



An Taisce The National Trust for Ireland

Energy Unit Newsletter

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Spring Interview: Cyril McKeon, CEO Drumshanbo Forum Ltd and Business Development Manager LABS Energy Hub

Drumshanbo? Where's that? Bang smack in the middle of renewable energy heaven – that's where!

A small town ten minutes drive from Carrick on Shannon Co Leitrim, Drumshanbo is surrounded by wind-farms. Staff of wind farm construction and maintenance firms practically live in the local hotel and it is the aim of a local community enterprise group to make that official with the development of the Lough Allen Basin Smart Energy Hub or LABS Energy Hub. Cyril McKeon is CEO of Drumshanbo Forum Ltd (DFL) and he and three other local visionaries have been working on a long term sustainable economic strategy for the region which includes counties Leitrim, South Donegal, Roscommon, Cavan, Sligo and Longford along with the Northern Ireland counties of Fermanagh and Tyrone.

"The LABS initiative started in 2009 with a very modest idea of developing an annual summer school with an energy slant." states McKeon. "Drumshanbo is synonymous with energy. In 1906 it was the first rural town in Ireland to have electric street lighting and domestic electricity. A local entrepreneur utilised the local fast flowing river with a water wheel to generate electricity for his factory. However he found that he had surplus to his needs and rather than waste it he had street lighting and a distribution system installed bringing the small rural town to a modernity not experienced by the rest of rural Ireland until the 1940's."

Specifically, DFL have targeted the energy sector as the core modulator to drive their regional economic strategy. McKeon is a mechanical engineer by trade with 20 years experience in Digital and Intel. "We're not trying to parachute in a solution to job creation issues rather we're working on a bottom-up approach which has at its centre people skills development." In the past the group have worked with Leitrim Development Board and have carried out a survey identifying gaps in services in Drumshanbo as a result of that they attracted legal, financial and business services to the town and got local infrastructural projects carried out such as improved road access and something that every town in Ireland craves, be they rural or urban, and that is high speed broadband.

We have 100meg fibre-optic connected highspeed broadband with 12 dedicated lines so this means a guaranteed high-aspect speed for any company that bases itself in

the Lough Allen Basin Smart Energy Hub or LABS Energy Hub as it is now called.

We are targeting a spectrum of companies that offer a range of services and opportunities in the sustainable energy sector: installations, utilities, service organisations and sustainable energy developers."

DFL has developed a close working relationship with Sligo I.T. and the Western Development Commission (WDC). These organisations are key to progressing the R&D and intellectual property and knowledge sharing elements of LABS Energy Hub.

Measures of Success

The LABS team see the main metric of their ultimate success as job creation. However, "...we are interested in breadth rather than depth in the sense that they want a broad variety of energy companies leading to economies of scale in a high-efficiency energy hub." McKeon states.

They developed a three-stage strategy. Stage 1 was to put Drumshanbo on the map. Stage 2 was to set up local energy courses, create links with 3rd level institutions both here and abroad and attract businesses that would benefit from the human resources that would emerge from the educational system in place. The final stage in their strategy is to see the LABS Energy Hub area designated as a Smart Energy Hub in a broader sustainable energy region. "The last stage is long term – perhaps a 2020 target but the other two stages are already underway with a Renewable Energy FETAC Level 5 course beginning in the local VEC college in September."

Stage 1 is the Robert John Kane International Energy Symposium taking place at the end of April. "It will be launched on Wednesday evening April 27th and will have three energy discussion panels: planning, ICT and tourism on Thursday. David McWilliams will address a Gala Dinner and on Friday An Taoiseach Enda Kenny will close the Symposium at 12.30pm. We are impressed that An Taoiseach knows so much about energy and his attendance at the RJK International Energy Symposium is indicative of the fact that he believes that a return to economic growth in Ireland can be based on the sustainable energy sector." McKeon says.

