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THE  TIMES

Business Insight



My vision

Mr Torevell's unique tidal gateway model is big show's centrepiece: page 6

Opening today

The international business festival hosted by Liverpool

Queen's Award winners

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Welcome

New balancing act

The International Festival for Business 2014 opens its doors in Liverpool today, the most significant event in this country since the Festival of Britain in 1951. Some 250,000 visitors are expected over the course of the IFB, which has the potential to shine the spotlight on the North of England, the North West region and – in particular – the host city of Liverpool as never before.

People have been asking why the IFB is not in London or the South East. The answer is that they have more than their fair share of the economic cake and, for once, we have a chance to redress what has been a totally unfair balance. Also, it must not be forgotten that here in the North, the heartland of manufacturing, we have made most of the ingredients that go into that cake in the first place.

The Times Forum held two weeks ago saw a call for the region's businesses to step up and ensure that the IFB is a success – which, in turn, will open the door for future festivals to remain in the North rather than heading back down to the London bubble.

Everyone who is anyone in business terms will be there, including the many Queen's Awards for Enterprise winners to be found in the North – some of whom are featured in this issue.

We also have coverage of the North West Business Leadership Team, who are using the IFB as a platform to promote their proposals for a series of tidal gateways along the North West coast – with the renewable energy from these not only guaranteeing to help keep our lights on, but also shoring up the growth we are starting to see again.

If you are not already at the International Festival for Business reading this, then you should be planning to go. It simply makes good business sense.

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Forum on business showtime**Fest test of what the North is worth**

Despite some initial nerves, these talking heads are confident that Liverpool and environs can challenge London and change perceptions, writes Mike Cowley

The year was 1951 and the Government had backed an exhibition – the Festival of Britain – designed to provide a feelgood factor in the aftermath of war, even though rationing was still in place and bomb damage was everywhere with much of London still in ruins.

It was the first event of its type since the Great Exhibition, held exactly 100 years earlier. Now, 63 years after the Festival of Britain helped a battered UK regain some of its pre-war confidence, the first event of a similar magnitude to be held since then opens its doors in Liverpool today. The International Festival for Business 2014 (IFB) marks a milestone as the country starts to show clear signs of emerging from the ravages of recession.

Just two weeks ago, however, some of the key players in the event – which is of particular importance to the host city and to the North West – gathered somewhat nervously for a Forum hosted by *The Times*. For although everything was

in place and international business people from at least 17 countries were about to pack their bags and head to John Lennon Airport, there was still one unknown factor in the quest to guarantee success: just how much will British businesses take the IFB to their hearts?

The fact that the current Government has passed the national exhibition baton to a Northern city carries with it more than a modest degree of responsibility, even for battle-hardened business leaders. True, the signs were all there a fortnight from the opening that this is a festival which will meet all its objectives, with some 300 events on the programme.

Max Steinberg, the IFB chairman, reported that a key indicator of takeup was that around 5,000 requests had already been received from British businesses for a service which had been designed to mix and match them with people having similar “interests” from around the world. Yet there were obviously some pre-first night concerns which will only be resolved with



what happens today and over the next few weeks of the festival.

Despite the natural “Is it going to happen?” jitters, there was little doubt that everyone at the Forum was firmly behind the event and saw it as a reaffirmation not only of British business in general but also of Liverpool and the North West in particular. Officials from the host city saw the festival as a significant opportunity to let everyone know – including their more prosperous cousins in London and the South East – that Liverpool is open for business.

Forum chairman Alasdair Nimmo, publisher of *The Times North*, helped to establish an upbeat theme by announcing that he and his team would be attending the first week of the event. He then opened up the Forum debate by posing the question: What benefits will the IFB

Looking forward to the legacy

The word on the lips of all the delegates at *The Times* Forum was legacy. All agreed that it was arguably more important what would happen after the International Festival for Business – the follow-up, the new business, the inward investment – than what took place during the life of the event itself.

Then there was the issue of whether the IFB would be the first and last, or the first of many such major platforms to be hosted in the North.

On the practical side, IFB chairman Max Steinberg revealed that two legacy events were already being organised for next year, while talks are ongoing with the Government as to what the future might bring post-IFB.

“It won't be until July 23 that we can start really looking at this,” Mr Steinberg said. “But by that time we

will have one of the best address books in the world in this city – and our ambition is to capture inward investment. We have two legacy events planned: one on maritime and logistics in spring next year, the other effectively on everything else, which will take place in September.”

He insisted that Liverpool had shown itself to be an ambitious city and would make sure the end of the festival is not the end. “The Liverpool people used to ask ‘Why?’” he said. “Now they ask ‘Why not?’”

Speaking on behalf of Liverpool City Council, Ged Fitzgerald reminded everyone that what happened in the future would be dependent on what had still to happen at the festival. “There will be a number of conversations taking place – not least with Government,” he said. “We are obligated for the funding they have

given us and the opportunity they have allowed us to take in terms of the festival itself.

“We are measured on a quantum of exports in pounds sterling which arises directly from the festival itself – and we are confident we will exceed that target – that has to come from businesses. We have to be able to measure and monitor and use that to articulate to Government and others why it will be good to do this again, to do this again in Liverpool in a couple of years' time for the benefit of the North West and the UK.

“We will have the track record, we will have the T-shirt, we will have the videos to demonstrate we can do it. We are beginning dialogue with national Government as we speak – but we will only be able to convince them once the IFB has been the success we know it will.”



Who was who at the Forum

Pictured from left to right:

- Ben Miller, managing partner, Liverpool office of DLA Piper
- Nigel Hibbert, investment director, Quilter Cheviot
- Alan Torevell, chairman of Dewhurst Torevell and member of the North West Business Leadership Team
- Ged Fitzgerald, chief executive, Liverpool City Council
- Sara Wilde McKeown, chair of Liverpool City Region's Visitor Economy Board and managing director, Paver Smith
- Max Steinberg, chairman, International Festival for Business 2014
- Alasdair Nimmo, *The Times*
- Mike Blackburn, chair of Greater Manchester Local Enterprise Partnership and North West regional director for BT

bring to the city of Liverpool and the wider North?

Like most of his fellow panellists, Max Steinberg saw the festival as a significant opportunity for Liverpool and the North West to bask in the international spotlight that normally only shines on London and the surrounding area. "For the first six months of the journey I was on," he said, "people were asking why this was in the North West rather than the South East of England, as they naturally expected it to be there."

"This is our opportunity to showcase the North and give people the opportunity to do business in an environment where they are not used to doing business."

The IFB chairman also went out of his way to point out that, although Liverpool was the host city, the event was "non-parochial" in that it also sees action in Greater Manchester, Cheshire and Rotherham, so making it "a Northern festival". Added to this, the involvement of other areas – Wales and the Isle of Man were cited – meant that the festival enjoyed a wider dimension.

Taking up the issue on behalf of Liverpool specifically, Ged Fitzgerald, chief executive of Liverpool City Council, said the city was continually having to address the issue that it was not in the South East. "We struggle to get people to come here and see for themselves what Liverpool has to offer," he said. "The people who haven't been here for 30 years or 20 years – or

weren't even here last year – because they have not had a reason to come. Now they have that reason."

"The fact that Liverpool is the centre-piece of the IFB is a fantastic achievement and a fantastic opportunity for us to change the perception people who have not been here for years may have, by showcasing the skills, the attitudes, the potential – but most of all our main asset, the people. This is just as true for businesses in the South East as it is internationally."

Mike Blackburn, regional director of BT and chair of the Greater Manchester Local Enterprise Partnership, who was attending the Forum as a representative of the city some 40 miles to the east, was also convinced the festival was potentially image-changing, not just for the North West but for the entire North.

"Here is the opportunity to change the preconceived idea that people have – based on *Coronation Street*, or from *Brookside* years ago – that the North of England is a desolate place," he said. "It is far from desolate. Anyone I know who comes to the cities in the North of England now – having not been here for 15 or 20 years – cannot believe what they see. That will be built on after the festival finishes."

He also emphasised the point that here was the opportunity for North West businesses in particular to reach markets "they only ever dream of, or don't even know exist at the moment".

Three tidal dimensions

Alan Torevell, chairman of Manchester-based wealth management company Dewhurst Torevell, was on the panel to update the Forum on what is likely to be a major attraction at the IFB – a giant working model of the North West, on which his proposals for tidal gateways along the region's coastline will be brought to life.

As and when the project is taken up, it has the potential to become a major force in meeting current UK renewable energy targets and to make the North West the source of a world-leading technology base offering global benefits. (See pages 6-7)

But when Mr Torevell first suggested that the case for the project could best be made through a giant model which would go on display for the first time at the IFB, this was greeted with a degree of scepticism. "People have said that when they first heard about the model they thought I was nuts," he said. "But now they have said that, since learning more about it, it makes sense."

"For this allows you to show what could happen. And there is no point in talking about connectivity unless you can show what you mean – as anyone who has ever tried to get to Barrow will tell you."

Sara Wilde McKeown, chair of Liverpool City Region's Visitor Economy Board – and head of Paver Smith, in whose boardroom the Forum was being held – naturally entered the discussion from the perspective of the potential to attract "high-yielding business visitors" to the IFB.

"This [business tourism] continues to be the largest growth sector at the UK level," she said. "But a whole lot of that growth is about London and the South East rather than the UK. When you look at the North of England collectively, we are competing with strong capitals both in terms of London and Scotland."

She also pointed out that while the North West has a relatively strong profile for international business visitors in that it is sixth in the UK league table, it comes only eighth in the UK for domestic business visitors – and she hoped that the IFB would be a similar game-changer for Liverpool as was its status as European Capital of Culture in 2008.

The underlying benefit of the IFB has been to give a massive injection of confidence to businesses in the UK, according to Forum panellist Ben Miller, the managing partner of the Liverpool office of DLA Piper, the world's largest business law firm. And he saw that as resulting from the opportunity to share a common vision.

"Historically that might not have been there," he said, "but the whole process of putting it on – all the collaboration that has been needed to go out and compete in the world – has really made us focus. The end result is that together we have the ability to draw on a far bigger resource."

This critical collaboration theme was also taken up by the key spokespeople from both Manchester and Liverpool. "The IFB is not all about Liverpool," said Mike Blackburn, "it is about showcasing UK businesses generally, more specifically showcasing businesses in the North. It makes a lot of sense for Manchester to get involved."

"We are very competitive on certain things – the elephant in the room being football – but if Liverpool, Manchester, Leeds and Stoke have the opportunity to get on, they will. There is no fighting here, there is a huge sense of collaboration going on."

"We are the only western economy I can think of which is totally unipolar – all of its money is in one place. So Leeds, Manchester, Liverpool and others collaborating gives a bigger force to the UK – alongside London and South East – to showcase on a world stage. That's what the IFB gives us."

