.

Heaney connects the bog with the rural traditions of his ancestors. It is an



Seamus Heaney & bog: Burns Library, Boston College

important part of Irish life and Heaney states that despite not carrying on in the rural tradition, he will continue the tradition of 'digging' by using his pen instead of a spade.

Between my finger and my thumb
The squat pen rests.
I'll dig with it.

The bog provided Heaney with ample material for his work - just as it did for his ancestors. 'Bogland' was written in 1969 and published in *Door into the Dark*. The poem contrasts the Irish peatlands with American prairies and highlights their uniqueness. It is written like a love letter to the Irish peatlands and their wonderful capacity to preserve objects from previous eras.

Our unfenced country
Is bog that keeps crusting
Between the sights of the sun.

Heaney uses the bog to explore the depths of Irish history. The bog acts as a memory bank for the land and from it we can extract elements of the past. Heaney records the findings of a Great Irish Elk skeleton and 'bog butter' which were found within the bog and removed as archaeological artefacts. Bog butter is a substance, often made from dairy products, which has been placed in a wooden container and preserved in the cold bog for many years.

They've taken the skeleton
Of the Great Irish Elk
Out of the peat, set it up
An astounding crate full of air.

Butter sunk under
More than a hundred years
Was recovered salty and white.
The ground itself is kind, black butter.

The bog is soft and inviting and gives way easily; trapping and preserving what sinks into it. Its layers are a catalogue of evidence of life that has gone before. By digging down into it we are both discovering and destroying it:

Our pioneers keep striking
Inwards and downwards,
Every layer they strip
Seems camped on before.



Elk skeleton: wikipedia.org

The bog has a centre that is 'bottomless' and is like an eternal consciousness that retains a sense of all that has touched it. Heaney keeps returning to bogs as a way to examine the theme of national consciousness and identity. By finding a way into the past he is able to address the present.

When Heaney first read P.V Glob's *The Bog People* (1969), drawn to it by the name alone, he was struck by Denmark's ancient sacrificial bog bodies and the resonance he felt between them and the then political situation in Northern Ireland. "[T]he minute I opened it and saw the photographs, and read the text, I knew there was going to be yield from it. I mean, even if there had been no Northern Troubles, no man-killing in the parishes, I would still have felt at home with that 'peat-brown head' – an utterly familiar countryman's face".

Heaney was inspired to write 'The Tollund Man', a poem that linked the sacrifice of a 4th BC Danish man with those "sacrificed" in the Northern Irish conflict, and saw a way to address the contemporary violence through past violence. As a poet from Northern Ireland, there was pressure on him to express his views on the conflict.



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In this poem the bog once again acts as a form of memory. The land retains the memory of violence which was perpetrated on it long ago. The body of the dead man has been preserved like the body of a saint:

Those dark juices working
Him to a saint's kept body,

The perfection of his preserved state allows for a window into the past and into an ancient society that struggled with violence just as the present does. It also allows the reader to empathise with a man who died thousands of years ago. The Tollund Man is compared to the bodies of victims of Irish sectarian violence in the 1920s who also lie in the ground but who will not be found in such a state of preservation.

The speaker talks of visiting Jutland and knowing he will feel a sad familiarity with a land that has seen violence. Despite the time that has passed since the death of the Tollund Man, the bog has retained a memory of this violence:

Out here in Jutland
In the old man-killing parishes,
I will feel lost,
Unhappy and at home.

'Punishment' continues the theme of exploring the Northern Irish conflict, and the complex situations it created, through the violent death of bog bodies. In this poem the speaker first imagines seeing the murder of a "little adulteress", the bog body known as Windeby I (who was actually proven, long after the poem was written, to be male), and admits that he would also condemn her to death if he belonged to her community.

I can see her drowned
body in the bog,
the weighing stone,
the floating rods and boughs.

He contrasts her "punishment" with that of the Catholic girls who were publically humiliated for entering into relationships with British soldiers in Northern Ireland.

Heaney negotiates through the difficult aspects of tribalism, whether it is an ancient punishment or a recent one, the speaker finds himself conflicted by his ability to "understand the exact and tribal, intimate revenge" of the wronged-community despite his "civilised outrage" at their actions. The fact that Windeby I turned out to be a boy and not a girl does not take away any of the poem's significance. The body is a preserved example of an ancient recipient of justice (or injustice) and it serves Heaney's purpose of examining the troubling emotions felt by opposing sides in a cruel conflict.

Seamus Heaney's bog poems are an excellent example of the cultural importance of peatlands and their ability to inspire. For Heaney, Irish bogs are central to Irish life and culture and through them he could explore these issues widely.

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Switch print to web?

We know the feeling of holding a printed magazine in your hands and flipping through it. We know how fresh paper smells and we really like that. We do have shelves with hundreds of books at home, and we are also aware that many of our members are not yet familiar with all those fancy online services and shiny devices. But it might be worth thinking about the future...

The switch from print to web is for many publishers a big step. It is a complicated process and it has to be executed well enough to succeed. But online publishing is, in the end, a reasonable way to go and might be an attractive option especially for non-profit organisations.

