



Newsletter September 2010

Issue No. 23

Editor's Note

In July 2010 I took over responsibility for editorial control and production of the IGI Newsletter from Craig O'Connor. Craig did a really excellent job and would be the first to acknowledge the assistance given to him by Stephen Bradley.

I tried in vain to solicit articles from members for this issue; and except for one item (thanks Matthew!), nothing was forthcoming. This is something all members have to try to address. I am certain there is great information, articles and news in the learned and capable heads of many of you, so please take the time to put something on paper and send it to me.

Spelling would not be a forte of mine, and even with the aid of spell-checker the odd mistake may come through. For that I apologise in advance to anyone sensitive to such matters. That said I will call to my defence, and comfort, the words of two well know figures.

"A man occupied with public or other important business cannot, and need not, attend to spelling"
[Napoleon Bonaparte]

"I respect a man who knows how to spell a word more than one way" [Mark Twain]

Jonathan Derham (Editor)

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IGI News

At the IGI AGM in the Geological Survey of Ireland on May 26th the following Board was elected to manage the Institutes affairs on behalf of the members for the 2010/2011 period.

BOARD EXECUTIVE

President	EurGeol Dr John Kelly PGeo
Vice President	EurGeol Dr Deirdre Lewis PGeo
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EurGeol Mr Andy Bowden PGeo
EurGeol Ms Mary Carter PGeo
EurGeol Dr Jonathan Derham PGeo
EurGeol Ms Marie Fleming PGeo

Extractive Waste Directive and Inventories of Closed Facilities



[Picture courtesy of DCENR web site]

The EU Commission has recently circulated to Member States its draft guidance document for the establishment of a risk based pre-selection protocol for the inventories of closed and abandoned extractive waste facilities as required under Article 20 of the Extractive Waste Directive (2006/21/EC), colloquially referred to as the Mining Waste Directive. This proposed guidance has been drafted under the lead of the co-chairs of the European Working Group on inventories, Gerry STANLEY (Ireland) and Tamas Hamor (Hungary) with the support of Gyozo Jordan (Hungary). The Commission are very complimentary regarding Ireland's contribution and leadership in relation to the production of this guidance.

The main objective of the proposed guidance document (aside from satisfying Article 20 of the Mining Waste Directive) is to support Member States in the establishment of the inventories.

Comments on the draft are invited and need to be submitted **before the 17 th of September 2010**. Send to Gerry.Stanley@gsi.ie

Link to Draft Guidance on Inventories:

http://www.igi.ie/assets/files/Extractive%20Waste%20Directive/Inventory_of_Closed_Waste_Facilities_Pre_selection_GUIDANCE_FINAL%20%282%29.pdf

Follow up:

EU Commission Mining Waste pages.

Main page :-

<http://ec.europa.eu/environment/waste/mining/index.htm>

Implementing measures page:-

<http://ec.europa.eu/environment/waste/mining/legis.htm>

Renewable Energies in Comparison to Carbon Capture and Storage (RECCS): An Update – The ‘RECCS Plus’ Project

The ‘RECCS Plus’ study contains an up-to-date, comprehensive and integrated assessment of the technologies involving the separation, capture and storage of CO₂ for Germany.

If the current German energy policy priorities are retained, there is no need to focus additionally on Carbon Capture & Storage (CCS) in the power plant sector. This applies even in the case of ambitious climate protection targets, according to the study entitled "Comparison of Renewable Energy Technologies with Carbon Dioxide Capture and Storage (CCS): An Update" by Wuppertal Institute, commissioned by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). The study covers a variety of aspects: firstly, the technology is not expected to become available on a large scale before 2025; secondly, if renewable energies and combined heat and power are expanded further and energy productivity is enhanced, there is likely to be only a limited demand for CCS power plants. The electricity generating costs of renewable energies are approaching those of CCS power plants, with the consequence that in 2020, several renewable technologies may well be in a position to offer electricity at a cheaper rate than CCS power plants. In addition, new life cycle assessments for CO₂ separation in the power plant sector indicate that the greenhouse gas emissions from one kilowatt hour of electricity generated by first-generation CCS power plants could only be reduced by 68 to 87 per cent (95 per cent in individual cases). The report comments that with regard to the climate protection

targets of large coal-consuming countries such as China, India and the USA, however, CCS could indeed constitute an important climate protection technology.