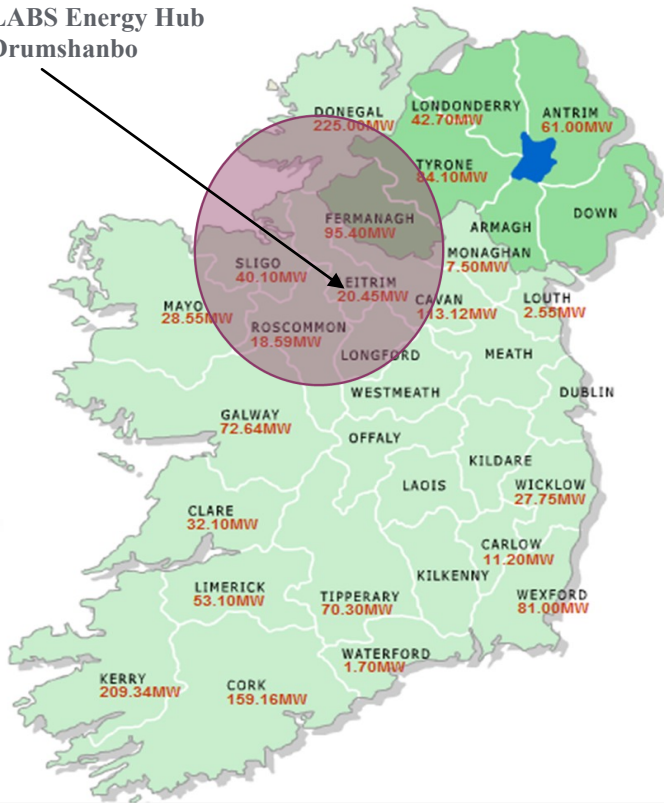
Further information on the Symposium can be found at www.rjkenergy.com



Robert John Kane International Energy Symposium

The Robert John Kane International Energy Symposium is an international discussion platform to provoke debate on critical energy issues. It is sponsored by ESB Electric Ire-

LABS Energy Hub
Drumshanbo



land and will be launched on Wednesday evening April 27th with the inaugural Robert John Kane lecture being delivered by Prof. Tadhg Foley of NUI, Galway.

Sir Robert John Kane 1809 – 1890

Sir Robert John Kane was commissioned by the Royal Dublin Society (RDS) to conduct what turned out to be the world's first energy cost benefit analysis. This was published on June 1st 1844 and analysed the "Position of the Lough Allen Coal Field" ...and "...its productiveness." The inaugural Robert John Kane Energy Summer School in Drumshanbo marks the 166th Anniversary of its publication.

The line-up is very impressive with three discussion panels in place for Thursday April 28th. The first of these examines the opportunities available in the area of energy tourism. Currently, energy tourism is taking place but it is not official nor will you find it in any tourism brochure. Wind farms can and are visited. The same goes for power stations around the country: Moneypoint, Ardnacrusha, Pool-

beg all welcome visitors for tours and information sessions. They are all free of charge and the debating theme at the RJK Symposium asks the question, "Embrace Energy Projects or Ignore them?" Speakers will examine the possibilities of developing a niche tourism product as outlined in the Fine Gael Labour Programme for Government. That session will be moderated by Senator Paschal Mooney erstwhile Chair of Failte Ireland.

An Taisce's Energy Officer, Elizabeth Muldowney, will be one of six speakers on the Energy Planning panel. Also speaking will be Muldowney's counterpart in the Wilderness Society in Colorado, USA. George Burke of the Dept. of the Environment planning legislation division will have a seat and will be joined by his counterpart in the Dutch Dept. of the Environment. Aidan Corcoran, Programme Manager Grid 25 Eirgrid and CEO of Bord na Mona, Gabriel Darcy will also speak on that panel. It will be moderated by John Bowman of RTE. The discussion theme on that panel will be "The need for an energy-specific planning body bypassing An Bord Pleanála and Local Authorities."

The final panel of the day will discuss the economic opportunities available in the development of Energy ICT. Intel will show a short film of their latest work on Smart Grids and subjects to follow that include, ESB Smart Cars and energy efficiency ICT products. This panel will also include the CEO of Green Energy Technology a Taiwanese company and it is hoped that they will look favourably at setting up a base in the LABS Energy Hub.

David McWilliams is set to address a Gala Dinner on Thursday evening. Friday morning will bring presentations from Sligo I.T., Leitrim VEC and the Western Development Commission. The Symposium will close with a speech from An Taoiseach Enda Kenny at 12.30pm.

In addition to the panel discussions on Thursday (no powerpoint presentations!) there will be opportunities to participate in workshops and provide constructive feedback regarding the areas of discussion.

Further information on the Robert John Kane International Energy Symposium can be found on the following site:

www.rjkenergy.com

Other sponsors include Bord na Mona and Engineers Ireland.



Global Natural Gas Price: Caveat Emptor Electricity!

