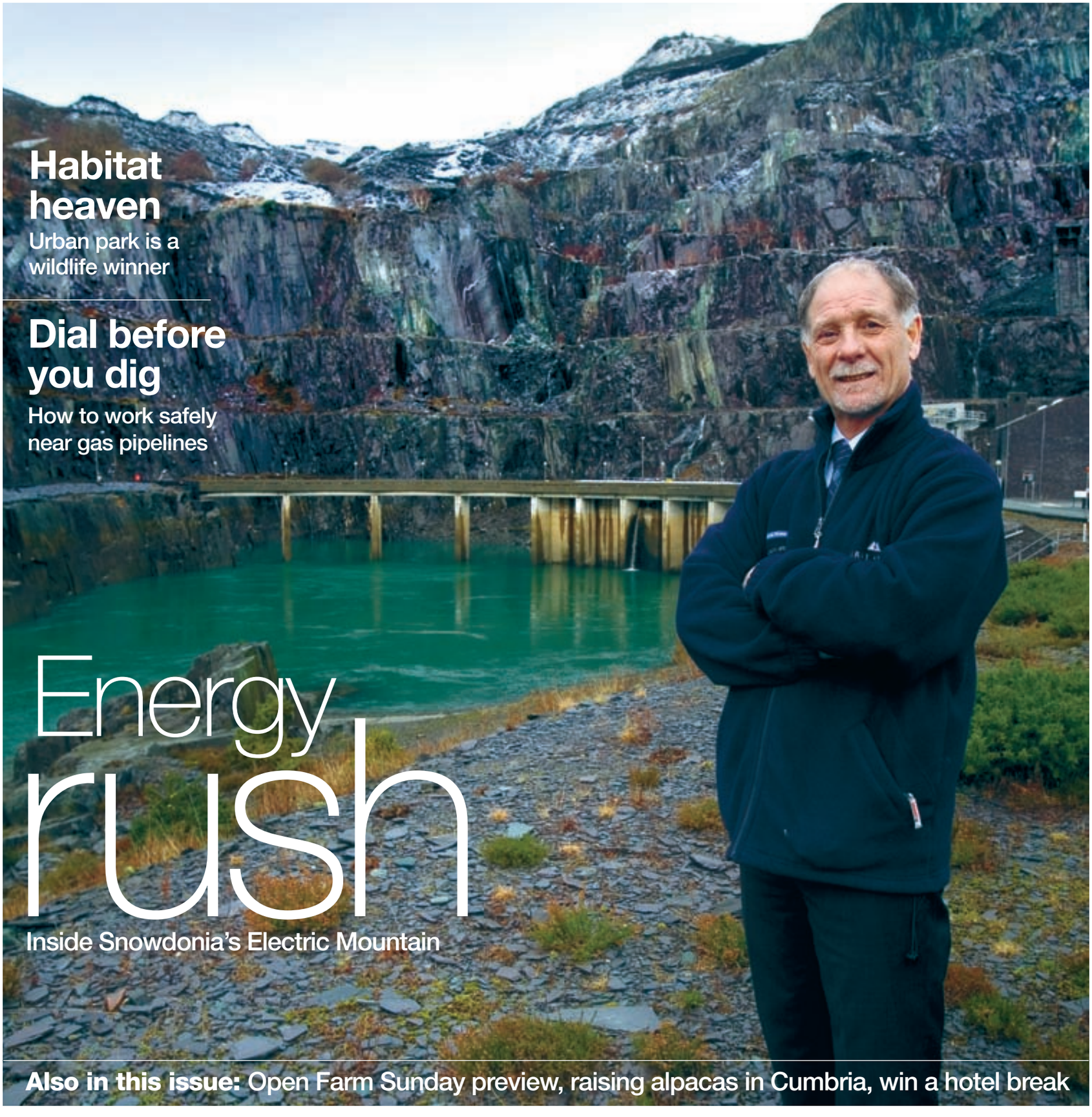
Gridline

The magazine for
National Grid grantors
Spring 09

nationalgrid
The power of action.



Habitat heaven
Urban park is a wildlife winner

Dial before you dig
How to work safely near gas pipelines

Energy rush
Inside Snowdonia's Electric Mountain

Also in this issue: Open Farm Sunday preview, raising alpacas in Cumbria, win a hotel break

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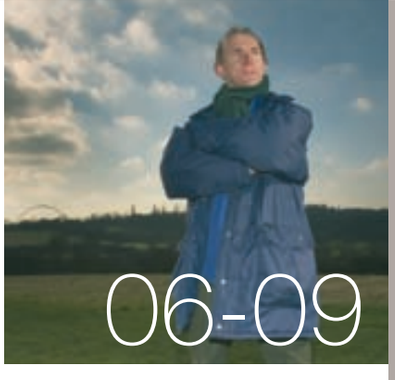


NATIONAL GRID'S LAND AND DEVELOPMENT GROUP is responsible for acquiring all rights and permissions from statutory authorities and landowners needed to install, operate and maintain National Grid's electricity and gas transmission networks. The Group acts as the main interface for landowners who have gas and electricity equipment installed on their land. Listed below are your local land and development team contacts.

ELECTRICITY AND GAS
- North west and Scotland 0161 776 0706
- South east 01268 642091
- South west 01452 316059
- East 0113 290 8235.

WAYLEAVE PAYMENTS
- For information on wayleave payments, telephone the payments helpline on 0800 389 5113.

ELECTRICITY EMERGENCY
- Emergency calls to report pylon damage to National Grid can be made on 0800 404090. Note the tower's number – found just below the property plate – to help crews locate it.

ELECTRIC AND MAGNETIC FIELDS
- For information on electric and magnetic fields, call the EMF information line on 08457 023270 (local call rate). Website: www.emfs.info.

GAS EMERGENCY
- 0800 111 999.

GLOUCESTERSHIRE GRANTOR IS GRIDLINE'S SONY HANDYCAM WINNER

Congratulations to Annalisa Heal of Latteridge Green Farm in Iron Acton, near Bristol, the winner of the Sony Handycam competition in the last issue of Gridline.

"I've never owned a camcorder," said Annalisa, whose family manages two farms devoted to arable crops. "It will get lots of use on holiday and for capturing footage of the two children, who are aged five and seven.

"It's the first time that I've entered a competition in Gridline and so winning at the first attempt has really made my day."

AND THE READER SURVEY PRIZE DRAW WINNER IS...