Read more at:-

http://www.wupperinst.org/en/info/entwd/index.html?beitrag_id=1419&mzAdd=1419&cType=2&pid=&searchart

EPA GeoPortal – A high quality public resource

<http://gis.epa.ie/>

Check it out. Access high quality spatial environmental, geographic and geological data, including Envision MineSite viewer and Envision Map Viewer. View soil, geology and hydrogeological map data for Ireland, as well as waste and IPPC licence facility information, etc.

European Commission consults on EU raw materials initiative

In 2008 the European Commission launched the [EU Raw Materials Initiative](#). This initiative addresses non-energy raw materials which are an essential part of both ‘high-tech’ products and every-day consumer products, such as houses, automobiles, computers, and mobile phones. European industry needs fair access to raw materials both from within and outside the EU. On the one hand, exploration and extraction are facing increased competition for different land uses and a highly regulated environment. On the other hand, the EU is highly dependent on imports of economically important raw materials which are increasingly affected by market distortions.

The Commission is now preparing a new Communication which will not only report on progress made with the implementation of this EU Raw Materials Initiative, but also indicate the way forward. This proposed Communication is preceded by a consultation paper which is available at:-

http://ec.europa.eu/enterprise/policies/raw-materials/public-consultation/index_en.htm

The goal of this consultation is to gain an understanding of stakeholders’ views on both the implementation of the Initiative as well as gather opinions and suggestions on the potential avenues the Commission should explore in order to further progress and strengthen the Initiative. Submissions can be taken up to 19 September 2010.

EU study of best practices in the area of land use planning and administrative conditions for exploration and extraction

The land area available to extraction in the EU is constantly decreasing, turning access to land into a key challenge for the extractive industry. In order to facilitate the sustainable supply of raw materials from European deposits (see previous article), it is important to have the right framework conditions in place.

An exchange of best practices in the area of land use planning and administrative conditions for exploration and extraction will help to streamline the administrative permitting process and achieve a better balance between the various land uses. An *ad hoc* group of the Raw Materials Supply Group has been tasked to advise the Commission on this matter. The group has submitted its report to the Commission in June 2010 which is available here:-

http://ec.europa.eu/enterprise/policies/raw-materials/sustainable-supply/index_en.htm

EU Report forecasts shortages of 14 critical mineral raw materials

The EU is highly dependent on imports of 'high-tech' metals such as cobalt, platinum, rare earths, and titanium. Such materials play an essential role in the development of innovative "environmental technologies" for boosting energy efficiency and reducing greenhouse gas emissions.

Some raw materials can be considered to be particularly critical, because of three reasons:

1. their significant economic importance for key sectors
2. high supply risks
3. lack of substitutes

Hence, the Commission recommended that one priority action of the Raw Materials Initiative (see previous articles) was to define a common list of critical raw materials, in close co-operation with Member States and stakeholders.

An *ad hoc* group of the Raw Materials Supply Group has been tasked to advise the Commission on this matter. The group submitted its report to the Commission in June 2010, and can be found at this link:

http://ec.europa.eu/enterprise/policies/raw-materials/critical/index_en.htm

This report analyses a selection of 41 minerals and metals, of which 14 minerals were considered critical. In line with other studies, the report puts forward a relative concept of criticality. This means that raw material is labelled "critical" when the risks for supply shortage and their impacts on the economy are higher compared with most of the other raw materials. **Two types of risks** are considered: a) the "**supply risk**" taking into account the political-economic stability of the producing countries, the level of concentration of production, the potential for substitution and the recycling rate; and b) the "**environmental country risk**" assessing the risks that measures might be taken by countries with weak environmental performance in order to protect the environment and, in doing so, jeopardise the supply of raw materials to the EU. Building on existing approaches, this report sets out an innovative and pragmatic approach to determining criticality.