The US Energy Information Administration graph (below) based on Bloomberg data, shows that the price of American natural gas and that of the rest of the world is now diverging. The ‘Henry



Hub’ as the US gas price is referred to has tended toward status quo over the last 18 months. However, the price of natural gas for the rest of the world, seen in the graph as the green curve, is climbing at quite a fast and steep pace. This is bad news for the Irish electricity user as has been pointed out by An Taisce over the last few weeks.

Since the Japanese earthquake, the subsequent tsunami and most directly, the disastrous impact on Fukushima nuclear power station, attitudes to nuclear electricity generation have taken a cautionary turn at best. Angela Merkel did a complete u-turn on their previous u-turn and are now reinstating the previous government’s policy to wind down nuclear generation and to desist from constructing new plants. The Belgians too have put a halt to their nuclear plans and the subject that never really got off the ground in Ireland is not likely to do so in the very near future.

The upshot of this rally against nuclear power is a reluctant but fast return to fossil fuels—namely natural gas. The Russians have agreed to increase gas deliveries to Japan. This means less gas and higher prices for the rest of Europe. One commentator suggested to An Taisce that Ireland buys gas from the North Sea not Russia so we will not be affected! This is a slightly naïve stance to take. Just because we get our gas from the North Sea does not preclude Germany or Belgium or any other Eastern or Central European nation from doing so. The long and short of it

is, the price of natural gas is increasing and whether it is from the North Sea, Russia, Iran or Qatar, we will end up paying more for our electricity. Simple as that—end of story!

How and when will this manifest itself in our electricity prices? It is hard to pinpoint an exact time. Gas is typically purchased as a ‘future’ in other words the price is hedged against future economic issues and impacts that of course can’t be known so basically it is all down to speculation and how different exchange players operate and call the shots.

InterContinental Exchange (ICE) is one such player. They describe themselves as an “...over-the-counter market operator serving global derivatives markets...In addition to futures markets, ICE's integrated marketplace offers OTC energy markets, including cleared and bilateral products for oil, natural gas and power on a widely-distributed electronic platform that flexibly accommodates trading needs and ever-changing market conditions, allowing ICE users to manage risks confidently, in real-time.”

An idea of this was seen a few years ago when Michael O’Leary hedged his aviation fuel at a given price but that price fell over time meaning that Ryanair paid over the odds for their fuel by purchasing so far in advance. In other words it’s all a gamble. However in the case of natural gas the gamble means a lot more than paying to put luggage on a plane!!!

Higher natural gas price means higher electricity price and lower competitiveness and it’s all been said before really so why go over it again and again? Simply because Ireland doesn’t seem to be learning and so until such time as the exit strategy from imported natural gas and other imported fossil fuels is developed, An Taisce will continue to point out the pitfalls of using imported natural gas and not only that but increasing the levels of use without addressing the barriers to the development of renewable energy in any meaningful way. It was only when An Taisce pointed out that the Japanese earthquake could mean higher electricity prices for Irish consumers that people took note. Global gas price was written about in the Star newspaper. This is great. The ordinary punter learning about international gas prices—long may it last!



Spring Technology Post: Carbon Capture & Storage

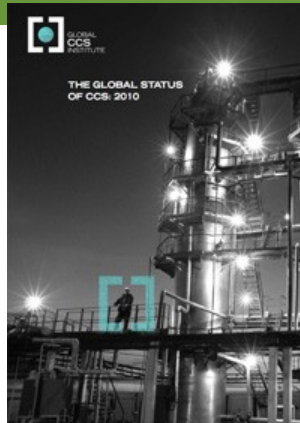
Carbon Capture & Storage or CCS as it is known,

“...refers to a range of technologies that aim to capture the CO₂ in fossil fuels either before or after combustion and store it for the very long term in underground formations such as depleted oil and gas reservoirs, deep saline formations and unmineable coal seams.”

This definition has been reproduced here from The Global Status of CCS : 2010 Report from the Global CCS Institute of Australia.

The technology is still not at commercial levels of availability or operation. There are many studies – some on a grand scale – underway however, for the power generation sector high levels of use of this emerging technology are still a long way away – likely at least another decade. Globally, twenty-five large scale projects have been committed to by governments for funding. Researching these will bring large scale technology to commercialisation much sooner than individual unit small-scale projects on a broader and more numerous level could.