Beryl Garforth of Daisy Hill Farm, near Oldham. Her entry – drawn at random from all the returned surveys – has earned her £300 worth of shopping vouchers.

An impressive 92 per cent of you rated Gridline good or excellent, while 94 per cent feel more informed about National Grid from reading the magazine.

Gridline is produced by Summersault Communications, 23-25 Waterloo Place, Warwick St, Leamington Spa, Warwickshire CV32 5LA.

GOT A STORY?
CALL: 01926 654 958
or email gridline@uk.ngrid.com. Or write to Gridline, Summersault, 23-25 Waterloo Place, Warwick St, Leamington Spa, Warwickshire CV32 5LA.

Welcome to Gridline

A warm welcome to the spring edition of Gridline. And a special thanks to the many people who responded to our reader survey in the last issue. It's exactly a year since we relaunched the magazine in its larger format and it was very pleasing to read how many of you have enjoyed Gridline over the past 12 months.

And it's not just our readers who have been saying nice things about us lately. Gridline picked up two awards at the recent British Association of Communicators in Business (CiB) Central Awards. The magazine took top spot in both the External Publications and Photography/Illustration categories against very tough competition.

Once again we're covering a lot of ground in the current issue. The special feature on page 6 focuses on Fryent Country Park in London, which was highly commended in the Future of Farming Awards for creating a green oasis for wildlife. Turn to page 9 to learn about Natural England's campaign to protect valuable wildlife and habitats.

On page 10 we marvel at an example of British engineering at its best. Since it was commissioned by the Central Electricity Generating Board in 1984, Dinorwig pumped storage hydroelectric power station in Snowdonia has continued to make an important contribution to the security of the UK's electricity supplies.

Once again National Grid is a sponsor of Open Farm Sunday in June. On page 14 we talk to four grantors who are planning to open their gates to the public and find out why they think the event is so important.

On page 16 we examine what you should – and should not – do when contemplating any kind of work in the vicinity of National Grid's 7,000km of high-pressure gas pipelines. Please do read our Q&A to remind yourself about the essential steps to staying safe.

On a lighter note, we discover all about alpacas on page 18 in the company of Cumbrian grantors John and Linda Heap. And don't forget to turn to the back page for another chance to win a weekend away for two.

Finally, inserted in Gridline is a prepaid reply form which you should complete if there have been any changes to your contact details. It is vital that accurate records are maintained so that we can provide safety information and contact you when work is necessary. Your continued assistance in keeping us up to date is greatly appreciated.

Editor, Gridline

Green gas could help UK meet renewable targets

A report commissioned by National Grid indicates that biogas has the potential to meet half of the country's domestic gas needs and contribute as much as two-thirds to the UK target of sourcing 15 per cent of its energy from renewable sources by 2020.

The report looks at how biodegradable waste streams, such as sewage, food and wood, could be turned into biogas and injected into the gas distribution system.

Biogas is produced either by anaerobic digestion, which turns wet waste, such as sewage and animal manure, into biomethane, or gasification, which is better suited to dry waste and energy crops.

Currently, a small quantity of biogas is produced from landfill and sewage plants but it is being used to produce electricity.

Janine Freeman, head of National Grid's Sustainable Gas Group, said: "Biogas also provides a solution for what to do with our waste given the decline in landfill capacity, and would help the UK with a secure supply of gas as North Sea sources run down."

Praise where praise is due

Farmer Dick Lindley couldn't be happier at the way Electricity Alliance East technicians conducted themselves during recent refurbishment work on the Eggborough to Rochdale 400kV overhead power line (see page 12).

Work was necessary on two pylons at Birkwood Farm, a 250-acre mixed crop enterprise in West Yorkshire. "Communication during the project was excellent, and the guys were respectful and professional in every way," said Dick. "I know many other farmers on the line who have been equally impressed."

Dick was among a number of grantors invited by National Grid to tour nearby Drax power station. "It was fascinating to learn a bit more about how electricity is generated," he said.

PULLING POWER: Phil Robinson of the Moseley Railway Trust shows off the restored National Grid locomotive

Arriving next is National Grid

For many years, the battery-electric locomotive pictured above was employed by National Grid to carry out maintenance work on 400kV electric cables in a former steam railway tunnel under the highest part of the Pennines.

Two railway tunnels were constructed at Woodhead in 1845 for the Manchester to Sheffield line. They became redundant in the 1950s following electrification of the line, which required a larger diameter tunnel.

National Grid used one of the tunnels to enable its 400kV cables to pass unnoticed through the Peak District National Park. The narrow gauge railway was laid to transport men and materials along the three-mile tunnel during service work on the cables.

On its retirement in 2000, the locomotive was purchased by Moseley Railway Trust which has a collection of 60 narrow-gauge locomotives at Apedale, Staffordshire (www.mrt.org.uk).

Commonly used in industry until the 1950s, narrow gauge railways have today been largely replaced by lorries and conveyor belts.

Tree cheers for new wood

National Grid has helped create a new woodland area near Felindre, in Wales, as part of its environmental commitment for a new substation near the village.

The company worked with Swansea Council and the Wildlife Trust of South & West Wales to purchase 10 acres of land suitable for the new wood. In all, around 3,500 native trees, including oak, hazel, rowan, holly and birch, have been planted and new footpaths created so that local people can enjoy the woodland.

Deinol Lewis, a pupil at the local Ysgol Gynradd Cymraeg Felindre primary school, was presented with a Nintendo DS for winning a competition to name the woodland. His suggestion – Coed Barcud (Red Kite Wood) – was judged the most outstanding submission from the pupils entering the competition.

Project team members helped the children plant the new saplings. "The new woodland will be of benefit to the whole local community and it's great that we've all been able to play a part in its formation," said Richard Walsh, National Grid's regional delivery manager south-west.

UNITED: National Grid representatives teamed up with pupils, a local councillor and Wildlife Trust members

DIGGING IN: Richard Walsh and Deinol Lewis plant one of the new saplings

It's show time

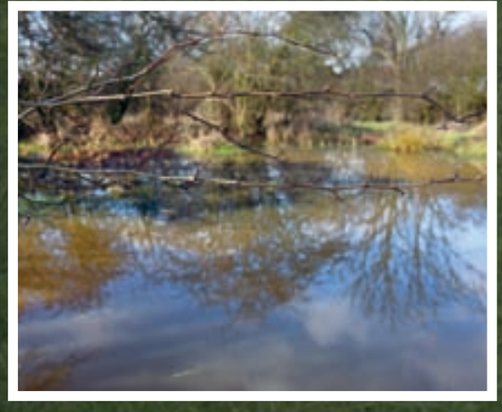
National Grid will again be inviting grantors affected by major projects to enjoy its hospitality at a number of county shows throughout the country during 2009.

