



CONTENTS

(Please click on the links below to go to the article)

EDITORIAL

1. [Re-Inventing The Wheel – Engineering The London Eye](#)
2. [Karting Chaos Draws Near](#)
3. [Diary Update!!](#)
4. [Young Members – Getting Down To Business](#)
5. [Reviews](#): - Clean Energy for the 21st Century – Professor Ian Fells

DIARY - What's On

CONTACTS - How to get in touch with your Committee!!!

EDITORIAL

So... We said in the first edition that we would send out an **eMech** every two months... But there is just so much to let you know about, that we just **HAVE** to send this out... Hope you don't feel too bombarded...

Thank you to all members and readers who appreciated the communication through our first **eMech** – it makes so much sense to use the electronic means at our disposal, it's quick, cheap and (hopefully) effective. If you have any ideas that we could incorporate, please let us know!! For new readers, **WELCOME!!**

Our next event should be a fascinating evening, dealing with a subject that has provided such an engineering inspiration for the new Century. Make a date to come along to the very special location of Rosehill Theatre Barn, near Whitehaven, to learn about the engineering behind the [London Eye](#)

The chance to see Adrian squirting round in a tiny kart just inches off the floor has to be good entertainment, but you need to book AND PAY up front to be sure you experience this awesome sight.. [PLEASE BOOK NOW!](#)

You also need to note the [updates and changes for your diary](#), particularly how quickly our next visits are filling up – don't miss out, contact the organisers quickly!

Our [younger members](#) are also getting organised, so please let us know any ideas or help you could give to make this a success.

The lecture by Professor Ian Fells was a fascinating insight into some of the problems and issues that are being caused by political inaction despite the scientific and engineering imperative – if you were unable to get along, read our [review](#) to get a flavour of the evening.

Please don't forget - feel free to forward **eMech** to anyone else or get them to drop their [email address to me](#) so we can keep in touch. Also... if you find you do NOT want to be emailed with **eMech**, then please email [the Editor](#) with Unsubscribe as the subject and we will happily remove you from the mailing list.

And finally...

We thought you might like to know just how strenuously t'Committee works on your behalf... It's a tough job, but someone has to do it... :



Another tough meeting at the Swan, Cockermouth (Best pint of Jennings in Cumbria.. ©CG)



A MERRY CHRISTMAS TO ALL
WEST CUMBRIAN MECHANICALS!

May your engine never seize...

MAKE YOUR NEW YEAR RESOLUTION:
GET IMechE ACTIVE NOW!

[Back to Contents](#)

Editor: [Chris George](#), Publicity Officer, IMechE West Cumbria
Tel (Work): 01946 811771

Disclaimer: Any mistakes are those of the Editor alone. Under no circumstances is the Chair responsible...

1. Re-Inventing The Wheel – Engineering The ‘Eye’

Making an Engineering Success Of The Millennium

Besides the remarkable Millennium Bridge at Gateshead (the ‘blinking eye’), the outstandingly successful engineering icon of the Nation’s millennium activities must surely be the London Eye. This is the subject of IMechE West Cumbria’s latest event.

At 135 m high, the Eye is the World’s largest observation wheel. It is already a prominent feature on the south bank of the Thames and is the fourth tallest structure in London. During its first two years of operation, the Wheel attracted more than 7 million visitors.

Engineering the Wheel was complicated and there are several novel features in its design: these include the design of the rim, main spindle and capsules; the ride control systems and the treatment of wind dynamics. Interaction between construction and detailed design has been very important.

Dr Allan Mann will give an illustrated presentation on the project as a whole and he will describe the civil & structural engineering aspects of the Wheel’s design and construction. He will also describe the mechanical drive and electrical systems and the provisions made for instrumentation plus their inter relationship with the structure and their place in achieving safety.

Dr Mann is a Divisional Director at Babbie Allott & Lomax where he specialises in structural work, mainly on special technical projects including those for the defence and nuclear industries but he also works extensively with the company section which deals with all kinds of fairground rides, roller coasters and the like. Under UK regulations, the London Eye is classified as a ‘ride’.

IMechE West Cumbria are honoured to host such a prestigious speaker to a new venue, The Barn at Rosehill Theatre near Whitehaven. The presentation begins at 7.00pm on Wednesday, November 20th; admission is free and open to anyone interested in engineering.