Regularly we hear about the ‘market’ and allowing the ‘market’ to sort out all of our woes but as we in Ireland have seen, this wonderful economic market referred to by the majority of economists and those who like to think that they are economists, can in fact add to those woes. In the case of a new technology – especially one on the scale necessary for carbon capture and storage – government intervention is a necessity to get it off the ground. This intervention can be in the form of grants, tax reliefs, or simply setting up government projects. In the case of CCS current technological viability is not sufficiently commercialised to be profitable in the market or



the private sector. Therefore financial support has been provided on an inter-governmental level. So far joint investments of \$40 billion have been made with \$11 billion going to large scale projects, \$2.4 billion to R&D and the rest going to small scale projects all over the world.

Two projects are in operation in Europe – both in Norway. However many more are planned. Two of those in the construction stage are in the USA and Australia. Overall, there are 77 projects world wide with 42 of them being in the powergen sector. Others include cement, iron and steel and alumina. Progress is slower in Europe than it is elsewhere due to funding processes. There are also problems because of onshore storage sites and the endorsement of their use by the public. Nonetheless, 11 projects are underway in the UK and Holland. In China 5 are driven by State owned enterprises. However 22 Large Scale Integrated Projects have been cancelled due to economic uncertainty in the relevant countries. Other factors involved in the cancellation include financial investment and technological hitches.

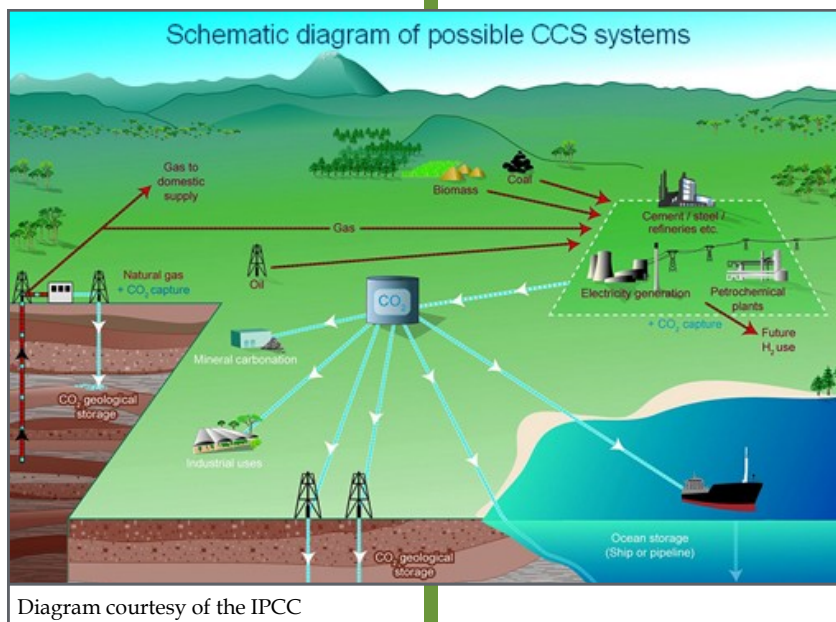
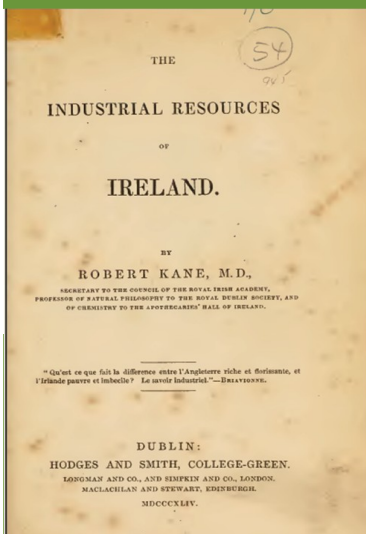


Diagram courtesy of the IPCC

There is much that is good about CCS but one glaring paradox stands out with neon lights – CO₂ is sold to oil producers to assist them in taking increased levels of oil/ fossil fuel from the earth in order to raise money to develop CCS projects to capture additional CO₂ from additional oil! This is akin to a vegetarian selling vegetables to a beef farmer for cattle feed!

No doubt time will bring improvements to both the technology and the uses for the stored CO₂ but for now the best and cheapest method to reduce CO₂ is to reduce fossil fuel use. In Ireland we have the natural resources to do that!

Further information: www.globalccsinstitute.com



Spring 2011 Book Review

The Industrial Resources of Ireland by Sir Robert John Kane



You're not going to be able to buy this book in your local bookshop anytime soon—or ever if the truth be told. It was written in 1844. It is only available in University libraries and

even then usually on reserve and for review in the library only. So why is there a review of it in An Taisce's Energy Unit Newsletter? Because if this book were published today, the contents with different resources in mind would be just as pertinent as they were almost two centuries ago regarding energy issues! And because the annual energy symposium in Drumshanbo Co Leitrim is named in the author's honour so since that is on as this Spring Newsletter is published it is thought to be very timely indeed!