The 14 critical minerals are, antimony, indium, beryllium, magnesium, cobalt, niobium, fluor spar, PGMs (platinum group metals), gallium, rare earths, germanium, and tantalum.

Ad Hoc Group Report Recommendations

The Group recommends **updating the list of EU critical raw materials every five years** and enlarge the scope for criticality assessment.

The Group recommends:

- improving the availability of reliable, **consistent statistical information** in relation to raw materials;
- promoting the dissemination of this information, notably by preparing a **European Raw Materials Yearbook** with the involvement of national geological surveys and mining/processing industries. It should in particular aim at improving the knowledge on the availability of resources and on their flow into products through the value-added chains of the EU economies;
- establishing indicators of **competition to land** in the Member States;
- encouraging more research into **life-cycle assessments for raw materials** and their products on a "cradle-to-grave" basis;
- creating a working group(s) to continue **analysing the impact of emerging technologies on demand of raw materials**.

The Group recommends the establishment of a **sub-group** of the Raw Material Supply Group of the European Commission to ensure the follow-up of the report on critical raw materials.

The Group recommends **policy actions** to improve **access to primary resources** aiming at:

- supporting the findings and recommendations resulting from the work carried out by the *ad hoc* working group on "Best practices in the area of land use planning and permitting" with the view to **securing better access to land**, fair treatment of

extraction with other competing land uses and more streamlined permitting processes;

- **promoting exploration**, and ensuring that exploration by companies is regarded as research activities;
- **promoting research on mineral processing**, extraction from old mine dumps, mineral extraction from deep deposits, and mineral exploration in general, notably under EU Research Technology Development Framework Programmes;
- **promoting good governance**, capacity-building and transparency in relation to the extractive industries in developing countries, notably in the area of critical raw materials;
- **promoting sustainable exploration** and extraction inside and outside of the EU.

The Group recommends that the following policy actions, with regard to **trade and investment** as defined in the trade raw materials strategy, be pursued:

- **maintain current EU policy choices** in the negotiation of bilateral and regional trade agreements;
- consider the merits of **pursuing dispute settlement initiatives at WTO level** so as to include in such initiatives more raw materials important for the EU industry; such actions may give rise to important case law so long as existing GATT rules lack clarity and are limited in scope;
- engage without reservation in **consultations with third countries** whose policies are causing distortions on international raw materials markets in order to discourage certain policy measures and to request adherence with market forces;
- foster an effective **exchange-of-views** on certain policies made within the institutional framework of EU economic cooperation agreements ;
- continue to raise **awareness on the economic impact of export restrictions** on developing and developed countries in various multilateral fora, such as WTO or the OECD;
- consider shaping a new EU-wide policy on **foreign investment agreements** in such a manner as to better protect EU investments in raw materials abroad and ensure a level playing-field with other foreign investors who benefit from the backing of State funds;
- continue to increase **coherence of EU policy** with respect to raw materials supply, for example in the assessment of injurious dumping and subsidies.

The Group recommends that policy actions are undertaken to make **recycling of raw materials or raw material-containing products more efficient**, in particular by:

- mobilising **End of Life (EoL) products** with critical raw materials for proper collection instead of stockpiling them in households (hibernating) or discarding them into landfill or incineration;

- improving overall organisation, logistics and efficiency of **recycling chains** focus on interfaces and system approach;
- preventing **illegal exports of EoL products** containing critical raw materials and increasing transparency in flow;
- promoting **research on system optimisation** and recycling of technically-challenging products and substances.

The Group recommends the encouragement of **substitutability of certain raw materials**, notably by promoting research on substitutes for critical raw materials in different applications and to increase opportunities under EU RTD Framework Programmes.