This view received the backing of Ged Fitzgerald. "This is a global market, so the petty, parochial differences we had between Liverpool and Manchester 30 years

ago can no longer exist," he said. "I think the North West has got a product range comparable to anywhere else you want to compare it with – world-class businesses – and sometimes that gets forgotten about in a national context."

"The IFB gives us an opportunity to showcase that. So instead of focusing on the micro-micro, let's focus on the macro-macro – the relationships are a lot better and this gives us the opportunity for us all to win. Collaboratively, we can do more to counteract London and the South East, rather than fight amongst ourselves."

Sara Wilde McKeown also took up the unity theme. "From any angle, Northern collaboration is essential," she said. "Competing with a base of half a million is not necessarily enough. We need to look at the asset base and the connectivity of assets – working together as core cities is a unique offer. We need to get hard-wired in to take us to the next level."

Ben Miller used the example of the benefits of co-ordination between the DLA Piper offices in the North. "That is what we have seen internally," he said, "and we have offices in Leeds, Liverpool and Manchester – there has been a real push to collaborate."

"Initially, you are looking over your shoulder as you are competing, but you need trust. Look at the way the North developed as an economy in the past – that's why we did so well – so to look at it now is a no-brainer."

Nigel Hibbert of Quilter Cheviot Investment Management agreed with this. "If you have flown halfway across the world to attend the festival, 35 or 40 miles is nothing – so the benefit of the region putting itself forward as a much stronger entity is also for the benefit of customers. So it is win-win."

Alasdair Nimmo then switched the direction of the discussion and questioned the panel on how North West businesses could best capitalise on the IFB. The consensus answer was short and simple: get involved.

Max Steinberg pointed out that the emphasis would be on breakout events – some 40 in all at each conference. "We are well aware that business is not done within a conference, but face-to-face," he said.

But it was left to Ged Fitzgerald to lay it on the line. "Our objective," he said, "was to create the conditions for businesses to have the opportunities for the kind of engagement with global business that are important to them. The festival will clearly do that."

"Businesses will then have to do the business themselves. They will have to step up to the plate and take advantage of the opportunities – clearly that's what businesses do."

“

We have the collaboration needed to go and compete in the world

Launch day 

City raises curtain on the 2014 International Festival for Business

Staff at the International Festival for Business 2014 have been burning the midnight oil to piece together the final details of the 50-day festival, which launches in Liverpool today. Expected to attract an international audience of tens of thousands, IFB 2014 provides a series of conferences, exhibitions and major networking opportunities designed to promote the very best in commerce that the region – and the nation – has to offer.

IFB 2014 is giving businesses access to over 1,200 live business leads from more than 70 countries, with an estimated value of more than £1.7 billion. Festival organisers have compiled the leads in partnership with UK Trade & Investment (UKTI) and the Department for Business, Innovation & Skills (BIS), and have also secured a number of leads delivered solely to members of the IFB Business Club via Meet the Buyer events, held in the International Trade Hub at Liverpool's Mann Island.

These IFB-specific opportunities include logistics, packaging, IT equipment, waste management, stationery and food products. Organisations

already using this specific IFB channel to procure new suppliers include Tesco, Aldi, Home Bargains, Typhoo Tea, John West Foods, Aircelle Ltd, Hewlett-Packard, Merseytravel and Liverpool Community Health NHS Trust. Other household names are in advanced negotiations to take part.

"This captures the essence of what the International Festival for Business is all about," says Max Steinberg, chair of IFB 2014, "matching businesses to the opportunities from which they can move to the next level. I urge more companies and individuals to sign up to the IFB Business Club.

"Through IFB membership, these opportunities are in easy reach and are there for the taking. They are wide and varied and a conservative estimate of their value is around £1.7bn – and it is, in fact, probably a lot more than this. IFB's Business Brokerage and Meet the Buyer initiatives are precisely how the festival will make a meaningful difference – and, taken together, are potentially a game-changer for the region's and nation's businesses and export ambitions."

The most important economies to the UK are well represented in the 1,200-plus leads, along with opportunities from emerging markets such as China, India, Russia, Turkey and Indonesia. Examples of the contracts available include:

- Civil, road, traffic and transport engineering services in Israel.
- Road and bridge design and construction in Libya.
- Project management in New Zealand.
- A geothermal energy project in Mauritius.
- Landscape design services in India.
- Recruitment support for the US Department of Public Health.
- Skills consultancy in Barbados.

The International Trade Hub, situated on three floors of No 1 Mann Island, will provide a range of facilities free to registered IFB Business Club members. These include:

- The international trading floor, home to the UKTI, British Chambers of Commerce and a number of international delegations.
- Exhibition space and an events room with capacity for 200 people.

- Meeting rooms and networking space, including "The pub at the Hub" every day from 5pm.
- Fully equipped IT suite and a media centre including broadcast facilities.
- Rooftop terrace networking / events space.

"The festival's Hub is a fantastic facility that makes the very best of the building," says Joe Anderson, Mayor of Liverpool, "and will really show off the city to visitors. It has a real feeling of being the nerve centre of IFB 2014 and we're sure both visitors and locals will find the facilities and events of tremendous value."

Visitors will be able to register free as Business Club members at a specially designed IFB 2014 shipping container provided by Maersk and located on the plaza outside the building, or online at ifb2014.com which provides access to many of the contract leads. There are currently more than 3,000 companies registered for the Business Club. You can also follow IFB 2014 on Twitter, @ifb2014

"The Hub is where the business will be done," Max Steinberg says. "Whether that's meeting your international buyer, getting free advice on setting up an overseas bank account, making new contacts from around the UK, attending special events or having a drink at the end of the day in the business lounge. If you're a Business Club member, then all the benefits of the Hub are yours."

Running parallel to the business festival is a vibrant cultural programme with art, music and dance events from around the world. The finale of both the cultural programme and IFB 2014 is the much-anticipated return of the Royal de Luxe giants, following their 2012 visit which attracted 800,000 people to the streets of Liverpool. The Memories of August 1914 show commemorates the centenary of the outbreak of the First World War.



Africa Rising 2014

10-12th June, Cunard Building

To book: www.africarisingevent.com

International Trade EXPO

10-11th June, ACC Liverpool

To book: www.internationaltradeexpo.co.uk

Engineering Stronger Supply Chains: Opportunities in Automotive, Aerospace and Energy

13th June, Mobil Site, Wirral Waters

To book: www.investwirral.com/ifb

Liverpool Graduate Recruitment Festival

16th June, St George's Hall

To book: www.liverpoolfairs.org.uk

Women 1st: Women Inspiring the Economy

18th June, Marriot Hotel

To book: www.women1st.co.uk/ifb

Accelerate - Realise the Potential of Your Business

20th June, ACC Liverpool

To book: www.accelerate2014.co.uk

Global Universities of the 21st Century

24th-26th June, World Museum

To book: www.globaluniversitiesevent.com

Regen 2014 - The Urban Regeneration Conference & Exhibition

25th-26th June, The Rum Warehouse

To book: www.regen2014.com

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On the menu



Luscious taste of success

Sarah Evans set out on a mission to give people great-tasting, healthy and convenient food. Now, as a member of the International Festival for Business 2014 Business Club, she is hoping to take her company, Luscious Fayre, to a new level.

Sarah Evans likes to joke about how her food company started – “I set up Luscious Fayre on Jubilee Day in 2012 as I had nothing better to do” – but behind the light-hearted facade is the steely determination of a focused entrepreneur.

Luscious Fayre produces healthy, convenient food for a range of markets including families, busy executives, people on weight-maintenance programmes and those convalescing from illness. Customers buy direct or via the website, lusciousfayreltd.com – and, following consultation on requirements, Sarah Evans produces soups, chillis and casseroles which can be frozen or eaten fresh.



Sarah Evans: three soups for starters

“As a member of a slimming club I’d lost over six-and-a-half stone,” she says, “but found it incredibly difficult to find healthy nutritious food convenient enough for a busy modern lifestyle. It was out of this that the company was born.

“With an MBA behind me, I set out to start the company small and build it one step at a time. Starting with a range of just three soups in my home kitchen, I’ve expanded into my own commercial kitchen producing over 20

products and have just taken on my first employee to help with the workload. It’s really starting to take off.

“A few people had mentioned the IFB, but I wasn’t sure how it would work for a business like mine and needed a bit of convincing to get involved. Then the opportunity came to attend a presentation from the IFB team through a Twitter group called MerseyHour.

“It was a bit of a no-brainer: IFB could put me directly in front of new customers which could take my company to an entirely new level. The opportunity is enormous, so I registered for the Business Club and am now working with their business brokerage team to prepare for Meet the Buyer events.

Of particular interest is an opportunity developed for the IFB from Tesco. The retail giant has come on board to help it procure a number of products which would become available in its stores nationwide. On the target list is fresh, healthy food with a unique regional aspect – and Sarah Evans hopes to persuade Tesco’s buyers that her products should be given the nod.

“Any deal like this would be enormous for Luscious Fayre,” she says. “It would mean having to produce under licence and take on additional staff. If it wasn’t for the IFB, I probably wouldn’t get through the door at Tesco – or it would take up so much of my resources that I couldn’t devote sufficient time to doing it properly.

“The IFB opportunity is manna from heaven.”

Showing the best of the North West

PlaceEXPO, run by property news website Place North West and event partner Active Profile, is the regional property and construction pavilion for IFB 2014. PlaceEXPO will feature a series of eight industry-leading events which will echo the wider themes of the business festival. Property professionals will also hold a number of other events at the Hub at 4 St Paul’s Square in Liverpool’s commercial business district.

Events include Logistics 2020 on June 12, showcasing the key assets, companies and skills of the North West. A morning event, Future Cities, is being held on June 17 and will explore the best of UK architectural and engineering knowledge around planning, designing and building central business districts.

Later that day, City Region Investment Strategies will be a fast-paced overview of the public and private sector opportunities for built environment growth and investment in the North West. Building for Education is on June 19 and will showcase the best the UK has to offer investors in the vital field of education.

Other events including Manufacturing Growth on June 26, the Hill Dickinson Developers’ Conference on July 10, Place Tech UK on July 15 and the Low Carbon UK Summit on July 17. Sponsors include Hill Dickinson, Kier Construction (North), GVA, Muse Developments, Sigma Capital and a number of local authorities.