Online vs. paper

Costs of publishing print magazines increase every time and many readers do not read every single page. PC World, one of the world's biggest computer magazines, ended in the summer of 2013 its print era and went on with online publications. The 80-year-old current affairs magazine Newsweek ended its print edition already at the end of 2012. It shows that even the biggest names in the world of magazines cannot survive for long in the current world of free available online information. Cost efficiency is essential for an organization such as the IPS, who could aim for larger exposure and great contents, thereby better allocating its membership fees.

Our community?

According to the British Professional Publishers Association, there are also print magazines that are successful both offline and online. The success is based on two factors. Firstly, having - or building - a community. The community is the reader, that is willing to read, contribute and that feels identified with the image and content of the magazine. The second factor is passion, a factor

that speaks for itself. The IPS has to see itself as a passionate brand, like the "peat family", and going online gives the community space to contribute and feel part of the Society. Going digital gives IPS the opportunity to come really in contact with its members (who live in all parts of the world), to learn something from each other, to get different viewpoints on topics from different countries and so building a strong peat community.

And how?

Online magazines are quite easily accessible by everyone. The ones, who do not have an internet connection at home, could go to the library, university or at any other place where there is (free) internet access. Online publishing is easier than regular publishing, more up-to-date, changes can be made instantly and cheaper. Last but not least there is the possibility to comment, to share and (psst) to copy and paste, if one has to. For the test phase in fall 2013, IPS will be trying several ways at the same time:

- Design mainly as PDF, distribution by email, as online link, shared on the IPS website and social media
- Blog-type website with more background information, links and visuals at www.peatlandsinternational.wordpress.com
- Best viewed as online flip-book, e.g. Joomag
- Advertisements linked to company websites
- Easier sourcing with simple URL's
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- Use on different devices
- Access 24 hours / 7 days / week
- Optimised search results

We hope that you like this magazine and tell us and others about it: www.bit.ly/17VfJF2.

Mark Swarts

IPS intern publications
mark.swarts@peatsociety.org

Peat and peatland events

October 2013

Finnish National Committee (Suoseura)
Member meeting and Seminar
Helsinki, Finland, 15 October 2013
www.suoseura.fi

Sphagnum Mosses Identification Workshops
16 October 2013 and 20 November 2013
Sheffield area – Rivelin Valley
www.ukeconet.org

German Garden Industry Association (IVG)
48. German Peat Day
Bad Zwischenahn, 24 October 2013
www.ivg.org

IPS Industry & Executive Board Meeting
Tallinn, Estonia, 28 - 30 October 2013
www.peatsociety.org

November 2013

Finnish National Committee (Suoseura)
Autumn meeting and Seminar
Finland, 19 November 2013
www.suoseura.fi

February 2014

Responsible management of peatlands:
implications of the industrial sector
Québec, Canada, 19 - 20 February 2014
www.gret-perg.ulaval.ca

March 2014

2nd Flow Country Research Conference
Thurso, Scotland, 4-6 March 2014

April 2014

German Peat Society (DGMT)
Peloid Congress
Bad Kohlgrub, Oberbayern, 2014
www.dgmt-ev.de

June 2014

20th World Congress of Soil Science (WCSS)
Jeju, Korea, 8 - 13 June 2014
www.20wcsc.org

German Peat Society (DGMT)
Conservation and restoration of mires in Thuringia
Oberhof, Germany, 25 - 26 June 2014
www.dgmt-ev.de

6th International Conference on Climate Change
Reykjavik, Iceland, 27-28 June 2014
<http://on-climate.com/the-conference/call-for-papers>

August 2014

International Peat Technology Conference
Riga, Latvia, 26 - 29 August, 2014
www.peat.lv

9th SER Europe Conference
Oulu, Finland, 4 - 8 August 2014
www.ser.org

September 2014

UK National Committee
In The Bog - Peatlands as ecological and cultural
landscapes
Sheffield, September 2014
www.ukeconet.co.uk/events/50-conferences/291-in-the-bog-conference.html

German Peat Society (DGMT)
Utilisation of Peatlands for Tourism and
Environmental Education
Bad Wurzach, Germany, 24 - 26 September 2014
www.dgmt-ev.de

August 2016

15th International Peat Congress "Peatland in
Harmony - Agriculture, Industry, Nature"
Kuching, Malaysia, 15-19 August 2016

Next issue...

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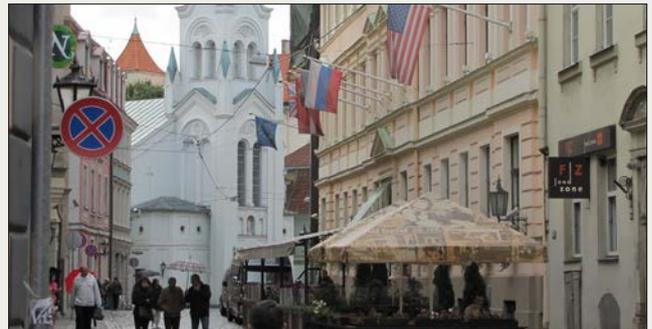
Submission deadline: 10 November 2013

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www.bit.ly/17VfJF2 or by email to ips@peatsociety.org.



The Finnish Peatland Society exploring peat and peatland sights near Kokkola, Western Finland

More information on the Peat and Technology Conference in Riga August 2014



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