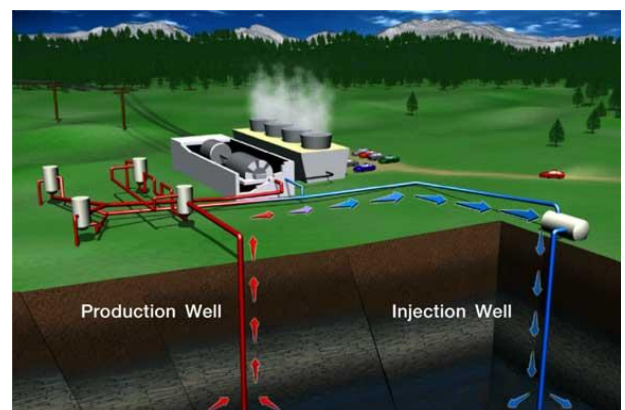
The Group recommends the **improvement of the overall material efficiency of critical raw materials** by the combination of two fundamental measures:

- by **minimising the raw material** used to obtain a specific product function;
- This covers every step from **smart production with metals and minerals savings** to substitution of potentially critical raw materials by less critical ones;
- by minimising **raw material losses** into residues from where they cannot be economically-recovered.

The Group recommended that measures should be evaluated with regard to impacts on environmental and economic performance over the entire value chain.

Report: - http://ec.europa.eu/enterprise/policies/raw-materials/files/docs/report-b_en.pdf

UK's First Geothermal Power Plant gets Go-Ahead



[Picture courtesy of the Geothermal Education Office at <http://www.geothermal.marin.org/>]

13 August 2010; London, UK: Cornwall Council has today granted planning permission for the development of the UK's first commercial deep geothermal power plant,

near Redruth in Cornwall. Developed by British company Geothermal Engineering Ltd, the plant will provide both renewable heat for the local area and renewable electricity which will be fed into the National Grid. The plant is expected to be fully operational in 2013. The announcement marks a major milestone in the development of geothermal energy in the UK. The plant is to be built on a brownfield site within an existing industrial estate. Work will begin in early 2011 to drill 4.5 kilometres into the ground to access rocks at temperatures of approximately 200°C. This will be the deepest on-shore well in the UK. The plant will provide up to 55 MW of renewable heat energy for the local community, and 10 MW of electricity. 55 MW of heat is the equivalent of heating 20 schools for a year, while 10 MW of electricity is enough power for 20,000 homes. Professor Frances Wall, head of the nearby Camborne School of Mines, University of Exeter, says:

“Cornwall has a strong mining heritage due to its wealth of natural resources and it is great to see this heritage is being continued through geothermal development. The Camborne School of Mines has been involved in deep geothermal research for decades so to see a commercial project coming to fruition is immensely satisfying. Geothermal[energy] has significant potential in the UK and the region stands to benefit significantly from this development in terms of being at the forefront of geothermal exploration.”

Ryan Law, Managing Director of Geothermal Engineering Ltd and chair of the Renewable Energy Association’s Deep Geothermal Group, says:

“With the development of our plant we want to make deep geothermal energy a significant contributor to the UK’s energy portfolio. Not only can we contribute renewable, continuous power to the grid, we also want to change the way the UK meets its heat demands by offering energy-efficient, decentralised heat. The Department of Energy and Climate Change has already estimated that deep geothermal technology could supply between one and five GW of baseload, renewable electricity by 2030.”