UK Property Forum

1-2nd July, Crowne Plaza Hotel

To book: www.ukpropertyforums.com/international-festival-business

The Business of Food & Drink Week

7-11th July

To book: www.thebusinessoffoodanddrink.com

The British Chefs Festival Dinners

8-9th July, St George’s Hall

To book: www.thebusinessoffoodanddrink.com/british-chefs-festival-dinners

The Business of Food & Drink Gala Dinner

11th July, Anglican Cathedral

To book: www.thebusinessoffoodanddrink.com/gala-dinner

Grow Your Own Talent

8-9th July, Cunard Building

To book: www.growyourowntalent.com

Marine Energy for Cities

14-15th July, Mobil Site, Wirral Waters

To book: www.marineenergyforcities.com

Dreamworks

14-15th July, FACT

Contact: Anushka.Sharma@ifb2014.com

Clean and Cool

17th July, Crowne Plaza

To book: www.cleanandcoolevent.com

Like Minds

17-18th July, The Rum Warehouse

To book: www.wearelikeminds.com

International Sport Business Congress

17-18th July, BT Convention Centre, Liverpool & Etihad Stadium, Manchester

To book: www.internationalsportbusinesscongress.com

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Model vision of gateway future that grew from a nagging idea

Now everyone can visualise what the ambitious coastal plan actually means, writes **Mike Cowley**

Revolutionary concepts regularly fail to get off the ground because they are confined to being written on paper and therefore at risk of being buried beneath piles of even more paper – a veritable graveyard for good ideas.

Alan Torevell has ensured that this fate will not befall his own breakthrough proposals – which have the potential to enrich the people and the communities of the North West – by commissioning a giant working model (3.6 metres by 1.2 metres) which goes on display for the first time at the International Festival for Business 2014.

The model, complete with all the bells and whistles that computer design can bestow, will tell the story of how North West Energy Squared hopes to see a range of tidal gateways along the North West coast. Alan Torevell is convinced this will not only help to keep the lights on when combined with other sources such as nuclear – it would provide power for, on average, 4.5 million homes – but also has the potential to enable the UK to meet its renewable energy target of 33 per cent by 2030.

There are further headline-grabbing benefits, including flood prevention, which will have particular resonance in Cumbria, while the provision of new roads will not only service the tidal gateways but also create easier access to places such as Barrow-in-Furness which are renowned for their inaccessibility. In addition, it will boost tourism by making it easier to reach the western Lake District and Blackpool.

The plethora of potential benefits for the scheme does end there, however. It will also provide some 7,000 new jobs, rising to 25,000 during the estimated seven years of staged construction, and will instil skills which will eventually create a whole new industry for the North West, one in which it will lead the world.

Then there are the spin-off benefits for companies in the manufacturing



heartland of the North which will provide the necessary hundreds of thousands of valves, the miles of pipeline and the millions of widgets.

While this appears to be a win-win situation, naturally there are some obstacles to overcome. First, there is the vast sum of money needed to finance it – but being chairman of a well-established wealth management firm and a former economics lecturer, Alan Torevell feels he has already come up with a way of solving this.

The final and apparently only other pitfalls are Government resolve – and Mr Torevell believes the strength of the case will get them on-side – along with the formidable environmental lobby who will be manning the barricades because the estuaries where the tidal gateways need to be located are also the habitat of birds, particularly waders.

But Mr Torevell also believes he can win over the environmentalists, as he insists that the tidal gateways will make little or no difference to the way the tides come in and out, and so will have little impact on the mudflats essential to the birdlife.

Tidal energy had been an idea in the back of Alan Torevell's mind – although initially shelved – for many years, since he was a schoolmaster teaching economics at Leeds Grammar School, which had the biggest economics department in the country in the 1960s. That was when he heard of the first and still the only tidal

barrage to be built in Europe, across the estuary to the Rance river in France (see page 13).

“When I first learned of this,” Mr Torevell says, “I was at an impressionable age as a young schoolmaster and thought this will happen in other places – but it never has.” So it was back to pursuing his career, and the graduate of the London School of Economics found himself acting as an education consultant to the London Stock Exchange. This led to him being introduced to people in the City, where he eventually took up a job working for an investment and insurance brokerage.

“Still being young and arrogant,” he recalls, “I thought they were doing it all wrong – so I started my own company here in Manchester back in 1973.” He remains chairman of effectively the same company, Dewhurst Torevell – though it has gone through some changes – and is now one of the respected elder statesmen in the North West business community.

Both he and his son Martyn – who joined him at Dewhurst Torevell after several years spent working for Arthur Andersen – are firmly entrenched not only in the Manchester professional community but also in its cultural life: the son is a director of the Royal Exchange, the father is deputy chairman of the trustees at Chetham's School of Music.

Alan Torevell is also part of the North West Business Leadership Team (see page 12) – membership of which comes by invitation only – and this is where his radical ideas for tidal gateways were first floated, then endorsed. The NWBLT regularly produces influential reports which go down well with Government, and the tidal gateway proposals form part of the latest initiative on energy, water and food.

“We were having one of our quarterly meetings and the people from Liverpool Vision came along and talked about the International Festival for Business and asked if we would like to get involved,” Mr Torevell recalls. “So it came off the top of my head. Let's build a model of the whole of the North West and put on it the things we would like to see happen.”

“Tidal was one of these, so that meant people could visualise what tidal means. We changed the name from barrage because everyone thinks that it means stopping the tide from going in and out.”

The idea was well received and soon converted most of the people there – including Alan Torevell himself.



Visionary: Alan Torevell as chairman (left) of his company and (above) starting another creative day. 'The idea just came off the top of my head,' he recalls

PICTURES: KEVIN P. ROBERTS

“The more I actually looked into it, the more mad-keen I became,” he says. “We initially looked at the use of tidal energy simply to generate power, but then I began to see the double advantage by connecting these gateways for better communications and everything that brings.”

“That's why it is called North West Energy Squared, because that's how I referred to it when I talked to a few people, and people began to use it themselves.”

He first cut pages from a roadmap of Great Britain and stuck them together to illustrate his thinking. However, Keith Rudd of Arup – who is also a NWBLT member – “put up with that for a couple of meetings” before volunteering his firm to make the model (see pages 8-9).

The first concept was called the Stranraer to Prestatyn roads and barrages system. “Apart from the fact that no one wants to go all the way from Stranraer to Prestatyn,” Mr Torevell says, “what we discovered was very interesting. For a start, it shortens the distance hugely, halves the mileage, more than halves the time involved because of better roads and cuts the fuel usage in half, so everyone benefits.”

“There were particular benefits for the Port of Stranraer. One of the things I discovered as a result of the research was the number of heavy lorries from the Liverpool/Manchester conurbation going to Northern Ireland using that route, which brings you straight into Belfast or Larne rather than going Anglesey to Dublin, which leaves you with a two-hour drive at the end of it.”

“So if you halve the journey from Manchester, it is critical for a lorry driver. If you arrive back in Stranraer and you have to go via Penrith and Carlisle, on a bad day you run out of your driving hours before you have got anywhere. Whereas if you come this new way you can be guaranteed that when you get off the ferry then within a four-hour period

“*The more I actually looked into it, the more mad-keen I became*”



Created by him in 1973, Dewhurst Torevell has seen some changes, but...

you can be in the Liverpool/Manchester conurbation."

The more the group looked at the project, the more the ideas flowed. A suggested gateway across Morecambe Bay was one of the starting points, with its potential to open up road links to the Cumbrian coast and from there create a relatively easy hop to the Lake District from the west rather than the east.

The thinking suggested that this could add a further 7 million tourists to the 35 million who already visit the region, providing a much-needed boost to the local economies of places such as Whitehaven and Maryport which are currently mainly off the mainstream radar.

"If you bring in 7 million people up the west coast who weren't coming before," Mr Torevell says, "and they spend the average of a bit over £200 a day – then 200 times 7 million is £1.4 billion, and that is going to transform the west coast."

Then came the idea of crossing the River Ribble via a tidal gateway. "If you imagine coming up from Southport and

you want to go to Blackpool, you have to go inland through Preston – but if you had a way across the Ribble estuary over to Squires Gate, that would cut the distance to two miles, so think what this would do for a depressed area like Blackpool. And if it happens to create 880 gigawatts of electricity at the same time, so much the better."

However, Alan Torevell is well aware that, despite all the benefits, this is far from being a done deal. Finance is the first hurdle to overcome – but his day job has helped him to come up with an answer.

"I have had some interesting conversations with people in insurance companies and pension companies who are very keen on major infrastructural equity investment," he says. "So instead of working out the cost in terms of capital basis, as soon as you start looking at it in terms of an equity investment, it changes the nature of it. Those estuaries will produce 20 terawatts of electricity, so it is a big number.

What the proposed tidal gateways and roads will bring to the North West

■ Solway Firth: Kirkcudbright to Workington Gateway

The gateway would generate 8.44TWh (8,440 million kWh) per year – equivalent to Heysham 2 nuclear power station. An average household uses 4,200 kWh per year, so there will be sufficient power for 1,999,053 homes. The amount of coal required to generate the same level of electricity would be 2,851,351 tonnes, which would produce 5,908,000 tonnes of CO₂ emissions.

The potential economic impacts would include the creation of around 3,600 construction jobs per annum over a 10-year period, along with around 100 permanent operational jobs, with 2,000 jobs being created or safeguarded due to improved connectivity.

Travel time from Stranraer to Workington would be reduced by approximately 71 minutes, and Stranraer to Penrith reduced by approximately 36 minutes (assuming a speed limit of 40mph with free-flowing travel conditions). There would also be flood control benefits, as the gateway could help mitigate flood risk suffered by Carlisle.

■ Morecambe Bay: Heysham to Barrow-in-Furness Gateway

The power output would amount to 5.83TWh per year, enough for 1,380,862 homes. The amount of coal required to generate the same level of electricity would be 1,969,595 tonnes, which would produce 4,081,000 tonnes of CO₂ emissions.

The potential economic impacts would include the creation of around 3,600 construction jobs per annum over a 10-year period, along with around 100 permanent operational jobs, with 2,000 jobs being created or safeguarded due to improved connectivity.

Travel time from Barrow to Manchester would be reduced by approximately 41 minutes, and Stranraer to Manchester by approximately 56 minutes. £18 million per annum of benefits could be achieved for businesses and residents in the two local economies.

■ Ribble Estuary: Banks to Squires Gate Gateway

This would run from Banks to Squires Gate and would produce 0.08TWh per annum, sufficient to power 18,948 homes. The amount of coal required to generate the same level of electricity would be 27,072 tonnes, which would produce 56,000 tonnes of CO₂ emissions.

The potential economic impacts would include the creation of around 3,600 construction jobs per annum over a 10-year period, along with around 2,500 indirect jobs, with 2,000 jobs being created or safeguarded due to improved connectivity.

It would open up Blackpool to traffic that did not have to use the current Preston bottleneck. There would be significant potential to increase visitor numbers to a variety of attractions along the coast, including Blackpool Pleasure Beach, Lytham St Annes, Southport, the Ribble Estuary Natural Nature Reserve and Formby beach.

■ Mersey Basin: New Ferry to Dingle Gateway

This is a Peel project and the company's report suggests the gateway would go across from Dingle to New Ferry. Output is estimated at 1.07TWh per year, equivalent of power for 253,434 homes. The amount of coal required to generate the same level of electricity would be 361,486 tonnes, which would produce 749,000 tonnes of CO₂ emissions.