RJ Kane was the youngest and first ever Catholic professor in Trinity College, Dublin. He was a chemist but also undertook studies in economics. This book is thought to include the world's first ever recorded energy cost benefit analysis. In his preface he writes,

"In other countries it has been the most anxious care of Government, and those intrusted (sic) with the superintendence of education, to ascertain the nature and amount of their means of promoting industry and extending the employment of the people. It is thus that every year sees the Continental nations making such giant strides in manufacturing activity...If similar zeal and intelligence were manifested in developing the resources of this country, there would be no fear of the result."

Nobody can say that is not relevant and accurate today as it was in 1844 of this country. He includes in the 2nd edition, four maps of the geological structure of Ireland, the elevation of its surface, the distribution of bog and drainage and the means of internal intercourse.

Chapters 1, 2, and 3 deal with fuel resources in one form or another.

In Chapter 1 Kane addresses the importance of fuel in the "industrial arts". He examines the absence of wood and

also the availability of coal. He goes into the cost of producing the coal and the practical value of that coal. He also provides "...numerical results of their economic and ultimate analysis."

In addition to that, Chapter 1 also examines the bogs of Ireland and the use of peat as a fuel. It is likely that his work was used by the Government at the turn of the 20th Century when they were trying to exploit peat fields all over Ireland. (This can be read about in another fascinating book, "Brown Gold A History of Bord na Mona and the Irish Peat Industry by Donal Clarke).

Chapter 2 begins with the "Necessity for determining the Influence which the cost of fuel exercises on the cost of power and the means of Economising it." He also includes steam in this chapter and the various methods of harnessing said steam. He looks at Cornish Boilers for example and makes comparisons between them and ordinary steam boilers. An analysis of the cost of steam power with both turf, native coal and imported coal as fuels. He addresses the "influence of the cost of fuel on the final costs of products of manufacture."

Chapter 3 brings us back to the future with an examination of the "Force of tide to mechanical purposes." and the "...Advantageous situation of many points on the coast for employing the tide as a source of mechanical power."

We must remember that electricity was not yet on the cards and would not be for another 50 years but this man Sir Robert John Kane was way ahead of his time and the proof of that is in his work which, with minor updates and amendments of fuel or mechanical uses, the Industrial Resources of Ireland could serve as a development manual for the industrial and energy sectors of Ireland of the 21st Century.

The book can be downloaded via Google.



The New Minister for Energy: Mr Pat Rabbitte T.D.



The current coalition government has been in situ for almost 2 months. The new energy Minister is Mr Pat Rabbitte T.D. The Labour Party Energy Manifesto is probably the most highly developed energy manifesto in the country. It takes into consideration climate change, global warming and Liz McManus, whose father is a former member and Chair of An Taisce, included many of An Taisce's submissions after a consultation between the two organisations. Liz was then, 2010, the Labour Party Spokesperson for energy. She knew her stuff! We spoke about education at third level in the energy sector – policy development, economics, law, geography. We pointed out that still, in spite of many approaches to many Irish universities, the nearest place that students can go to study energy in the Humanities is Dundee University in Scotland.

We also suggested that an integrated steering group based in the Dept. of Energy but linking in a meaningful way with other Government departments and various elements of the Irish economy and society must be set up to ensure the speedy implementation of renewable energy policy. She made sure to include that in the Labour Party Manifesto. She retired before the General Election.

Nonetheless, hopes were high that with such an in-depth energy policy a Labour Minister would get the most important portfolio – and the one with the highest level of opportunity to get this country back on its economic feet – Energy. They did. As yet it cannot be stated that the Labour Minister for Energy is good, bad or ugly however a list of his actions to date can be provided:

March 24th: IWEA Conference Dublin: Minister Rabbitte arrived, spoke for ten minutes and left.
 April 20th: Teagasc Bioenergy Conference Tullamore: Minister Rabbitte accepted an invitation to attend and speak but cancelled 3 days before the event.
 April 19th: Minister Rabbitte addresses the Dail about Irish oil reserves dismissing those who state that there are sufficient resources to get Ireland out of its current economic woes. He is correct. Oil is not abundant. However, gas is abundant. He did not address that to any great extent.
 April 27th next: Minister Rabbitte was invited to the

Robert John Kane International Energy Symposium and he accepted but later cancelled.