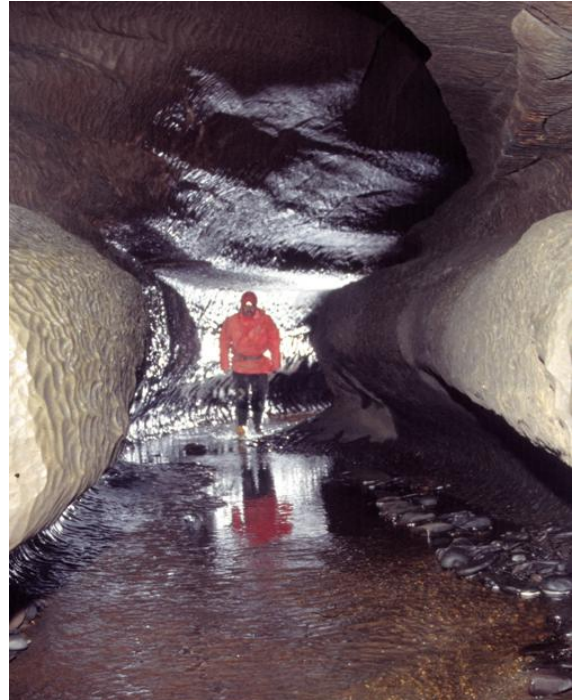
Talking of the broader benefits, he continued: *“Supporting the development of geothermal energy can aid local regeneration by attracting businesses and companies that are able to use the renewable heat. In addition, it will help to develop the UK’s geothermal expertise and skills that will allow us to compete internationally as the geothermal industry grows across the world. Nonetheless, it is only through commitment and support from government that the further private investment which is needed to fully exploit the UK’s geothermal potential will be raised.”*

Geothermal Engineering Ltd is currently pursuing additional funding options with industry partners and the European Regional Development Fund. The company was awarded £1.475 million in funding by the Department of Energy and Climate Change (DECC) in December 2009.

More information at:

<http://www.geothermalengineering.co.uk/>

An untapped resource – the SUI Library



[Picture courtesy of the Speleological Union of Ireland web site www.caving.ie]

If you, or your business, are involved in consultancy in karstic terrain there is a resource that you might not know about, which is briefly outlined here. The Speleological Union of Ireland is the representative group for cavers throughout Ireland, north and south. Whilst a smallish group in numbers, there are many active cavers exploring cave passages and a small contingent of active cave divers who are pushing connections in flooded subterranean conduits. Scientifically minded cavers are conducting dye tracing and other research into the limestone bedrock of Ireland, including the parts that cavers can’t reach. However there would seem to be a bit of a disconnection between all this activity and those in geological and engineering consultancies who might have an interest in caver’s data when assessing limestone areas.

The Speleological Union of Ireland holds a library of caving publications which can be consulted on request. A journal, *Irish Speleology*, has been produced intermittently, and a newsletter (now called *Underground*) comes out regularly. A number of relatively modern guidebooks to different caving areas exist, along with scattered club publications. Cave literature from geographical publications, UK club exploration such as Bristol University’s expeditionary work in the Burren are all present. The library also includes a wide range of caving literature from around the world.

At present the Geological Survey of Ireland generously provide a home for the library, in Beggars Bush, Dublin 4 and it can be consulted by arrangement with the librarian.

Contact Matthew Parkes on 087-122 1967 or by email on mparkes@museum.ie. Specific requests for copying, scanning or information from individual references can be catered for.

Matthew Parkes

Government Circulars on Extractive Waste Regulations

At the end of July 2010 the Department of the Environment, Heritage & Local Government issued a draft Circular WP19/10 dealing with the extractive waste regulations (SI 566 of 2009). This Circular aims to add clarity to the interpretation and application of the provisions of the regulations, and should be read in conjunction with a previous Government Circular (WP1/10 of 16-3-10) on the same subject matter.

This latest Circular deals with matters raised at a workshop on the Extractive Waste Regulations which was held on 15-5-10 in the Heritage Hotel, Portlaoise. The Department closed this draft circular for comment on August 23rd and are due to finalise it shortly thereafter. By the time this Newsletter comes out the consultation period will have closed, however the Department may well be able to accept late submissions (up to point of final publication) where it is felt they add to the document.

Further enquiries about this circular may be made to Mr Gerry Byrne – at 01 8882600 and mail at gerry.byrne@enviro.ie

The Circulars and Regulations are available at the following links:-

<http://www.igi.ie/resources/consultations-and-references.htm>

Follow up & EU Directive:

<http://ec.europa.eu/environment/waste/mining/index.htm>

Direct Professional Access to Barristers

At present in order to access advice from a Member of the Law Library it is necessary to be referred by a solicitor. However, the Law Library operates a scheme where Members of certain professional bodies may have Direct

Professional Access to barristers. The IGI has now become one of these professional bodies with Direct Professional Access to the services offered by Members of the Law Library.