The potential economic impacts would include the creation of around 3,600 construction jobs per annum over a 10-year period, along with around 150 permanent operational jobs and around 2,500 indirect jobs. The gross value added (GVA) impact UK-wide would be £2 billion, of which £1.3bn GVA would impact in the North West. In terms of tourism, there would be the potential to include a visitor centre attracting between 60,000 and 100,000 visitors per annum.

■ Dee Estuary: Prestatyn to West Kirby

Power output would be 1.35TWh per year, sufficient for 319,754 homes. The amount of coal required to generate the same level of electricity would be 456,081 tonnes, which would produce 945,000 tonnes of CO₂ emissions.

The potential economic impacts would include the creation of around 3,600 construction jobs per annum over a 10-year period, along with around 100 permanent operational jobs, with 2,000 jobs being created or safeguarded due to improved connectivity.

Travel time from Prestatyn to Liverpool Airport would be reduced by approximately 30 minutes, and getting from Prestatyn to the western Lake District would be reduced by approximately 40 minutes.

There would be improved communications across the Dee from West Kirby to Prestatyn, along with significant potential to increase visitor numbers to a variety of attractions along the North Wales coast and Merseyside, including Snowdonia National Park, Conwy, Colwyn Bay, Llandudno, Rhyl, West Kirby, Hoyle and Liverpool. New tourism investment in the area could be encouraged because of improved accessibility.



Water People report

"It has 2.5 times more impact than one nuclear power station at Heysham [there are two nuclear power stations at Heysham each producing 8TWs], but with tidal energy there are no emission issues, no costs when you have got everything running. The tide comes in and out every day, while the estimated life of the barriers is 125 years, but they really last forever.

"So if you look at financing on an equity basis – 20TW at 10p a kilowatt is £2 billion a year – think of pension or insurance companies looking for a long-term investment, in current terms looking for a maximum of 3 or 4 per cent return, and the value of this is 25 times that.

"Yet they won't make any investment until they know the Government is going to have the conditions in place, that they are not going to be held up for 10 years by birdwatchers – so the finance

and the environment go together." And Alan Torevell has a simple message for the environmentalists: tidal gateways won't harm birds. "When you look at Morecambe Bay and the Solway," he says, "literally the whole of the estuary is covered by protected sites – and so the argument you come across is you can't do anything there.

"But the reality is it won't disturb the birds. There will be environmental problems during construction, but not a lot and they will still keep going there. The main argument is about high and low tide levels and the way it impinges upon the mudflats – a lot of waders eat and roost on exposed mudflats at low tide.

"But the gateways aren't going to change the fact that the tide will still come in and go out as normal. So why should we worry about the birds if we are not doing them any harm?"

Modelling

‘Aerial views’ bring reality much nearer

The digital approach to adding dimensions means the Big Plan can hit small screens, writes **Mike Cowley**

When Manchester City Council decided to have a model of their city made two decades ago, it was at a time when such objects were always created by hand from basic materials – balsa wood, cardboard, etc. A massive 2.5 metres by 4 metres, it was then the biggest and best of all the physical 3D models used by cities to showcase upcoming developments and serve as consultation tools to enable the public to understand proposed plans.

Due to the size and weight of the models, they were often costly to transport, but were nevertheless shipped to specialist property exhibitions such as MIPIM. In the case of the Manchester model, this involved six giant crates. Once on site, the model which recreated the city would be reassembled piece-by-piece like an enormous jigsaw. It would then become the talking point of a must-attend event for a range of international companies looking to see what a number of cities – including Manchester – had to offer by way of inward investment.

Having a model built in those days was key to any potential sales pitch. Then, of course, things moved on and digital eventually took over from the manual skills of old. The main reason for this is because the day a physical model of a city is completed, it is either redundant in terms of accuracy or soon will be, whereas a computer version can be updated whenever needed with relatively minimum effort and cost.

Today, the Manchester digital model developed by that city's office of consulting, engineering and design firm Arup can be accessed online by any authorised computer user and will soon be available on iPad and even iPhone.

Manchester City Council commissioned its first digital model in 1996 after the Deansgate bomb saw a host of design teams working on different regeneration projects. It became essential to bring all these together in one 3D digital model of the city, so that everyone could understand what was being proposed.

Arup has been leading developments in urban modelling for a number of years. Using the most advanced technologies, including those found in computer games,



they have not only modelled Manchester but also Liverpool and Leeds and most of the leading Northern conurbations, as well as places elsewhere in the UK.

Even now, Arup is putting the final touches to what is arguably its most ambitious project to date – a model of the North West. This is different, if not unique, for two reasons. One is that the area it covers is literally hundreds of square miles, while the other is that the end result is a mixture of both the latest technology and what has now been relegated to old technology – a computer model side-by-side with a physical one.

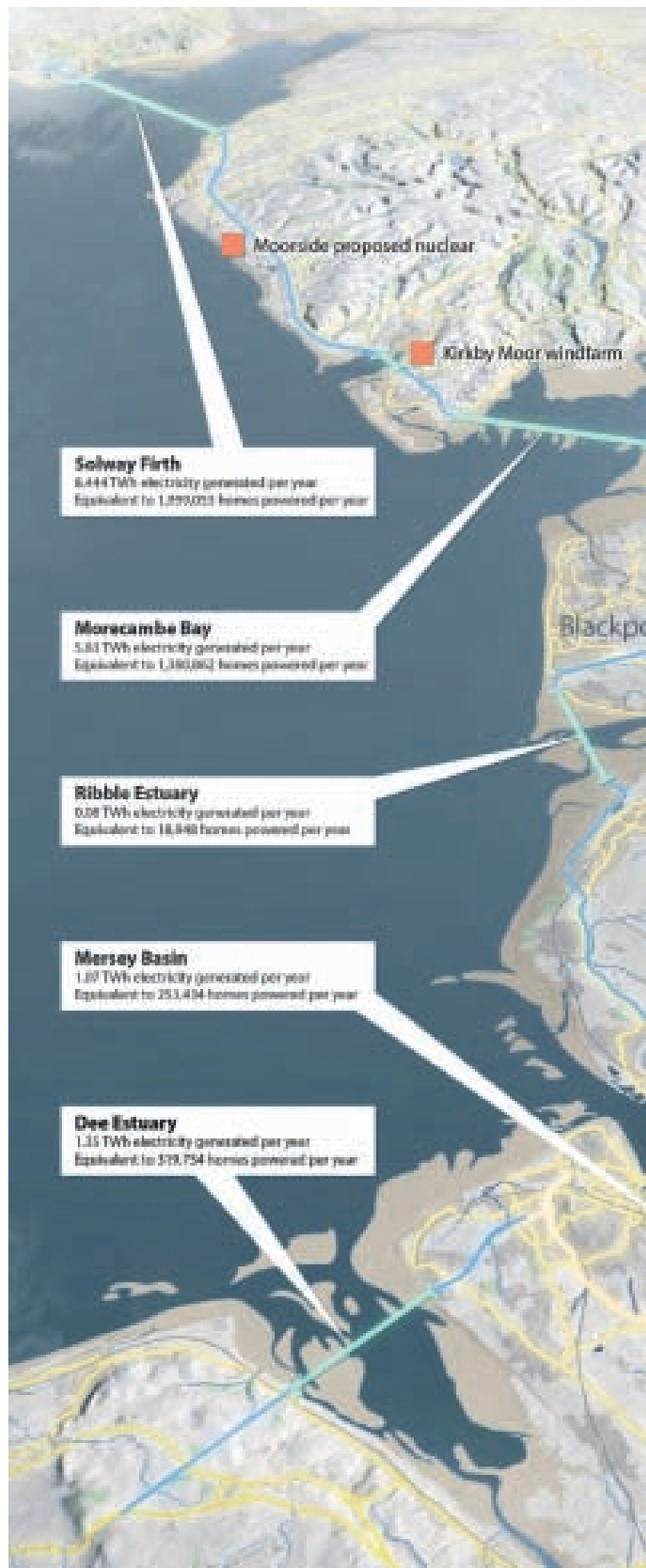
Due to go on show for the first time today in Liverpool as the feature attraction at the opening of the International Festival for Business (IFB) 2014, the North West model project has been developed to deliver an important message from North West Energy Squared, an offshoot of the North West Business Leadership Team (NWBLT): that a string of tidal gateways running along the North West coastline has the potential to provide a major source of renewable energy for the future wellbeing of the region.

Alan Torevell, a member of the NWBLT and the proposal's originator, felt that a combined approach of creating both architectural and computer-generated models would provide the technical accuracy and physical interpretation that the idea needed.

The original concept was shown to the NWBLT using pages from a road atlas stuck together, but it was another member, Arup director Keith Rudd, who suggested going down the digital modelling route. “What Alan said he wanted to pro-

The ever evolving computer model of the City of Manchester

“*The latest advances in technology even allow users to click on specific buildings*”



Computer model of the North West showing what tidal gateways all along the coastline would look like from the air



Arup men showing how it all fits together: director Keith Rudd (pointing), Simon Mabey in middle, and Steven Lesser

duce a big physical model to show all the potential for energy projects in the North West," Mr Rudd recalls, "I told him it was possible, but it would be difficult to move and add to when things change.

"So I suggested he look at a digital model. After he saw Simon [Mabey, the Arup senior designer who leads the modelling team in the North West and Yorkshire] demonstrate things, he said 'Yes, I want one of those – but I want a physical model as well'. And that was the starting point."

Naturally, even the static version will not simply be an example of the old style of model-making, thanks to the ingenious Arup team. Instead, it will fill the biggest exhibition space available at the IFB, where it will be brought to life by overhead projectors beaming down video footage to illustrate, among other things, the potential impact of the tides.

The 1.6 metre by 3.2 metre physical 3D model will have digital images projected and overlaid, effectively transforming the static model into the centre of a dramatic presentation designed to wow the visitors – the sort of display you might expect to see in London's Science Museum.

A separate touchscreen will allow visitors to access a purely virtual interactive model and so gain further information and answers to questions such as What will be the impact on the mudflats of a specific estuary due to a tidal gateway? – and it will also be linked to a range of themes to be introduced over the course of the festival.

The *Times North* was invited to Arup's offices in Manchester for an exclusive preview of the model and the technology which will be brought into play during the life of the exhibition. And as this writer is a self-confessed IT Luddite, the company kindly put together a three-man team to provide guidance through the technology minefield which lay ahead. The team was headed by director Keith Rudd, along with Steven Lesser, associate director in Arup's civil engineering group, and finally the aforementioned Simon Mabey.

Arup has long led the way in digital innovation in the built environment. Many

of the digital solutions it develops are a direct result of research and innovation that the firm has funded or fostered. Mr Mabey, the consummate computer modeller, effectively walked in off the street some 11 years ago and offered his services to Arup even before they had a use for the technology.

With a conventional company, this would almost certainly have resulted in him being politely shown the door – but Arup is different. Akin to John Lewis, it is owned in trust for the benefit of its staff and is known to invest in talented people. Simon Mabey's enthusiasm for modelling cities, combined with Arup's existing expertise and innovative drive, made for an ideal partnership.