See you at:
21-23 May, Devon Show; **4-6 June,** Royal Cornwall Show; **23-24 June,** Cheshire Show; **24-25 June,** Lincolnshire Show; **4-5 July,** Cotswold Show; **14-16 July,** Great Yorkshire Show; **20-23 July,** Royal Welsh Show.

FEATURE

Green oasis in the city

How Fryent Country Park in London has been transformed through an award-winning habitat and wildlife conservation programme



Urban parks and other green spaces are havens for wildlife and threatened habitats, and they play a vital role in providing city dwellers with an opportunity to enjoy the countryside.

Fryent Country Park in the London borough of Brent was highly commended in the recent Future of Farming Awards organised by Natural England. It was just pipped to the London regional award by Hounslow Heath Local Nature Reserve.

The awards recognise farmers and land managers who demonstrate innovative land management practices that boost biodiversity, public access opportunities and landscape conservation, while also integrating these priorities with successful farm production.

"Fryent is an example of best practice in the city," said Ellen Softley of Natural England's London region. "The judges were impressed by the restoration of traditional hedgerows, orchards and ponds in a pressurised urban setting, and by the high level of community involvement which was demonstrated."

Located 15km from central London, Fryent Country Park extends to 250 acres and is a designated Local Nature Reserve and Site of Metropolitan Importance for Nature Conservation, as well as being the largest green space in the borough. Its southern edge is just 2km from Wembley Stadium and the iconic arch is clearly visible from a number of points.

The park, which is bisected by a National Grid transmission gas pipeline, has been managed for the past 26 years by Leslie Williams, environmental policy officer in the Parks Services department at Brent Council.

"The land has been farmed for centuries and owned by Brent Council since the 1930s," Leslie said. "It would once have been typical of much of the Middlesex countryside; a mix of landscaped woodland, scrub, hedgerows,

TRANSFORMATION: Leslie Williams has overseen many improvements to the park

and open grassland, which lends itself to hay meadows and grazing."

Hay meadows made an important contribution to the local economy in the 19th and early 20th centuries. After harvesting, the hay was transported into London to feed the large number of working horses. Later in the year, animals would have grazed in Fryent Country Park, fattening themselves up for the winter before being brought inside and fed on hay.

Tenant farmers worked the land until the 1970s, but intensive farming had resulted in some hedgerow loss. The park was falling into neglect when Brent Council stepped in with a management plan in the early 1980s.

"Today, there's just one farmstead left and it's no longer permanently occupied," said Leslie. "But we operate Fryent Country Park very much as a hay farm and as a nature reserve in line with Natural England's integrated approach to land management."

The park has been farmed organically since the 1980s and it operates within Natural England's Higher Level Environmental Stewardship scheme.

Brent Council's biodiversity plan incorporates national targets for priority habitats and species, with monitoring efforts focused on the hay meadows, as well as on butterflies, hedgerows and common frogs.

Working under Leslie's guidance, much of the restoration work and monitoring is undertaken by dedicated volunteers from the Barn Hill Conservation Group, who meet every Sunday morning to carry out practical projects.

Some 55 hectares of traditional hay meadow are harvested annually in the summer to maintain more than 100 species of grassland and flowering plants, such as great burnet, as well as a population of meadow brown butterfly. Besides the meadow brown, numerous

ICONIC: Wembley's famous arch can be seen from a number of vantage points

other species of butterfly are doing well in the park. For example, the brilliant yellow brimstone is thriving as a result of planting buckthorn alder; the food plant for its larvae.

"Harvesting is preferable to flailing because if you leave the grass where it falls, the material can accumulate into a thatch, which smothers seedlings and some of the finer grasses and wild flowers," explained Leslie.

A second cutting of the aftermath (new growth) later in the year mimics the action of grazing, which is now impractical in the park. As recommended by Natural England, 10 per cent of each meadow is left uncut for invertebrates that need long grass to survive.

There are around 13km of traditional hedgerows that are being restored in accordance with a map dating from 1597. Old varieties of fruit, particularly apple, such as Adam's Permain and Egremont Russet, are being planted in the hedges. A traditional orchard has also been restored.

GROUP ACTION: Volunteers from the local community have helped transform the park

"The population of common frogs has increased from about 40 pairs to around 1,800"

Nationally scarce narrow leaved bittercress thrives along the margins of the hedgerows. Before its rediscovery, it had been considered extinct in Middlesex since 1901. The hedges also provide cover for a large number of countryside birds, including all three species of woodpecker.

Around 20,000 woodland trees have been planted over the past 20 years. Some 200-year-old specimens in unsafe condition are now being removed, but new trees are being planted in keeping with the original scheme of landscape gardener Humphry Repton. At Barn Hill there is a surviving example of his work.

Old and newly established ponds contribute to the natural diversity. "When we started, only one pond held water in the summer, but now there are more than 19," said Leslie. "The population of common frogs has increased from about 40 pairs to around 1,800, and the number of common newts and toads has also increased significantly."

Brent Council works hard to promote public access and community involvement. Special mown paths are maintained along the hedgerows to avoid disturbance to the meadows. A group called Kingsbury Walkers organises guided tours of the park every Wednesday afternoon. There are monthly Natural Magic weekends, where children can learn more about the wildlife and habitat of the park, and a Schools without Walls programme of environmental projects runs during term time.

MAKING HAY: Around 55 hectares of traditional hay meadow are harvested annually

"Brent has a large population of around 260,000 but has less green space than some boroughs which are even closer to the centre of London, so many local people feel protective about their parks," said Leslie.

"The Future of Farming Awards commendation has been a pat on the back for everybody who has been involved in the efforts over many years to enhance the habitat of the park and encourage wildlife."

Q&A

SAVE OUR COUNTRYSIDE

Natural England is the government's advisor on the natural environment and leads the campaign to halt biodiversity loss in England. **Dr Peter Brotherton**, Head of Biodiversity at Natural England, explores some of the issues

Q What is Natural England's role?

A We provide practical advice, grounded in science, on how best to safeguard England's natural wealth for the benefit of everyone. Our remit is to ensure sustainable stewardship of the land and sea so that people and nature can thrive. It is our shared responsibility to see that England's rich natural environment can adapt and survive intact for future generations to enjoy.*

Q What is biodiversity?