Comments about the Minister to Date:

At the IWEA conference in the Four Seasons Hotel, delegates were very evidently disappointed by the Minister's departure. One man spoke on Friday saying that it was indicative of how the Minister felt about the sector that he stayed for ten minutes and that it "...is disgraceful especially because we have the ex-minister in the audience." Eamon Ryan was a delegate!

At an event held by An Taisce for EU Sustainable Energy Week comments were made to the effect that the Irish energy sector needs leadership. A key energy stakeholder was asked if we will get that from the new minister – he smiled but did not answer the question.

"Disgusted" is one of the words used at his lack of attendance at the Tullamore conference.

As far as the Drumshanbo Robert John Kane International Energy Symposium is concerned – there is still time for a turnaround! The event is sponsored by the biggest semi-state body in the country. The CEO of another semi-state body is both speaking at it and making a final address as a sub-sponsor of the event. Beidh An Taoiseach Enda Kenny ansin. An Taoiseach Enda Kenny will be in attendance but unfortunately the Minister for Energy will not.

It is accepted by all in the sector that the Minister is on a steep learning curve but as one delegate at the IWEA conference said, "if he had stayed here for the full two days he would have learned so much about the sector".

The energy sector realises that the Minister can't suddenly become an expert in this field in a month but the perception is that he is avoiding the vast majority of sector stakeholders and that is not gaining him any great support. This is especially true of rural areas where the Labour Party vote is never strong but where they did have some level of turnaround in the 2011 election.

The Labour Energy Manifesto promises great things and a lot of people in the energy sector gave their number 1 vote to Labour for the first time ever on the grounds of that Manifesto.

Let's hope they will not be let down.



Letters to the Editor

Dependence on International Energy Companies

Dear Editor,

Your article on the possibility of Endesa pulling out of the Irish Market highlights how dependent we have become on international energy companies and the provision of a critically important infrastructure. The planned replacement of the oil fired power station in Great Island will create much needed jobs during the construction phase and necessitates the extension of the gas network into County Wexford for the first time. The prospect of gas in the county and the further extension of the gas network is a welcome development to the large energy users seeking to reduce energy consumption through improved efficiencies. It may however also curtail the development of Biomass CHP and the further establishment of energy crops in the county. Biomass is a sustainable energy resource and sustains local green jobs in supply and maintenance, gas on the other hand is an imported finite fossil fuel with very limited local benefits. The lack of gas has encouraged the uptake of biomass heat in the county as recognised in part by Green Hospitality who awarded Wexford Town and County winners of the Greenest Destination 2010. Can we really rely on the markets to serve our future energy needs? Never has the need to plan and fund the integration of renewable energy and conventional fossil fuels been greater.

Best Regards

Jim Owens
Manager
Wexford Energy Management Agency.

Bioethanol No Longer Available at Maxol Fuel Stations

Dear Editor,

I am disappointed that Bioethanol is no longer available at Maxol fuel stations. I had my car converted to run flexifuel last year as

- (1) Bioethanol is recycling greenhouse gasses absorbed less than 2 years ago, so it does not contribute any new greenhouse gasses
- (2) Fossil fuels are non renewable and we are fast running out of fossil fuels, and bioethanol is renewable as it can be extracted from processes and crops
- (3) Every cent spent on bioethanol stays in Ireland as it is

produced here. There are 7 liters of fossil fuel consumed per head of population in Ireland each day, which is all used. Irish produced bioethanol is a means of cutting back on my share of fossil fuels produced.

I would ask that An Taisce campaign that bioethanol be once again be available, and campaign to bring incentives to create a biofuels industry in Ireland to replace imported fossil fuels, and make biofuels available at fuel stations throughout the country, and a payment card system be introduced to monitor sales of biofuels, and incentives be introduced to encourage people to burn biofuels, and farmers be encouraged to produce crops for biofuel production.

I have been filling containers each time I went to Cork as it was not available in Kerry.

Yours Sincerely

James Cashman
Killorglin,
Co. Kerry

Note:

We spoke to SEAI about this issue and they are currently checking as to why this is the case.

As soon as they get back to us, we will let readers know the response.

Elizabeth Muldowney, Editor

Dear Editor,

I only recently read your Autumn newsletter and the review of the Green & Gold book. I simply wanted to drop a line to say thank you for taking the time to review the book and I appreciate your insights and encouragement very much. I wish you every luck and success with your work at An Taisce and the Energy Forum.

Kind regards,

John (Travers)