"I approached one of the directors and said 'I want to build a model of Manchester in 3D,'" Mr Mabey says, "and although this wasn't a project that they had a commission for at the time, they saw the potential and offered me a job." He and his small team of computer-modelling specialists were duly hired by Arup – and he has repaid this trust by helping steer Arup into a pre-eminent position in the computer modelling of cities.

So why are computer models of cities needed? They are used for a myriad of reasons: by companies to input computer designs of proposed new construction or planning projects, or to help organisations such as the police with their security plans. The Environment Agency has also used the model of Leeds to simulate and test critical flood defences – and, of course, the models provide a major tool for consultants, like Arup, when they are working on projects such as the Beijing Olympic stadium.

Having recently been appointed as engineers to the new engineering campus at the University of Manchester, Arup is now studying its Manchester city model to pinpoint potential challenges involved in the work.

The latest advances in technology even allow users to click on specific buildings to reveal all the associated documentation and ensure that the information is readily available – and this can aid activities such as the maintenance of buildings

or the identification of areas for restoration.

These city models constantly evolve – the Manchester one has been an ongoing project for 15 years – and the work will continue indefinitely, providing an ever-rich source of information. The closer you look at computer modelling, the more you realise its current and potential future importance to cities.

In most cases, the process starts by sending up a plane to scan an entire city by taking aerial photographs of every area. These photographs are in very high definition, with every pixel that eventually appears on the screen being equivalent to 4cm on the ground.

This gives the bird's eye view of the city – but what about the street-level perspective? Well, teams are then sent out with cameras – or, in some cases, laser scanners – to complete the accurate 3D image base for the model. Then, computer generated images (CGI) are brought into play to complete the living picture.

The initial data for the model can be gathered in a number of ways. In the case of the North West model, due to the scale of the project, Arup worked with the Ordnance Survey map team, the only people with the specific data they required.

The construction of the physical architectural model also benefitted from even newer technology: 3D printing. Instead of having to build features to literally stick on the model, the team simply printed them out using technology that claims to be able to replicate virtually any shape from a digital model.

Arup's computer model-making does not begin and end with the start of any commission. The model is a tool for the city and can be made available to other companies and organisations, through licensing, to ensure it constantly evolves and is kept up to date.

This is what will happen with the model for the North West region produced for the IFB 2014, and organisations such as United Utilities are already lining up to make use of it for projects. Arup's claim that it is shaping a better world is happening in Manchester – literally.



The case for harnessing tides to keep the lights on

Can gateway plan ignite new thinking? Leadership team's report is analysed by Mike Cowley

The UK Government has set itself targets for renewable energy totalling one third of the power mix by 2030 to ensure we keep the lights on. Yet a growing body of experts concerned with the power sector increasingly believes that such an objective is divorced from reality based on the current performance of existing renewable energy sources.

Even windfarm development – the great white hope, thanks in part to a powerful lobby and significant investment in the technology – is deemed highly unlikely to fill the gap on its own due to concerns over the obvious vagaries of the power source.

But there is more than a glimmer of hope in the form of tidal gateways – which the Government has yet to support – harnessing the reliable power of the sea that surrounds us. A body of water that has many times kept us safe and secure in the past may well turn out to be the answer in the future.

The case for tidal gateways making a serious impact on the renewable energy mix is clearly laid out in a presentation by

North West Energy Squared as part of a report for the North West Business Leadership Team (NWBLT), to be released at the International Festival for Business (IFB) which opens in Liverpool today. This will be supported by a giant model of the North West, commissioned from Arup and using the latest computer graphics technology to bring to life the potential benefits of tidal gateway power in the region (see pages 8-9).

Such is the potential importance of the report for the North West that *The Times North* was not only given access to the document but also granted permission to reproduce some of its key findings. The report sets the scene by highlighting why the provision of affordable electricity is vital to the future wellbeing of the North West, in that the region is the UK's largest manufacturing region, contributing 13 per cent of the UK's total manufacturing output, a sector worth £120 billion a year to the economy.

The report also provides electricity supply statistics which cast doubt on the future ability to meet renewable energy targets with the current sources:

- In 2000, electricity supply was 371TWh, with 97 per cent being supplied by coal, gas, oil and nuclear, while the rest came from renewable sources.
- In 2012, electricity supply was 354TWh, with 95.9 per cent being supplied by coal, gas, oil and nuclear, while the rest came from renewable sources.

■ In 2020, it is estimated that the electricity supply is expected to be 345TWh, with 85 per cent being supplied by coal, gas, oil and nuclear, and the rest from renewables.

"It seems doubtful that this is achievable," the report says. "Incentives to reduce demand by improving energy efficiency and by demand management by differential pricing will help; but, at best, the impact will be marginal."

The report's authors offer what they see as some "realistic possibilities" of sourcing power for the region in the future, and these include the first but certainly not the last reference to tidal power:

- Extending the life of nuclear power stations and building new ones.
- Continuing with the use of coal, but using carbon capture storage (CCS), which requires further development. It is acknowledged that Government funding to the value of £125 million is being invested into CCS technology, but this is not anticipated to be in place until the 2020s.
- Accessing and maximising the use of local gas using more efficient extraction methods in the UK.
- Wind, using onshore and offshore turbines, is a well-exploited source of energy but could be developed further.
- Tidal power is just beginning to be taken seriously and could play a significant role in providing for the UK's energy needs.



“Tidal power offers many positives but it has not yet been embraced by the UK”

The NWBLT report also provides a run-down of existing renewable technologies, an explanation of how they work and their current and likely future impact – starting with wind, the current front-runner.

"The UK has been the world leader in offshore wind since October 2008," the report says. "The total offshore generating capacity in UK waters provides around 8 TWh per annum, equivalent to the electricity consumption of around 2 million homes. Industry projections see a total of around 8GWh of capacity installed by 2016 and around 18GWh installed by 2020, by which point offshore wind will supply between 18 and 20 per cent of the UK's electricity annually. Employment growth in the sector has been substantial since the numbers were first sourced in 2008 and now stands at around 6,830 full-time employees."

"Onshore wind works well in the UK because of the excellent wind resource. It has also become one of the most cost-effective forms of renewable energy, providing over 5GWh of capacity. There are 332 windfarms within the North West that generated 2728.9GWh of energy in 2012 – of which, 81 sites have a capacity to generate 100kWh or more."

Electricity generated from onshore and offshore windfarms is revealed to contribute 70.5 per cent of the North West's renewable energy. The report also places the more minor sources of renewables under the microscope, starting with biomass:

"Biomass material for energy is mainly derived from plant-based materials, from virgin wood, energy crops, agricultural residues, food waste and industrial waste and co-products. Biomass is a closed carbon cycle with no net increase in atmospheric CO₂ levels as it releases the CO₂ absorbed during growth when burnt. Correctly managed, biomass is a sustainable fuel that can offer a wide range of benefits including se-

Fracking? Let's look at it

Fracking for shale gas and the better use of a plentiful supply of coal also formed part of the North West Energy Squared's overview of sources of future energy, alongside its endorsement of tidal gateways.

On the controversial subject of fracking, the report called for "supposed risks", such as environmental damage, contamination of water supply and water leaks, to be the subject of "more clarification". And it appeared to add weight to the case for fracking by stating: "The most informed comment is that these risks are

either non-existent or easily contained and that the actual plant supplying the gas will be relatively unobtrusive."

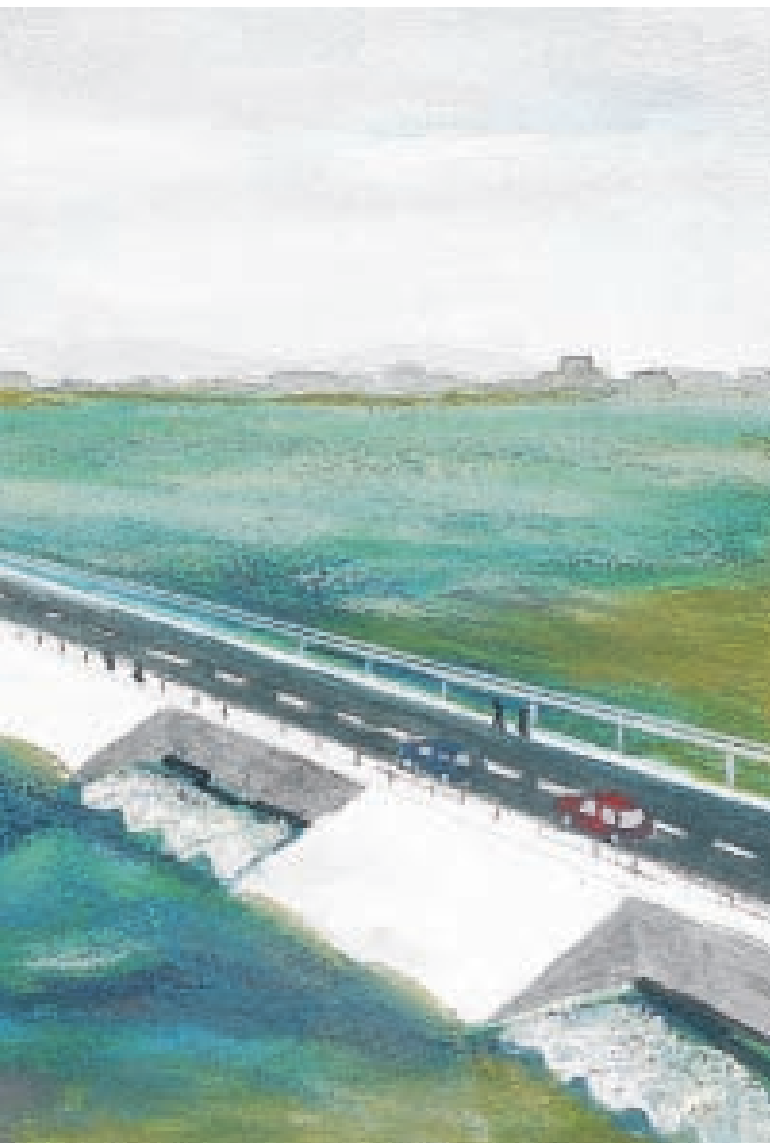
However, the report found that shale gas is unlikely to reduce prices but may help stabilise them by reducing the UK's exposure to the volatile wholesale market.

Coal, which has had almost as bad a press as fracking, could still make a major contribution to the power supply, according to the findings, as the cost of electricity produced by burning coal is less than from any other source. However, coal is being phased out because it

is a major producer of CO₂, so contributing to global warming.

This does not stop the report calling for the UK to reconsider the use of coal-based energy due to three factors:

- The ability, using new technology, to extract the carbon for the burning process, reducing emissions by 78 per cent. Not only capture it, but store it – as the report suggests – in depleted North Sea and Irish Sea oil wells.
- Major new sources of coal both off the North East coast and Cumbria, with new methods of extraction meaning it no longer required "the undesirable working conditions of the past".
- The importance of Liverpool as a major port for the importation of cheap coal "could make further research into this desirable for the North West".