A Biodiversity is a broad term that refers to the variety of living things on earth, including the plant and animal species that make up our wildlife, and the habitats in which they live.

Q Why is it so important?

A Habitats support us by providing clean air and water, and regulating our climate. Animals and plants provide food, clothing and medicine, and other services on which we depend. The world is losing biodiversity at an ever-increasing pace, mainly as a result of human activity.

Q What about climate change?

A Climate change in England is already affecting biodiversity in many ways. The problem is our climate is changing so fast that some species cannot respond quickly enough. Coastal and lowland wetland habitats are most vulnerable. Despite these stresses, biodiversity can still help provide solutions. For example, peat bogs and forests store carbon and help control flooding after severe rainfall, and when well managed, can help combat climate change and its effects.

Q What has been the impact of modern farming?

A Agricultural intensification since the war, including increased drainage and the use of fertilisers, the removal of hedgerows and farm ponds, and an over-reliance on pesticides, has led to the depletion of diversity. Many species flourish in agricultural areas, ie some bird species rely on farmland for nesting and feeding. This is one of the reasons we fund environmentally friendly farming schemes.

Q What is Environmental Stewardship?

A Financial support is available to farmers to manage and conserve the land through environmentally friendly farming schemes. Called Environmental Stewardship, it aims to conserve biodiversity, maintain and enhance landscape quality and character, protect the historic environment and natural resources, and promote public access and an understanding of the countryside.

Q How does it work?

A It provides grants for farmers to support environmentally friendly land management. There are two tiers. The Entry Level Scheme (ELS) is the basic agri-environment scheme. It is a whole farm scheme that supports simple and effective environmental management, which complements existing farm operations. ELS allows each farmer to create a practical environmental scheme that works for their farm.

The Higher Level Scheme (HLS) supports management to conserve, restore and create the best environmental features. It covers the more complex types of environmental management that produce sizeable environmental benefits in high-priority areas.

Q What achievements have there been to date?

A Almost 40 per cent of England is now in Environmental Stewardship schemes. Achievements include reducing greenhouse gas emissions from agriculture and land management in England by about 11 per cent, and supporting the restoration or management of more than 137,000km of hedgerows.

The schemes have helped the recovery of bird species such as the stone curlew, bittern and cirl bunting, and played a key part in the restoration and conservation of Sites of Special Scientific Interest (SSSI). We're on target to bring 95 per cent of SSSI into favourable or recovering condition by 2010.

For further information visit www.naturalengland.org.uk.

The problem is our climate is changing so fast that some species cannot respond quickly enough

*In other parts of the UK, similar duties are carried out by the Countryside Council for Wales, Scottish Natural Heritage, and The Environment & Heritage Service in Northern Ireland

FEATURE

Electric mountain

Deep inside a mountain in Snowdonia, water, gravity and engineering brilliance combine dramatically to produce electricity

In Europe's largest man-made cavern in the heart of Mount Elidir, near Llanberis, North Wales, is an operation that wouldn't be out of place in a James Bond movie.

Dinorwig power station (known as Electric Mountain) is a 1,728MW pumped storage hydroelectric scheme and is based on a simple but spectacular idea. At its heart are two lakes; Marchlyn Mawr, situated at an altitude of 636 metres above sea level, and Lyn Peris, 1.5km away on the valley floor.

When electricity needs to be generated, water from the upper lake enters a tunnel system and then plummets more than 500 metres down a surge shaft, before passing through six generating turbines at huge pressure.

"If all six turbines are employed we can empty the entire 7.7 million cubic metres of water in the upper lake – that's more than the total daily domestic water consumption of the UK – in about five hours," said Mike Hickey, engineering manager at First Hydro, the owner.

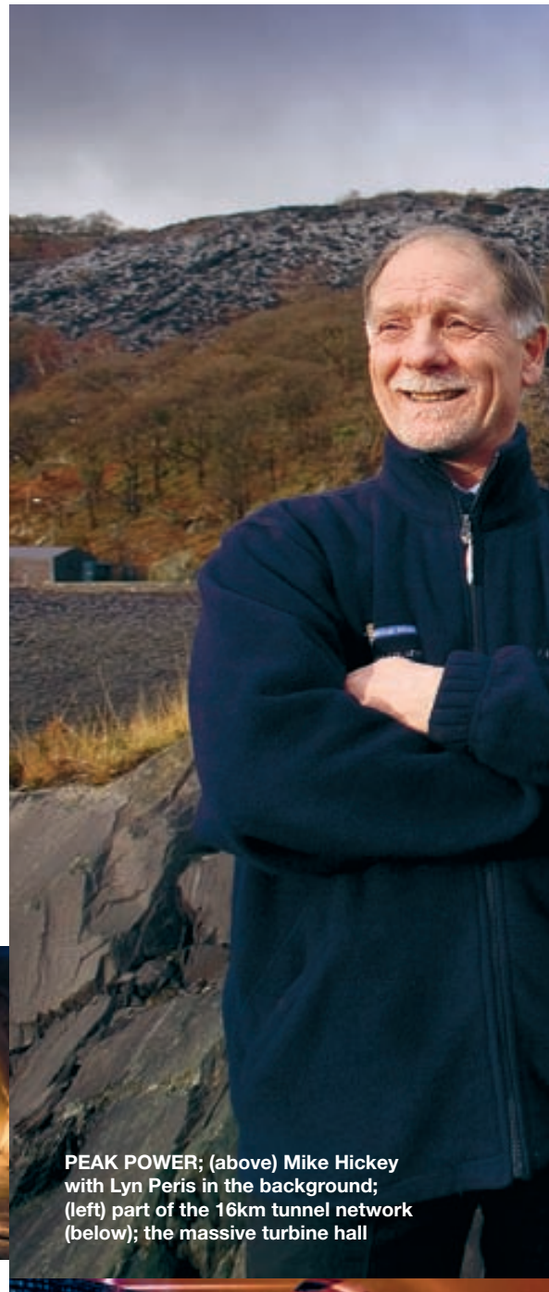
After passing through the turbines, the water collects in Llyn Peris reservoir and is then pumped back again overnight – when there is plenty of cheaper electricity – to the upper lake.

"The power station was built by the Central Electricity Generating Board (CEGB) because it was realised the country urgently needed a facility which could respond quickly to an unplanned loss of power to the grid," continued Mike.