[Back to Contents](#)

2. Karting Chaos Draws Near!

Don’t miss out – Book now to be sure!!

It’s time to make that final commitment to an evening of guaranteed chaos with the ‘Mechanics’ this Christmas!! Can you imagine Adrian’s frame hurtling round, inches off the floor – this has to be worth seeing!!

To be held at West Coast Indoor Karting – Cumbria’s PREMIER Indoor Karting Centre -, Maryport from 7 – 9pm on **Wednesday, December 11th**, the charge for the evening is now £20.00, and we require full payment ahead of the evening, which has limited places.

So... this will be strictly on a first pay basis – give us your money **NOW** to make sure you don’t miss out!! Make a cheque out to **IMechE West Cumbria** and send it to:

The Treasurer, 9 Skelsceugh Road, Winder, Frizington, CA26 3UE.

As with all our events, it is open to ANYONE interested in Mechanical Engineering.

[Back to Contents](#)

3. Event Update

Just a few pointers to our future events:

Monday, January 20th – Visit to UCB Films, Wigton

- o Only 1 place left – contact Ron Nixon quickly!!

Tuesday, February 11th – Visit to Pirelli Tyres, Carlisle

- o 17 people have already come forward – make sure you sign up soon – only 8 more places are available

Please note that own transport is required for the above visits, but please, be responsible and car share wherever possible!

Wednesday, March 19th, The Falkirk Wheel/AGM, Hundith Hill, Cockermouth

- o **IMPORTANT:** This date has changed from the originally advertised date of March 12th – **PLEASE CHANGE YOUR DIARIES NOW!!**

[Back to Contents](#)

4. Young Members Draft Business Plan

Getting down to business!

The active young members, headed by Andy Williams, and armed with guidelines from IMechE HQ are aiming to draw up a Business Plan to work out what they would like to do – this will be featured in the next issue of **eMech**.

If you would like to put in any ideas or thoughts forward to this important process, contact [Andy](#) now

[Back to Contents](#)

5. The Energy Balance – Risk vs Benefit

Political Courage Required To Keep The Lights On!!

Professor Ian Fells has dedicated his life to improving public understanding of science and engineering through the media. He fulfilled his mission admirably with a whirlwind of data presented at the latest event in the IMechE West Cumbria programme, which left no-one in doubt that something must be done pretty quickly if we are not to leave a terrible legacy to future generations.

Put simply – energy demand continues to rise exponentially (driven primarily by the world population growth), but use of the available carbon-based sources is destabilising the global weather system. For the UK, our sources of gas and oil are already running out, we are a net importer of coal, and our nuclear power stations are being closed down over the next 30 years or so. Where is a secure and sustainable supply of power to meet our demands going to come from?

Whilst politically laudable targets have been set to increase the proportion of energy generated by renewable means, the engineering realities just do not add up. Professor Fells painted a delightfully absurd scenario:

The UK government has set a target of 10% of electricity generated from renewable sources by 2010. To achieve this, over three offshore 2MW wind turbines would have to be built every DAY from now till the year 2010 – approximately 10,000 would be required to approach a 10% contribution.

The higher energy flux available from wave power could provide a much more efficient source, and Professor Fells cited the potential contribution from the Severn Barrage, which alone could supply

7% of UK needs, if only the environmental and ecological impact could be balanced against the rewards.

Ironically, (and totally against the inferences of the 'Green' agenda) the safest and least disruptive energy supply source, nuclear power, has been stalled by political decisions. So instead of continuing investment into more efficient 'fast' reactors and solving the issue of nuclear waste, the UK is now condemned to a steady decline in 'home-grown' energy supply, and continuation of oil and gas-burning power stations that contribute to the weather system problems and consumption of precious and finite resources.

The liberalisation of the energy market is clearly not providing a "competitive market which will ensure secure, diverse and sustainable supplies of energy at competitive prices". Left to its own devices, it has delivered gas-fired power stations to the exclusion of coal, nuclear or renewable sources; no generic long term research is now being conducted because of the need to meet short term shareholder pressures. "What a rag-bag of contradictory and absurd policies we have now", mused Professor Fells.

So, how to make progress? Professor Fells is arguing for a 'balanced mix' that recognises the benefits and risks associated with each energy type: 30/30/30/10 for Gas/Coal/Nuclear & Renewable sources. In addition, a carbon tax must be applied to influence and change the way in which energy is used. But where is the political courage and vision going to come from..?