Artist's impression of Ribble tidal gateway by Peter Martin

curity of supply if locally grown, which in turn can offer local business opportunities and support the rural economy and enable financial and environmental costs of transport to be minimised.

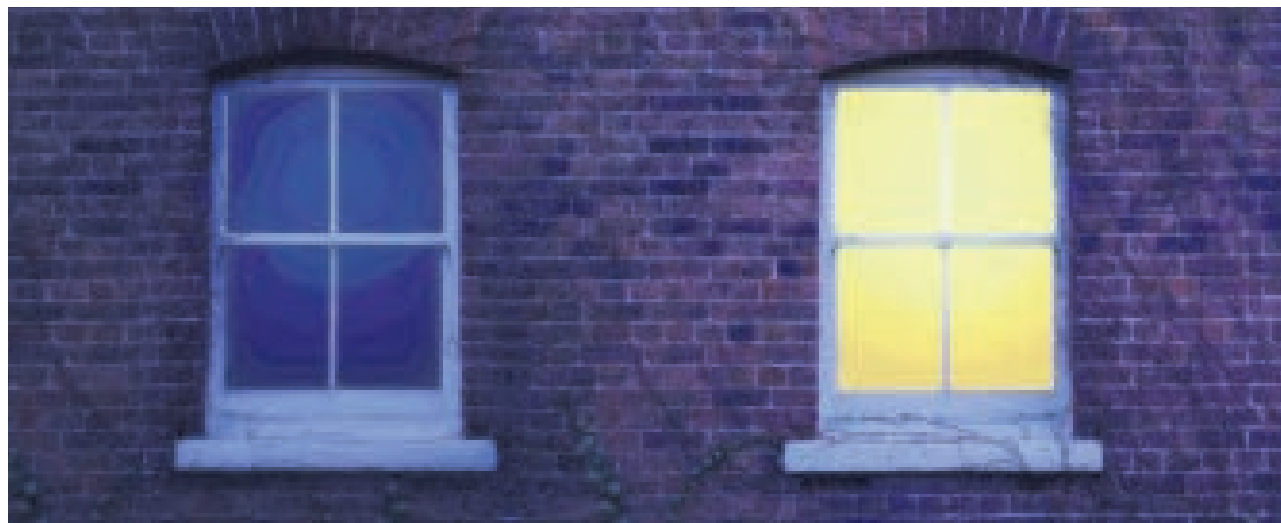
"Lastly, plant material left to rot rather than burnt, in addition to the CO₂, may also produce methane (CH₄), a greenhouse gas 21 times more potent than CO₂."

Then it is the turn of anaerobic digesters. "Anaerobic digestion (AD)," the report continues, "is a treatment process which harnesses natural bacteria to produce biogas – rich in methane and is commonly used in sewage works to power electricity generators and provide heat. Biogas can be upgraded by removing the CO₂ and impurities, to produce biomethane. This can be used as a vehicle fuel, or can be injected into the natural gas grid network."

"A solid residue (fibre or digestate) is produced from waste biodegradable materials such as agricultural manure and slurry, food waste and sewage sludge. The residue can either be used as a source of soil organic matter when treated, to fertilise land, or as a source of energy. Anaerobic digestion is well established in the UK as a treatment technology for sewage sludge (66 per cent of all sewage sludge was treated in this way in 2007)."

Next comes energy from waste. "In energy-from-waste facilities (also known as incinerators)," the report says, "general waste can be safely burned at high temperatures and under carefully controlled conditions to produce electricity and heat. Modern, well-operated facilities burn residual waste – waste that is left over after recycling and recovering as much as possible – to recover energy, ensuring that even this residual waste stream is put to good use."

"When used in this way, general waste can be a sustainable and reliable source of power, helping the UK to achieve renew-



Window on different energy resources: more ways than one to keep lights bright in the North West?

Electrical Power Measurement Guide

- The average UK household uses 4,200 kilowatts (kW) of electricity each year.
- 1,000 watts equal 1 kilowatt (kW).
- 1,000 kilowatts equal 1 megawatt (MW).
- 1,000 megawatts equal 1 gigawatt (GW).
- 1,000 gigawatts equal 1 terawatt (TW).
- One power station at Heysham produces 8TWh (terawatt hours) per annum, which is equivalent to 8,000 million kWh each year – enough power for 1.9 million homes.

able energy targets. Currently around 5.6 million tonnes of waste is treated this way each year, generating up to 275MWh of electricity. 23 per cent of the UK's renewable energy comes from energy from waste facilities – the equivalent to 726,000 tonnes of oil."

Co-firing also features in the report's league table of minor renewable energy sources: "Co-firing is the process of replacing part of the fossil fuel supplied to a power station or boiler with a 'carbon lean' renewable alternative such as biomass. All 16 major UK power plants are now co-firing a proportion of biomass, at an average level of 3 per cent (energy basis)."

Yet the total electricity generated from biomass, anaerobic digesters, energy from waste and co-firing contributes just 6.9 per cent of the North West's renewable energy, of which 2.4 per cent is generated through the production of sewage gas. Landfill gas fares somewhat better in that it provides 17.8 per cent of the North West's renewable energy.

Solar PV (photovoltaic) may be popular with the public, but its contribution at all levels – domestic roofs, industrial and commercial roofs, as well as larger mounted installations – amounted to just 2 per cent of the North West's renewable energy, according to the findings.

As for hydro power – derived from the energy of falling and running water – there are 19 sites in the North West, 13 of which are operational and generating hydroelectricity, and these contribute just 0.4 per cent.

Finally there are tidal gateways, the key proposal in the NWBLT report and why the authors insist the Government should take a serious look at supporting them as a significant part of the UK's renewable energy mix. The report reveals this is because power from the tide is easily achievable when there is a tidal stream or an adequate tidal range.

Electricity generated from tidal streams is produced from the flow of the tide, whereas tidal range exploits the difference between high and low tide by using either tidal lagoons or tidal gateways. A significant number of reports indicate that the North West has several estuaries where the tidal range comfortably exceeds the minimum 3-metre tidal range, including the Dee, the

Mersey, Morecambe Bay and the Solway Firth.

Output of electricity from these four estuaries could exceed 20TWh per year, as compared to one of the Heysham nuclear power stations (it has two), which produces 8TWh per year. "It actually represents some 5 per cent of the whole electricity requirement of the United Kingdom," according to the North West Energy Squared document.

Other positive aspects highlighted include:

- The reliability of tidal energy. As it is pre-determined, therefore its use can be planned. If other areas such as the Severn are included there will be an almost 24-hour supply. It is also possible to hold water behind the lagoon or barrage in order to generate electricity during high demand and therefore increase its price per kWh of electricity generated.
- The expected lifespan, after the construction, is normally expected to be 125 years – which in practice means there is no reason why it should stop and it is completely renewable energy.

"Although there are many positives attached to tidal power," the report continues, "it has not been embraced in the UK to date – the main two reasons being some ill-considered assumptions of the cost of the electricity produced and strongly expressed environmental concerns."

The report goes on to provide answers to both issues. It tackles the cost question by effectively rejecting a formula that has been developed, known as levelised cost, which attempts to take into account the initial cost of capital, the power output, the rate of return and the plant lifetime in years.

"Very different results can be achieved if some of these inputs are varied," the report says, "and if the lifetime of the use of tidal power is incorrectly exploited then costs per megawatt of power have been shown to be as high as £300 to £400 (that is, 30p a kilowatt). This compares to wind, which can be around £150, and gas and nuclear in the £80 to £100 range, and existing coal-fired power stations of around £50."

To dispute this, it is suggested that there are more detailed reports originating with Professors Burrows and Wolf – both contributors to the research – and expanded by Dr George Aggidis and others that have

indicated an effective price of £60 to £120 a megawatt from the different estuaries.

An additional report produced by engineering consultants Pöyry in March 2014 suggested that if tidal power is exploited by tidal lagoons, then the initial levelised cost of the first experimental lagoon would be £170 a megawatt, but for the second and third larger lagoons it would fall comfortably below £100 a megawatt. "This is further evidence," the report says, "that tidal power in cost terms is competitive with other sources of power."

One example of what this could mean is cited in the report as La Rance tidal barrage in Brittany, which has been in existence for almost half a century. With all capital costs covered many years ago, it is producing electricity at a unit price of 1.5p per kilowatt, or £15 per megawatt (see page 13).

The NWBLT report ends by tackling head-on the major stumbling block facing tidal gateway projects – environmental concerns in general, but specifically the impact on the wading birds that inhabit the estuaries. "These [concerns] range from the absurd to the very detailed," the report suggests. "It would seem sensible that a balanced view of the production of electricity and its resulting impact on the environment should be taken to see where the balance of advantage lies."

Tidal lagoons and tidal gateways, the report goes on to explain, both produce electricity using the difference between high and low tide, and the benefits of each need to be judged on the merits of the individual case. However, while tidal lagoons have less impact on the environment, tidal gateways offer substantial improvements in transport and reducing the risk of floods.

In the North West, it is assumed that tidal gateways are to be built across the four estuaries. With a tidal gateway, sustainable energy would be produced for a long period and the major impact on the environment will be during the construction stage – which, for each one, is likely to last about five years and then take a further four to five years to recover.

"The tide continues to flow in and out, otherwise no power is generated," the report says, "but interrupting the tide in this way does have impacts on the tidal flow in other areas. While recognising the tidal areas are often bird and wildlife sanctuaries, nature reserves and Sites of Special Scientific Interest, all variously protected by the UK or the European directive, the case for tidal gateways calls for a measured approach to the issue."

"If tidal gateways are to be considered seriously, and they should be, almost the starting-point is that it should be accepted that a balance should be achieved rather than an absolute entitlement of the protected areas."

Leadership

Piper calls the tune in regional regeneration

The chief executive of North West Business Leadership Team just relishes his Mersey beat, says **Mike Cowley**

When chartered accountant Geoffrey Piper arrived in Liverpool 28 years ago take up the post as a partner in the Deloitte local office from a similar position in Jersey, it was suggested he do the job for “a couple of years”, with the rider “then we will find you something more pleasant”.

That was typical of the way many London-based firms looked on Liverpool in those dark days. This was a time when the city was riddled with inter-necine political strife, when council officials and the public service sector would no more co-operate with local business than they would consent to cheering Manchester United to victory over Liverpool FC.

Yet Geoffrey Piper was to remain far beyond two years, because even though Liverpool was at such a low ebb he still became excited about the unexplored potential he saw there. And he retains that same sense of excitement to this day, as chief executive of the highly influential North West Business Leadership Team (NWBLT), a group that – to continue the football analogy – would be up there with Real Madrid in terms of star team players.