"One of the design criteria for Dinorwig was that when all six turbines are spinning in air – which is when we are in reserve standby mode – we should be able to generate 1,320MW in just 12 seconds," said Mike. "That's one of the fastest response times in the world and means we can replace two 660MW generating units in the same time frame."

The power station became operational in 1984 after a £450 million construction project lasting 10 years. Twelve million tonnes of rock was excavated to create 16km of tunnels and caverns.

"At the time, it was hailed as the largest civil engineering contract ever awarded by the UK government," said Mike. "More than 3,000 mainly local people were employed in the construction work. Many of them had previously worked in the slate mining industry on the mountain, until its closure in 1969."



PEAK POWER; (above) Mike Hickey with Lyn Peris in the background; (left) part of the 16km tunnel network (below); the massive turbine hall

GOING UNDERGROUND

Departing from the Electric Mountain Visitor Centre in Llanberis, members of the public can take a tour deep into the mountain to see the power station for themselves. Call: 01286 870636 or visit the website at www.fhc.co.uk.

After privatisation, Dinorwig passed to National Grid, which operated the facility until 1995. First Hydro, the current owner, also has a 360MW pumped storage power station at Ffestiniog, 30 miles away.

The main machine hall containing the turbines is twice as long as a football pitch and as high as a 16-storey office block. "It's actually located 65 metres below the level of Lyn Peris because, for technical reasons, the pumps require water to be fed into them by gravity," explained Mike.

The generated electricity passes through transformers in a highly compact underground Gas Insulated Substation (GIS) where the voltage is stepped up from 18kV to 400kV for onward transmission. "It's an unusual situation in that National Grid owns the substation and we own the cavern it's located in," admitted Mike.

Underground 400kV electricity cables were laid to connect to the grid at Pentir substation, 11km away, in order to avoid the use of pylons in an area of outstanding natural beauty. The cost was a reported £1 million a mile.

Electricity is produced at Dinorwig on a daily basis. First Hydro's Energy Management Centre, near Chester, engages in wholesale trading activity over a variety of timescales to sell electricity into the market, either directly to electricity suppliers or via brokers and exchanges.

"More energy is consumed pumping the water back up than can be generated on the way down and we operate at roughly 75 per cent efficiency," said Mike. "So the aim is always to pump up when the price of electricity is cheap and hopefully generate when it is more expensive."

A real-time back-up facility is also maintained during periods of excessive energy demand, when National Grid needs to introduce more load to stabilise the grid's supply frequency at 50Hz.

This fast-response capability is invaluable, for example, when a spike of demand occurs at half-time during a big televised football match when millions of people put the kettle on. Dinorwig also has diesel generators to restart the grid in the event of a complete power failure (commonly known as a black start).

In May, the power station celebrates its 25th anniversary but there seems no danger of demand for its services slowing down.

"As the UK looks to generate more energy from renewable sources, the unpredictability of wind arguably makes it even more important to have such a dynamic source of generation available to support the grid," said Mike.

Closing the generation gap

National Grid is reinforcing the electricity transmission system so that new sources of renewable energy can be brought on stream to address a projected 150GW generation shortfall in 2015

LONDON TUNNELS PROJECT

» When: 2008-2018.
» Why: National Grid is planning to construct more than 40km of 400kV cable tunnels to meet increasing electricity demand in London. The capital accounts for 20 per cent of the UK's electricity demand.
» What: Works on three sections are planned to start this year – Hackney to St John's Wood (12.5km), St John's Wood to Willesden (7.4km) and Kensal Green to Wimbledon (12.1km). All three will be completed in 2014/2015. The first phase of another tunnel from Hurst to New Cross (18km) will be delivered in 2014 with the second completing in 2018.

Similar in diameter to the London Underground, the tunnels will be bored at a depth of 20-60 metres below ground. The routes were carefully chosen to avoid the London Underground network and tunnels operated by the Royal Mail, Ministry of Defence (MOD) and others.
» Lie of the land: "Cable tunnels are a sustainable solution in dense urban areas, and avoid the traffic chaos which would result from digging up the road network," said Simon Pepper, senior consents officer south-east. "National Grid is addressing potential plans for a further seven tunnels in London, which could see the network grow to around 150km in the next 20 years, or so."

EGGBOROUGH TO ROCHDALE OVERHEAD LINE FITTINGS REFURBISHMENT

» When: Completed in two phases: Jan-Oct 2008 and Feb-March 2009.
» Why: A fittings-only refurbishment was carried out on 74 pylons on a 28km stretch of 400kV overhead line from Eggborough power station, in Selby, to Bottom Boat in Yorkshire.
» What: The route crosses the M62, A1 relief road, five railway lines and seven navigable waterways, as well as an out-of-town shopping complex and car dealership forecourt. During the project, a 62-metre, mobile elevated platform was used to change insulators and fittings on tension towers where a conventional platform wasn't possible.
» Lie of the land: "Mitigation measures were taken for two towers located on a golf course," said Mark Brennan, project engineer, Electricity Alliance East. "We deployed a special prototype plastic track across the greens, laid in one-metre sections. The track is very lightweight and proved highly effective at protecting the ground underneath."

GREATER GABBARD OFFSHORE WIND FARM CONNECTION PROJECT

» **When:** Started September 2008 and due to be completed by June 2010.
» **Why:** The project is necessary to connect the planned Greater Gabbard wind farm in the Upper Thames Estuary with the high-voltage transmission network.
» **What:** The 140-turbine wind farm, located 25km off the Suffolk coast, will be one of the largest in the world, generating 500 megawatts of electricity. The seabed cables will come ashore at Sizewell and travel a short distance to a new 132kV substation for Greater Gabbard Offshore Winds Limited. Also being constructed in the compound is a 132kV substation for National Grid, which will connect to the existing 400kV substation at Sizewell B power station, a mile away, via four new underground 132kV cables.
» **Lie of the land:** Horizontal directional drilling will be deployed at three points to pass the cable under roads, hedges, a bridleway and two car parks. "Ground water levels in wetland areas will be closely monitored and dewatering carried out where necessary to avoid any impacts on the environment," said Peter Simoyi, project manager for the South East Electricity Substation Alliance (SEESA). "The route also detours around Sizewell Marshes, a Site of Special Scientific Interest, noted for its wet meadows, which support large numbers of breeding birds and invertebrates."