There are a number of conditions, as follows:

- This scheme is for ADVICE only – no litigation work.
- All agreed fees for the advice provided must be paid to the relevant Member of the Law Library.
- The professional body (IGI) has a code of ethics and conduct.

For further information on the scheme please see the following website:

http://www.lawlibrary.ie/ViewDoc.asp?fn=/documents/Direct_Professional_Access/thesceme.htm&CatID=8&m=d

Zinc 2010 - Sept 2010

The Irish Association for Economic Geology invites you to attend the premium zinc conference of the decade. Every ten years the IAEG hosts a weekend conference that is designed to be international in nature.

Following on from the success of the 2000 Conference in Galway (Europe's Major Base Metal Deposits), ZINC 2010 will be held at the Clarion Hotel in Cork City, 17th to 19th September 2010.

More information at: <http://www.zinc2010.com/flyer.pdf>

Peat Stability Seminar - Oct 2010

As a follow-up to the Geological Survey of Ireland's (GSI) highly successful Landslides Workshop held on 21st April 2009, the IGI in conjunction with GSI are organising a Seminar on Peat Stability, to be held in the GSI Lecture Theatre on 7th October 2010.

The aim of the Seminar is to present to a wide range of stakeholders; including planners, engineers, geologists, geographers and environmental scientists among others, a series of presentations covering a wide range of topics including, characterisation of peat, geotechnical engineering (including peat management during construction), remote sensing, geophysics, planning issues and case studies.

Environment Ireland 2010

Environment Ireland, now in its sixth year, is Ireland's largest conference on environmental policy and management. The conference is organised in association with the Environmental Protection Agency (EPA) and the Department of Environment, Heritage and Local Government. The conference is attended each year by delegates representing all the major sectors with an interest in Ireland's environment, including many from Great Britain and Northern Ireland.

Much has been made of realising the potential of the green economy. The conference will focus on key aspects of the green economy: the eco-efficient economy; a sustainable urban future; renewable energy; and investing in water, waste water and waste infrastructure.

The conference will look at the practical aspects of further developing each of these sectors. The water and waste water sector is currently worth over €1 billion per year; renewable energy is worth €700 million annually; and the waste sector is worth an estimated €500 million per year. Despite the economic difficulties all these sectors will see significant investment in the coming years.

Date: **Tuesday 14th September 2010**
Venue: **Croke Park Conference Centre, Dublin**

Conference Brochure & Registration here:-

<http://www.environmentireland.ie/>

Extractive Industry Geology Conference, EIG 2010

The 16th Annual Extractive Industry Geology Conference, is scheduled to take place between 8-11 September 2010, in Portsmouth, UK. A wide range of papers is proposed including a key-note lecture (the Ansel Dunham Lecture) by Professor Geoffery Walton on the subject of '*Consulting Geologists and the British Extractive Industries*'. The session themes for the conference are, Carbon Footprint & Mining; Geohazards & Geotechnics; The Regulatory Burdens on Mineral Extraction; Reserves & Resources; Quarry Restoration & Sustainability; and Innovation.

Further information and booking is available at www.eigconference.org

IWMA Symposium, Canada

The International Mine Water Association (IMWA) Symposium takes place in the first week in September in Sydney, Nova Scotia, Canada. A very detailed programme is offered, which should result in a very informative set of proceedings.

Further Information at:- <http://www.imwa.info/imwa2010/>

International Association of Hydrogeologists eNews

The latest edition of the IAH electronic newsletter is now available at:-

http://www.iah.org/news_enews_popup.asp?id=39

Photo-File

No, Ireland is not gone psychedelic; the electric blue swirls are natural sea plankton blooms off the southwest coast.



See more at European Space Agency ...
http://www.esa.int/esaEO/SEM09F5OJCG_index_0.html

Please send a favourite geo- or env-picture to this spot.

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