Working quietly behind the scenes as a think tank – as is their style – the NWBLT members have been actively supporting the International Festival for Business (IFB) since it was brought to their attention two years ago. Mr Piper recalls the IFB first being referred to as “ScousePo”, and although he says “That name didn’t stick, thank God,” the anecdote illustrates his trademark dry sense of humour.

Now, the NWBLT has chosen the IFB to launch its latest leadership paper on how best to sustain the essential resources of the North West, a paper which encompasses The Case for Tidal Power (see pages 10-11).

Papers from the NWBLT focus on topics which its members see as being of fundamental importance to the future competitiveness of the region. And the content tends not to fall on stony ground when it comes to the Government, thanks in no small part in having close contact with a phalanx of MPs with whom they hold twice-yearly lunch meetings in the Churchill dining room in the House of Commons – which they refer to as their “London office”.

The NWBLT achieved what was the start of a hat-trick of successes with Bridging the Divide – which called for greater clarity and simplicity in the educational and training system and has al-



ready resulted in a pilot scheme being set up in Manchester offering a single “go to” body for small and medium-sized enterprises (SMEs).

This was followed by The North West on the Move, a paper which made sever-

Geoffrey Piper:
still excited about
unexplored potential

the Prince of Wales, the Duke of Westminster, Terry Thomas – the then chief executive of the Co-operative Bank, Sir Christopher Harding of BNFL, Sir Alan Cockshaw of AMEC and Andrew Quinn, head of Granada. They were joined initially by the former deputy mayor of San Francisco, Peter Henschel, a committed urban regeneration thinker who helped to set up the NWBLT.

It was a cross-section of these establishment figures who interviewed, then selected, Geoffrey Piper for his current post. And he came with close to perfect credentials for the task.

Shortly after arriving in Liverpool, he found himself convening meetings of the private sector and the public sector which evolved into an organisation called Business Opportunities on Merseyside, or BOOM. “The sole purpose was to promote business opportunities, of which there were one or two but not as many as there are today,” Mr Piper recalls. And he admits this was just as important to Deloitte as for anyone else. “My fear was that there were going to be lots of good clients moving away.”

So BOOM was set up to not only prevent the exodus but to reverse it. And big business rallied to its cause, with Royal Insurance, Plessey and the Mersey Dock Company answering the growing clamour for business leaders to put their heads above the parapet.

Founded in 1987, BOOM lasted in that format for six years before – embraced by both the public and the private sectors – it became the Mersey Partnership. Even the MPs saw the benefit of jumping on the bandwagon, with more than one meeting being attended by every local MP of every hue, an achievement Geoffrey Piper describes as “one of my proudest moments”.

The one thing all the MPs had in common was that they agreed no one could afford to have the area they represented “dragged through the mire any more”, as Mr Piper puts it. By this time it was 1992 and there was funding available from the Government, the local authorities and some European money – which meant that the initiative no longer had to depend on private companies putting their hands in their pockets.

Two decades later, all this has evolved into what is now the Liverpool City Region Local Enterprise Partnership – with the NWBLT having been set up in 1990. The idea for the NWBLT came from a joint report by the CBI and Business in the Community published in late 1980s and called Initiatives Beyond Charity. This painted a grim picture of a divided Britain, with a private sector whose only contribution to the community at large seemed to be confined to offering 1 per cent of profits to good causes.

Enter a somewhat nervous Geoffrey Piper for his interview. To prepare himself, he asked for the answers to a list of traditional questions with which interviewees would seek to prepare themselves – memorandum of articles, information about how the company worked, what were its ground rules...

The answer came back: “We haven’t got any”, and “We’ve had a few lunches and dinners and agreed we should be doing this but we haven’t got any rules.” Looking back, the chief executive says: “Of course, the members have had to evolve the rules over 25 years.”

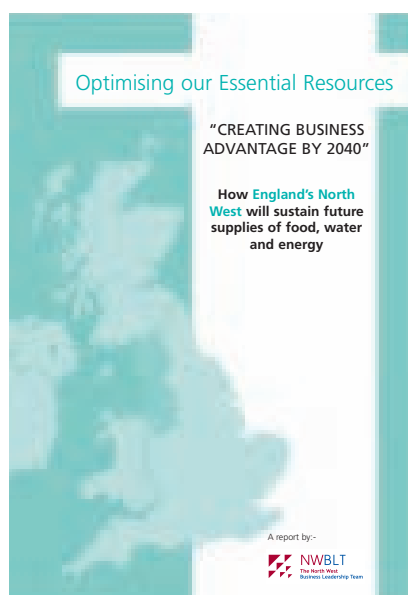
While the organisation remains informal and flexible, the two key rules that have evolved are first that any member has to be “successful”, and second it is an “invitation only” organisation. The requirement to be invited allows NWBLT to ensure it represents a cross-section of all key sectors, age groups, genders and geography as it embraces not just Manchester and Liverpool but also Lancashire, Cheshire and Cumbria.

All members are expected to attend quarterly meetings – the dates having been set in stone the previous year – each of which is made up of a two-hour structured session followed by a good dinner. “We have gradually built our credibility among the public, private and voluntary sectors by demonstrating that successful business people can be very, very good for society and the wellbeing of the area,” Mr Piper says.

The success of the NWBLT over the years has – according to its chief executive – been due to a series of inspirational chairmen, the current incumbent being Juergen Maier, managing director of Siemens Industry UK.

Meanwhile, Geoffrey Piper keeps things ticking over with a small staff operating from a modest set of offices – which befits the low profile of the NWBLT – in Daresbury.

“It was really just somewhere to keep paper clips,” he says, “but now we have added a computer...”



2040 vision: the NWBLT's master-plan

al recommendations involving HS2 and which Patrick McLoughlin, the transport minister, saw fit to come to Manchester to launch. The most recent paper – entitled Exploiting the Excellence, which deals with science, technology and innovation in the North West – has been warmly welcomed by the universities and science minister David Willetts. So the NWBLT evidently has some serious clout.

This is hardly surprising for an organisation whose founders included

“

Members have had to evolve the rules over about 25 years

Example

Vive La Rance: where it works for the French



Brittany's 'barrage' power scheme is still going strong after half a century, writes Mike Cowley

If anyone has any doubts about the benefits that tidal gateways can bring to the North West – or to the entire UK, for that matter – in terms of generating cheap and plentiful electricity, all they need to do is look at La Rance barrage in Brittany.

For while it is referred to as a “barrage”, the preference in the UK is to call it a “gateway”, as barrage has connotations of stopping the tide going in and out when it doesn’t – and the technology at La Rance, which has been around for almost half a century, would be virtually the same here today. During that half-century there has been no mechanical failure, and it is estimated that the gateway could carry on for at least another 50 years without any problem.

Even before construction work began, so one story goes, the French government started to get cold feet – but local pressure over the loss of possible jobs and a decrease in tourism kept it on

track. Opened in 1966 as the world’s first tidal power station on the estuary to the Rance River, it is currently operated by Électricité de France (EDF) and was for 45 years the largest tidal power station in the world by installed capacity, until the Sihwa Lake tidal power station in South Korea surpassed it in 2011.

The construction of the Rance tidal power plant started in 1960, with the project involving building a barrage 330 metres long in which the turbines were to be housed, a lock to allow the passage of small craft, a rockfill dam 165 metres long and a mobile weir with six gates to balance the levels for the emptying and filling of the reservoir.

It was completed in November 1966 – the official opening was by Charles de Gaulle – and was connected to the French national power grid the following year. In all, the plant cost 620 million francs.

It produces 0.012 per cent of the power consumed by the country, with a peak rating of 240 megawatts for its 24 turbines. By comparison, a large coal or nuclear power plant generates about 1,000MW of electricity. Notwithstanding the high costs of financing the project, these have now been clawed back and electricity production costs are lower, at 18 euro cents per kWh, compared

La Rance: no mechanical failure

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It now attracts watersports enthusiasts all the year round

with nuclear generation at 25 euro cents per kWh.

Special reversible turbines were developed to be used in the Rance project, designed to produce energy during both the rising and falling tides and so provide maximum efficiency. Critics point out that a major drawback of tidal power stations is they can only generate when the tide is flowing in or out – and that means only for about ten hours each day.

Also, as tidal flows are not absolutely precise, the gateway does not generate electricity close to peak capacity throughout the year. However, because the tides are predictable enough, EDF can ensure that other power stations are generating sufficient backup power at those times so as not to cause an issue with supply.

Tidal barrages do have concerns for environmentalists. It is reported that there has been some progressive silting of the Rance estuary, with species such as sand eels and plaice having disappeared, although sea bass and cuttlefish have returned to the river.

Tides obviously still flow in the estuary, and EDF endeavours to adjust levels to minimise the biological impact. It is the potential ecological damage that concerns opponents of other proposed tidal power stations, such as at the recently abandoned Severn Estuary project, and may well do for the proposed gateways along the North West coast of the UK.

But research carried out in 1995 by the French National Museum of Natural History showed that the Rance estuary continues to enjoy a varied aquatic ecosystem. Although the construction of the dam modified the currents, studies have pointed to a natural evolution of the sedimentary balance.

The Rance barrage enjoys the distinction of having generated reliable power for over 40 years without ever having been closed for anything other than scheduled maintenance. It has also been successful as a tourist attraction, with some 60,000 people visiting each year – and it now attracts watersports enthusiasts all year round. It has also created a transport link between Saint-Malo and Dinard, reducing a 45km journey to 15km.

When the French first started to consider the project, it was because the country was very poor in energy resources compared to its major European neighbours. Coal used to be plentiful, but mining ended in April 2004 with the closure of the last pit in the Lorraine region. Until the end of the 1970s, French natural gas supplied between 6 million and 7 million tonnes of gas per year, contributing up to 15 per cent of France’s primary energy production, but this then fell to just 2 per cent and oil production now stands at less than 1.5 million tonnes per year.

The lack of local energy resources was why France was known to be conscious of the need for energy security long before other countries started to even talk about it. It is why the French energy policy is based on the development of a national, secure network of supplies, especially nuclear energy and renewable energies.

The first attempt to build a large-scale tidal power plant in France was in the westernmost part of Brittany in the 1920s, but financial restraints led to this being abandoned in 1930. The first studies for a tidal gateway on the Rance were carried out by the Society for the Study of Utilisation of the Tides in 1943 – the reason for choosing the Rance as a site for construction of the tidal plant being that it had the advantage of a significant difference between the ebb and flow of the tide, with an average of eight metres and a maximum of nearly 14 metres.

In the 1950s, the French started to put their major dam construction programme in place, although at the time there were no real success stories of harnessing tidal energy. Today there is arguably more interest in tidal power than at any time in the past, even though the UK Government turned down the scheme for the River Severn estuary.

The proposal, from North West Energy Squared, for a string of gateways along the North West coast returns the idea to centre-stage at a time when renewable energy is high on the agenda – and this is the one proven and reliable source, thanks to the success of La Rance.