As Professor Fells surmised: "It could be too late when the lights go out.."



Professor Ian Fells (left) is overcome with joy at receiving a unique 'Pit Tankie' made from ore produced at the Florence Mine, Egremont. IMechE West Cumbria Chair, Adrian Norendal (right) considers a move into the karaoke circuit, with his rendition of 'My Way'..

[Back to Contents](#)

DIARY

	November	December	January
		Committee Meeting Date : Wed 04/12/02 Start Time : 19:30 hrs Venue : Travellers Rest, Workington	Committee Meeting Date : Wed 08/01/03 Start Time : 19:30 hrs Venue : Lakes College, Workington
	LECTURE: The London Eye – Alan Mann Date : Wed 20/11/2002 Time : 19:00 hrs Venue : The Barn, Rose Hill Numbers : < 100 people Booking Req'd: No Refreshments : Yes Organiser : David Williamson Tel : 019467 76214	SOCIAL: Indoor Karting Date : Wed 11/12/02 Time : 19:00 – 21:00 hrs Venue : West Coast Karting, Maryport Numbers : 30 people Booking Req'd: Yes Refreshments : No Cost : £20 paid in advance Organiser : Andy Williams Tel : 019467 71997	VISIT: UCB Chemicals, Wigton Date : Mon 20/01/2003 Time : 19:00 hrs Venue : UCB Chemicals, Wigton Numbers : 14 people Booking Req'd: Yes Refreshments : No Organiser : Ron Nixon Tel: 019467 85426
February	March	April	May
Committee Meeting Date : Wed 05/02/03 Time : 19:30 hrs Venue : Swan Pub, Cockermouth	Committee Meeting Date : Wed 05/03/03 Time : 19:30 hrs Venue : Travellers Rest, Workington	Committee Meeting Date : Wed 23/04/03 Time : 19:30 hrs Venue : Lakes College, Workington	Committee Meeting Date : Wed 07/05/03 Time : 19:30 hrs Venue : Swan Pub, Cockermouth
VISIT: Pirelli Date : Tues 11/02/03 Venue : Pirelli, Carlisle Time : 19:00 hrs Numbers : 25 people Booking Req'd: Yes Refreshments : Yes Organiser : Alastair Billson Tel : 019467 85731	LECTURE/AGM: The Falkirk Wheel Date : Wed 19/03/03 Time : 19:30 hrs Venue : Hundith Hill, Cockermouth Booking Req'd: No Refreshments : Yes Organiser : Mike Edie Tel : 019467 84304	VISIT: Florence Mine Date : Wed 08/04/03 Time : 19:30 hrs Venue : Florence Mine, Egremont Numbers : TBA Booking Req'd: Yes Refreshments : No Organiser : Dave Norton Tel : 019467 76209	LECTURE: The Bluebird Project Date : Wed 14/05/02 Time : 19:30 hrs Venue : The Barn, Rose Hill Numbers : < 100 Booking Req'd: No Refreshments : Yes Organiser : Andy Cumber Tel : 019467 77431

[Back to Contents](#)

CONTACTS

IMechE West Cumbria Committee 2002/3

Chair	Adrian Norendal	adrian.h.norendal@bnfl.com	01946 775700
Vice-Chair	Ron Graham	ron.graham@iggesundpaperboard.com	01900 600261
Secretary	David Williamson	david.j.williamson@bnfl.com	01946 776214
Treasurer	Mike Edie	mike@edie.swinternet.co.uk	01946 784304
Press/Publicity	Chris George	cgeorge@capalex.com	01946 811771
Web Site Co-ordinator	Vacant	Volunteers, please..?	
Academic Liaison Co-ordinator	George Williams	george.williams@lwc.ac.uk	
Industrial Liaison Co-ordinator	Ron Nixon	ron.g.nixon@bnfl.com	01946 785426
Schools Projects Co-ordinator	Alastair Billson	alastair.jm.billson@bnfl.com	01946 785731
Young Members Group Chairman	Andy Williams	andy.c.williams@bnfl.com	01946 771997
Consultants Co-ordinator	Andy Cumber	andy.m.cumbor@bnfl.com	01946 777431
IMechE REGIONAL MANAGER	Stephen Gasser	s_gasser@imeche.org.uk	07887 931689

[Back to Contents](#)