THAMES ESTUARY PROJECTS

» **When:** Initial work begins this year with completion scheduled for 2010.
» **Why:** The suite of around seven projects is necessary to meet the UK'S future energy needs, particularly in London and the south-east. The infrastructure improvements will enable new sources of electricity to be connected to the grid, including the London Array offshore wind farm, the BritNed interconnector between the Isle of Grain and the Netherlands, and a combined heat and power generator at the Isle of Grain. The works will also support major regeneration in the Thames Estuary region, known as the Thames Gateway programme.
» **What:** Overhead lines will be upgraded from 275kV to 400kV and new connections will be made between existing lines in the west and London. In addition to the consents required for uprating the overhead lines, planning permission was necessary for a new 400kV substation at Tilbury, and for new installations (sealing end compounds) at Lakeside, where the overhead lines go underground.
» **Lie of the land:** "Once up and running, the electricity generation projects that we are connecting to the grid will be capable of supplying more than 10 per cent of the UK's electricity requirements," said Simon Pepper, senior consents officer south east.

READY TO ROLL: James Lawton of North Farm, Wiltshire

STILL TIME TO REGISTER

LEAF is running a number of half-day workshops where prospective organisers can meet other farmers who have hosted events. LEAF also provides a free organiser's pack, (publicity material, suggested activities, H&S guidance, polo shirts, etc).

To find your nearest participating farm, or if you would like to attend a workshop or register an event, visit www.farmsunday.org or call 02476 413911.

Telling the story about farming

Open Farm Sunday provides farmers with an opportunity to showcase their role of caring for the countryside and producing wholesome food

Farmers up and down the country are preparing to welcome the public on 7 June for the fourth Open Farm Sunday. Once again, National Grid is delighted to be a sponsor.

More than 400 farms played host to 150,000 members of the public last year in the annual programme of events organised by Linking Environment And Farming (LEAF).

It's an opportunity for farmers to demonstrate their commitment to producing wholesome food in a way that protects the environment. The public can discover what it means to be a farmer, get close to farm animals and wildlife, and have a great day out in the countryside.

"The campaign unites the whole agricultural industry, and provides a stage for farmers to engage with their local community and communicate the excellent work they do," said Caroline Drummond, chief executive of LEAF.

Events typically explore each farm's individual story and include a host of activities such as farm walks, nature trails, tractor and trailer rides, pond dipping and farmer's markets.

MERYL WARD, GRAYINGHAM GRANGE FARM, LINCOLNSHIRE

Land use: 550- acre mixed arable and livestock farm producing potatoes, wheat, barley, sugar beet and oilseed rape, plus 3,000 places for rearing pigs.
Visitors in 2008: 1,000.
Activities: Uncle Henry's farm shop sells pork products and fresh vegetables produced on the farm. There are also tractor and trailer rides, vintage and modern machinery displays. Kid's activities include model tractor racing, pig racing and mini beast hunts.

Meryl Ward said: "Very often, the popular image of agriculture is of intensive cropping and livestock production out of step with looking after the environment.

"Open Farm Sunday is a chance to highlight the link between food, farming and nature, and explode some of the myths that people have about agriculture."

www.unclehenrys.co.uk
Tel: 01652 640308

PHILIP CHAMBERLAIN, CROWMARSH BATTLE FARM, OXFORDSHIRE

Land use: 3,500-acre LEAF demonstration arable farm, growing wheat, oilseed rape, barley, peas and beans.
Visitors in 2008: 30.
Activities: In-depth farm tour looking at numerous areas, including precision farming – the use of new technologies to do the right thing, in the right place, in the right way, at the right time.

Philip Chamberlain said: "Our approach is small-scale and targeted at local people on an invitation-only basis.

"Sometimes farmers need to explain why we do things in the way that we do. For example, people sometimes ask me why we're cutting trees down, so I explain that if willows aren't pollarded they will die. Now we even put a sign up on the roadside explaining why the work is necessary."

By invitation-only

ANTHONY AND SANDRA HERBERT, WHETSTONE PASTURES FARM, LEICESTERSHIRE

Land use: 600-acre farm devoted to arable crops, plus a pick-your-own fruit crop.
Visitors in 2008: 400.
Activities: Guided farm walks, farm machinery displays, make your own pizza in a woodchip oven, children's craft activities, plus farm-produced lunches and cream teas using home-made jams and strawberries.

Anthony Herbert said: "It's about reconnecting people with the countryside and encouraging them to find out where their food comes from. Today, many people in rural areas don't have roots in farming. But while only 1.7 per cent of the population might work in agriculture, it's the case that 100 per cent of us eat food, so farming should be important to everybody."

www.whetstonepasturesfarm.com
Tel: 0116 277 4627

JAKE FREESTONE, OVERBURY FARMS, GLOUCESTERSHIRE

Land use: 4,000 acres split over four farms managed as one estate. Combinable crops including wheat, oilseed rape, malting barley and horse beans, plus 1,200 sheep.
Visitors in 2008: 350.
Activities: Tractor and trailer farm tours of Bredon Hill parkland and farm areas, nature trails, and demonstrations of driverless tractors, which use GPS technology to reduce fuel, fertiliser, chemical and labour costs.

Jake Freestone said: "The event is a valuable educational tool and an opportunity to demonstrate best practice to the public. LEAF does a good job of presenting the positive face of modern agriculture, whether that's the state-of-the-art technology, which is available now, or the role of farmers bringing fresh local produce to the market, which involves less food miles."

www.overburyfarms.co.uk
Tel: 01386 725111

CONTACT DETAILS

EMERGENCY NUMBERS

To report damage to a National Grid overhead power line, tower or cable, call 0800 404 090. If you smell gas, or are worried about gas safety, call 0800 111 999.

ENQUIRIES

Asset Protection team, PO Box 3484, Warwick CV34 6TG. Tel: 0800 731 2961.

WATCH OUT there's a pipeline about

Dos and don'ts when working in the vicinity of gas pipelines

National Grid's 7,000km of high pressure pipelines transport gas throughout the country in a secure and environmentally-friendly way. Despite the company's excellent safety record, a gas leak to a pipeline from third party damage may pose a hazard and has the potential to ignite. Rob Stockley, gas asset management engineer at National Grid, answers common questions about working near pipelines.

LOCATION, LOCATION: Specialist detection equipment is used to measure the depth of gas pipelines

Q DO I ALWAYS NEED TO CONTACT NATIONAL GRID?

A It is generally illegal to carry out any works within three metres of a high pressure gas pipeline. Any works within the easement strip of a gas pipeline or underground electricity cable require written consent. As a rule, anybody planning a change of land use or development within 100 metres of these underground assets should also get in touch with us. Often, even if the development does not affect our assets, new roadways and services will have an impact.

Q WHAT NOTICE DO YOU REQUIRE BEFORE I START WORK?

A You should always give us at least seven days' notice before any work is due to commence. The more notice we receive the better, this gives us the opportunity to respond, and to comment on layout and design aspects.

Q WHAT IF I ALREADY KNOW THE PIPELINE LOCATION?

A Grantors still need to telephone the Asset Protection team (0800 731 2961 option 3) before carrying out activities such as fencing, deepening ditches, mole ploughing or creating new drainage systems. Our technicians will then locate and peg out the exact position, and advise what can or can't be done.

Q WHAT ABOUT NORMAL AGRICULTURAL ACTIVITIES?

A Activities such as ploughing are not considered to affect the integrity of a pipeline, but grantors are asked to consult before carrying out any deep cultivation in excess of 0.5 metres.

Q HOW DO THIRD PARTIES CONTACT NATIONAL GRID?

A Enquiries may be directed via Linesearch (www.linesearch.org), a website-based enquiry tool that enables a free online search for the location of National Grid's overhead power lines, underground cables and gas pipelines by grid reference, postcode or street name. If the result indicates that the enquirer is in a National Grid zone of interest, the search can then be referred through to the Asset Protection team. Alternatively, write to the Asset Protection team quoting the grid location, postcode or street name and town, together with plans and other details about the proposed work, as well as the expected start date.

Q HOW WILL THE ENQUIRY BE DEALT WITH?

A We aim to reply within 10 days, and you will receive a letter indicating whether the intended work is high, medium or low risk. You will also receive a booklet (Specification for Safe Working in the Vicinity of National Grid High Pressure Gas Pipelines and Associated Installations) giving minimum proximity distances for various kinds of excavation and other ground works. No mechanical excavators are permitted, for example, within three metres of a pipeline.

Q WHAT HAPPENS IF THE ACTIVITY IS DEEMED HIGH RISK?

A Our technicians will get in touch to arrange a site visit with specialist detection equipment, which can measure the depth of the pipeline. They will then peg out its position. Although usually buried 1-1.5 metres below the surface, the depth may vary according to the contours of the land or as a result of changing ground conditions or human activity.

Q WHAT OTHER RESTRICTIONS ARE THERE ON DEVELOPMENT?

A Grantors and third parties also need to take into account Planning Advice for Developments near Hazardous Installations (PADHI). This is a methodology devised by the Health and Safety Executive (HSE), to advise local planning authorities on permitted proximity distances from gas pipelines for various stipulated kinds of development (www.hse.gov.uk/landuseplanning/padhi.pdf.

Q WHAT HAPPENS IF I HIT A PIPELINE?

A Contact us straightaway on 0800 111 999. Even surface damage to the pipeline coating can result in a subsequent failure. You won't normally be charged for any repairs to the pipeline coating. Cathodic protection systems utilise ground beds located up to 200 metres away, and damage to the connecting cables can also compromise the performance of the system.

Q WHAT'S THE PURPOSE OF GAS MARKER POSTS?

A They are a visual reminder of the location of pipelines. Remember, they can be accidentally moved, and pipelines change direction and may not always run in straight lines between posts.

Q WHAT ABOUT PLANTING ABOVE GAS PIPELINES?

A Written approval is required before planting any trees above pipelines and National Grid will advise on the area that can be planted, as well as the type of tree.

UNDERGROUND CABLES

National Grid has more than 700km of 400kV and 275kV underground cables in the UK. Damage to a cable may cause serious injury, loss of supplies and result in expensive repairs.

- People should enquire in the same way they would for gas pipelines. They will be notified if the activity is high, medium or low risk.
- Trees should not be planted directly above or within three metres of an underground high voltage cable to avoid root damage and to enable access for maintenance.
- Ground cover above cables should not be reduced or increased.

OVERHEAD POWER LINES

National Grid has a statutory duty to maintain the safe operation of the high voltage transmission network and needs 24-hour access for maintenance purposes.

- Contact your lands officer before starting work in the vicinity of overhead power lines (see page 2 for contact details)
- Third parties should write to the Asset Protection team before starting any work
- Minimum safety clearances at any point will vary according to the line's construction, design and operating voltage
- Always contact us before carrying out any changes to ground levels near overhead lines.

For further safety advice go to: www.nationalgrid.com/uk/LandandDevelopment/

A fleece of the action

Their ancestors inhabited the high Andes in South America but home for these alpacas is a small corner of Cumbria

Bounding over the ground they come. An assortment of multi coloured heads and fleecy necks bobbing up and down in the headlong rush towards the food troughs.

It's feeding time for the resident herd of 19 Huacaya alpacas – which includes eight youngsters, or cria – owned by gas grantors John and Linda Heap at Little Eskrigg End Farm, Old Hutton, near Kendal.

All a far cry from the peaceful semi-retirement envisaged by the couple when they purchased their new home in the Lake District five years ago, but they don't regret a minute.

About half the size of llamas, their fellow South American camelid, alpacas are mainly bred for their exquisite fleece. There are an estimated 20,000 of them in the UK today.

So how did a couple with no previous experience of keeping animals come to keep such exotic creatures?

"We had gone from living in a conventional bungalow on a housing estate, to buying a property with three acres of land," explained Linda. For a while, a farmer grazed sheep and Shetland ponies on the land to keep the grass down, but they did nothing for the couple.

Then a friend suggested alpacas. After some research, the couple decided to take the plunge to buy some at an auction in Penrith. "It was all very nerve-racking," said Linda. "We knew we had to buy at least three females because they are herd animals, and came away with Midnight and her baby Blanco, and two pregnant animals, Bisto, and Whisper, who looked more like a camel."

Many of the animals also have nicknames. "They all have distinct personalities and the traits of the mother are often passed on to the offspring," said Linda. "For example, Gretel has become And Me because she's always at the trough first and her daughter is just the same."

An animal's price is closely related to its breeding potential. Income from females comes from selling the offspring, with prices ranging from £2,000 to £15,000 depending on quality, breeding history, age and other factors.

Females generally produce one baby a year after an 11-month gestation. John and Linda manage their breeding programme so that cria are born in the summer months when the weather is kinder.

Alpacas are sheared once a year, usually in the spring, with each animal producing about 2 kilos of fleece. "Each fibre is hollow, which contributes to the light feel of the fleece and its excellent insulating properties," said Linda. "Unlike sheep's wool, it contains no lanolin so is ideal for anybody with a skin condition."

The raw fleece is sent to a mini-mill for processing and Linda produces a range of hand-knitted blankets, scarves and gloves, which she sells locally and at shows.

To keep veterinary bills down, Linda and John have had to become adept at nail trimming, as well as giving injections and oral medicines.

Herd members communicate through tail and ear movements, and a variety of sounds. "Humming denotes anxiety and when we set up our work table for nail trimming, the humming gets louder and louder," laughed Linda.

"We have some in the herd who kick, others will lie down and withdraw their feet under their bodies to make nail trimming impossible, and one or two may even spit the contents of their stomach at us," she said.

"But alpacas are generally timid and placid animals. They're also inquisitive and intelligent, and can be quickly halter trained."

In September last year, Linda and John were pleasantly surprised when three of their alpacas gained places in their class at the annual Westmoreland Show, including Goya, who also won a sash for being named best overall black Huacaya.

"Doing well at these shows is a great advertisement for the herd," said Linda. "And it proves we must be doing something right."

Keep us informed of your changes

National Grid is constantly updating its records on the 30,000 individual land owners and occupiers (grantors) associated with its gas pipelines, electricity cables and overhead power lines.

We need to maintain accurate contact details so that we can provide safety information and communicate with you when work or maintenance is due on our assets. And, of course, we want to ensure that everybody receives their copy of Gridline. Your help in keeping us up to date is very much appreciated.

COMPLETE THE FORM BELOW AND EITHER POST OR FAX (01926 656574) IT BACK TO US

Please also remember to indicate whether you are a gas or electricity grantor by ticking the appropriate box overleaf

Grantor number.....

Grantor name.....

Are you a new grantor? ☐ Yes ☐ No

Address.....

.....

.....Postcode.....

Phone number.....

RLXB-LSZC-EKEC

Land & Development
National Grid House
Warwick Technology Park
Gallows Hill
CV34 6BR

Please tick as appropriate

☐ Gas grantor ☐ Electricity grantor

To contact Gridline :
✆ 01926 654 948
gridline@uk.ngrid.com
23-25 Waterloo Place, Warwick St, Leamington Spa, Warwickshire CV32 5LA.

LIGHTS, CAMERA, ACTION

Ever fancied yourself as a budding Steven Spielberg? Here's your chance to win a fabulous Sony Handycam.

The Sony DCR-HC51E Mini DV Handycam has a 40x optical zoom, 2,000x digital zoom and 2.5-inch LCD touch screen. Super SteadyShot image stabilisation ensures that captured images are extra sharp. With a 14-hour battery life, it also comes with a DV connection for video editing with a connected PC, as well as an AC adaptor/cable and rechargeable battery pack.

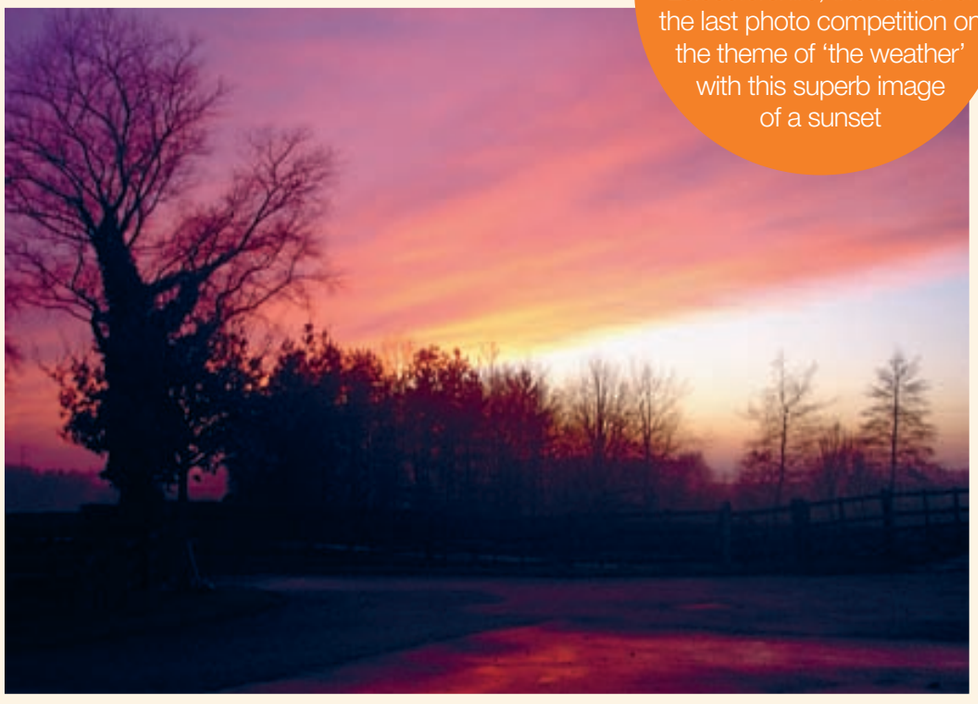
To be in with a chance of winning this Sony Handycam, simply answer the following question:

Q What is the LCD screen size of the Sony Handycam?

Send your answer to Gridline Handycam competition, 23-25 Waterloo Place, Warwick St, Leamington Spa, Warwickshire CV32 5LA. Please note you must be a National Grid grantor to enter this competition. Entry closing date is 8 May 2009.

AT THE END OF THE DAY

Congratulations to Geoff Johnson of Melton Mowbray, Leicestershire, the winner of the last photo competition on the theme of 'the weather' with this superb image of a sunset



Win a luxury hotel break

Enter this competition to win a Britannia Hotels weekend break

Here's another chance to win a relaxing weekend break* for two, courtesy of Britannia Hotels.

The lucky winner of our next photo competition will be able to choose where to spend their two-night stay from 33 hotels in locations across the UK, from Aberdeen to Bournemouth.

'Spring' is the theme of our next photo competition. All you have to do is send in your selected photograph for a chance to win this great prize of a weekend hotel break.

Send your images to Gridline photo competition, 23-25 Waterloo Place, Warwick St, Leamington Spa, Warwickshire CV32 5LA. Or email images to gridline@uk.ngrid.com. Closing date is 8 May 2009.

Please note: only National Grid grantors are eligible to enter this competition and, regrettably, prints cannot be returned.

*Strictly subject to availability.

Britannia Hotels has a range of great-value offers, including a luxury Pamper Break, three- or four-night Entertainment Breaks, as well as one-, two- or three-night stays. To check the full range of offers or to book, visit www.britanniahotels.com or call 0871 222 0100.