750m of impressive power

■ La Rance barrage is 750 metres (2,461 feet) long, from Brebis Point in the west to Briantais Point in the east. The power plant portion of the dam is 330m (1,091ft) long and the tidal basin measures 22.5 km² (9 square miles).

■ Its 24 turbines reach peak output at 240 megawatts and average 62MW, a capacity factor of approximately 26 per cent. At an annual output of approximately 540GWh, it supplies 0.012 per cent of the power demand of France.



The big tidal power question...at what cost to the coast?



Senior scientist Dr Judith Wolf examines points for and against

By Rick Wilson

The proposed introduction of tidal barrages into major estuaries along the North West coast would have a wide range of potential environmental impacts, some generally positive, and others – depending on where you stand – less so.

In an exercise to quantify these, Dr Judith Wolf, a senior scientist at the National Oceanography Centre, and several colleagues from Liverpool University, produced a paper focusing on various aspects of environmental changes that could be expected.

“Barrages are probably the cheapest way of getting marine renewable energy,” Dr Wolf says, “but no one denies that they do have controversial aspects.”

Below, we cover a few examples of concerns from that paper – with Dr Wolf’s informal comments after each.

■ **Physical changes** – Tidal and residual flows will be modified, possibly lead-

ing to some local scouring around the structure, specifically in the outflow regions of the turbines and sluices, and siltation in the basin. There may be a build-up of contaminants due to reduced flushing rates.

Comment – “As we would not be flushing the estuary to the same extent as before, there would probably be a build-up of nitrates and phosphates from farm fertiliser being washed into the sea, leading to an enhanced growth of marine algae which might use up all the available dissolved oxygen – this process is known as eutrophication. This could perhaps be countered by pumping air into the water.”

■ **Fish and birds** – The main impacts identified by many conservation groups are the changes in the intertidal area from the undisturbed situation and the impact on the fish, invertebrate and bird populations within the estuaries. It is clear that there will be a reduction in the intertidal mudflats due to the construction of an estuarine barrage. These mudflats provide important habitats for many species and feeding grounds for birds.

Comment – “There may be a better way than the original kind of methodology devised for electricity generation.

Dr Judith Wolf and (left to right) colleagues from Liverpool University: Dr Terry Hedges, Prof Richard Burrows, Dr Nick Yates and Dr Ian Walkington

“

It's about getting people to accept the negative elements to see benefits

That was capturing energy only on the ebb tide, which holds the water back in the estuary and only allows it to generate as it runs out through the turbines, raising the water level and losing more of the intertidal zone. Whereas, if you generate on both ebb and flood tides, it allows you to retain as much as possible of the birds' habitat in the intertidal zone.”

■ **Human impacts** – The character of an area and the landscape can be changed drastically if a tidal barrage is constructed, but in this case there could be pros and cons. Some people may find the visual intrusion objectionable, while others may find it adds interest. There may be increased noise, especially during construction but also during operation. There may be a loss of historic sites in intertidal areas.

Comment – “If you build a big dam across a river you can use it as a road transport link as well. That's one positive side-effect. There may also be an increase in the tourism and recreational potential of the area. Many of these kind of structures can become tourist attractions in themselves.

“Another benefit you might get is possible flood protection from storm

surges within the estuary – by being able to control the water level. Also, of course, during construction there will be increased demand for resources and potential disruption – for example, road transport may increase – but there will be economic benefits in terms of local jobs.

“Shellfish fisheries such as cockles and mussels could be affected – and, while the National Grid is not currently adapted to receive the large pulses of electricity, some costly redevelopment and innovative solutions may be necessary.”

■ **Far-field effects** – Local changes near headlands, where proposed tidal-stream turbines would harness the energy of tidal streams, may affect the location of offshore sandbanks which are of economic and ecological importance. Sandbanks are also areas of great importance to the health of the fishing industry, due to being important nursery and feeding grounds for many fish species.

Comment – “The thing is, if we start taking large amounts of energy out of the tidal system, with the tides on the whole continental shelf being linked together, it can have a much larger impact on the whole pattern of tides around the UK – and we might get some unforeseen effects further afield.

“The far-field environmental implications of the installation of these proposed barrages are qualitatively similar whichever scheme and mode of operation is chosen. The exact quantitative values of the changes are highly dependent upon the exact scheme and mode of operation chosen for each barrage.

“One impact of the barrages is the increased flooding risk, due to the increase in tidal amplitude in some areas. The east coast of southern Ireland, for example – an area where they have very low tides – could be affected by shifting that location a bit, creating an enhanced tide in a spot where you didn't have it before.”

Dr Wolf stresses that she works for the Natural Environment Research Council, “so we're not just thinking of engineering solutions, we are seriously concerned about the environment as well [...] and in general, of course, we are looking for a sustainable solution for green energy but know we must not do that to the detriment of the natural environment”.

So, in Dr Wolf's personal view, is the project feasible or a non-starter? “A relatively recent Severn barrage feasibility study came to the conclusion that it shouldn't proceed right now,” she says. “The fact is, it is very expensive and there are also these environmental impacts to deal with – either by innovative engineering solutions or education – getting people to accept the negative elements in order to get the benefits.”

But is it not ultimately a self-financing exercise – an investment today that will eventually reap significant benefits tomorrow? “Well, the problem is that we don't really have the financial model – or the will – to get the required large amount of money up front which will pay back over, what, a hundred years? People want faster returns that they'll see at least within a lifetime.”

So does Dr Wolf believe in the proposed project or at the very least believe that it would deliver a worthwhile benefits-to-cost ratio if it were finally delivered? “Do I think we should build it? The key question quickly becomes: do we want to put energy security above the welfare of wading birds?” I just think it's a dilemma for every individual.”

Environment



Navigating the tides of new energy

By Rick Wilson

Inevitably, when a new and life-changing proposal such as the North West tidal gateway system is being considered – and particularly in terms of the balance between clean energy gains and impact on the natural environment – it is reassuring to assess the situation with an expert in both areas.

Not that Dr David Howard is actually on board in the sense of being contracted to the prime movers, but he was brought in to consult as part of his employment role with the Centre for Ecology & Hydrology (CEH), part of the Natural Environment Research Council (NERC).

His input is important to what will be a star attraction at Liverpool's International Festival for Business (IFB): the tidal gateway proposal model being created by Arup for Alan Torevell and North West Energy Squared. Dr Howard believes that to develop and interpret different scenarios needs a team with a variety of skills and expertise – along with a knowledge of, and access to, a range of different data sets. “The Arup team are skilled modelers,” he says, “but occasionally need assistance with information and knowledge about the natural environment.

“My background and Knowledge Exchange role mean I can advise when I know of suitable data, but I am also skilled at finding experts and data sets that I personally am not familiar with. NERC is a major sponsor of environmental monitoring in Britain and is keen to see its data effectively and properly used to examine new scenarios.”

The IFB is a unique opportunity to gauge people opinions about different options, according to Dr Howard. “Currently we are considering a number of near-shore opportunities,” he says, “gateways, reefs, lagoons, etc – and I am helping to draft questionnaires to examine people's perspectives.

“The estuaries and shoreline in the North West are heavily designated (global, European, national and local designations) and protected in part by different agencies. It's important that these habitats are managed sensitively and fairly. People's views must be listened to and ideas and objections investigated.

“The model display offers a wonderful chance to encourage discussion and debate. To me, its essential purpose is to prompt opinions. We are looking for different groups and different types of people to actually gauge their responses. It's very important that you understand why some might not welcome the change that such a scheme would bring about.”

As an environmental scientist, Dr Howard would surprise no one in being

concerned for the post-change welfare of wading birds (see panel), as well as for local people's life quality. But he is generally optimistic about the scheme's economic viability, while advocating “extreme care” in its management should it progress towards realisation.

His is a realistic attitude, born of long experience. “Much of my work has looked at different aspects of the energy system,” he says. “I have looked at the potential for wind, small-scale hydro and bioenergy, along with the impacts of coal and nuclear power.

“The environment provides us with our energy and then has to handle all the resulting waste, so I am often investigating the trade-offs between the benefits of exploiting energy sources and the impacts on our ecosystem services.

“My research over the last quarter of a century has been into the interactions between land use, ecology and the environment. The focus has generally been across the whole of Britain, although I have collaborated with researchers across Europe.”

Dr Howard works at NERC's CEH research institute, based in the Lancaster Environment Centre (LEC). He has worked on the Countryside Surveys, the programme that monitors the extent and condition of habitats and ecosystems in Britain. “The monitoring data collected is combined with other data to model the consequences of changes to the energy system or to identify what is driving the changes we observe,” he says.

He was one of the founding directors of the UK Energy Research Centre in 2004, and when the North West Development Agency was in existence he sat on the board of governors of its Joule Centre. These days, he is director of LEC's Centre for Sustainable Energy and holds a NERC Knowledge Exchange fellowship in environmental monitoring.

The CEH is widely acknowledged to be the UK's centre of excellence for integrated research in terrestrial and freshwater ecosystems and their interaction with the atmosphere. As part of NERC, it provides national capability based on innovative, independent and interdisciplinary science and long-term environmental monitoring, forming an integral part of NERC's vision and strategy.

Working in partnership with the research community, policy-makers, industry and society, it delivers world-class solutions to the most complex environmental challenges facing humankind.

That is applicable on a smaller scale, of course, to the barrages/gateways proposal for the major estuaries along the North West coast. Not surprisingly, Dr Howard is cautious when looking at its



Howard's way: 'I'm optimistic about it. I think it can be done'

Will it affect wading birds?

A realised gateway scheme is not going to convince wading birds that all of a sudden there is another area of water for them, Dr Howard says. “That's not the way it works, but there will be a change in the tidal movement. Also in the mudflats – all sorts of movement,

actually. There will still be resources for the birds to use, but the question is: how will it all change?

“We might end up with a situation that is just as good for them, maybe even better. But there will definitely be a challenge to them in transition and we ought to be prepared for it.”

“To me, the model's essential purpose is to prompt opinions

environmental challenges. “What we want to see are sensible decisions made,” he says, “and you can't make sensible decisions without good evidence.”

This is not to say he is iffy about the whole project. “Oh, no,” he says. “I'm optimistic about it. I think it can be done. That doesn't necessarily mean to say it will be done and it should be done. The point is that anything new and bold that you do is going to have consequences. Part of the reason that I'm really very interested in this is that I can see opportunities here, but also great risks.

“The proposed barrage scheme would be an interesting way of generating electricity with low-carbon emissions, as its energy comes from the tide – or, more accurately, from the Earth and the moon's gravitational movement.”

“So I'm 60 per cent convinced it will happen and 40 per cent unconvinced. And if it does happen, it should only happen if it's done properly. I would be comfortable for this development to get under way if we could safeguard the environment. And there is every reason to believe that we can achieve that.”

Royal badge that salutes enterprise as good business



Outstanding Northern firms honoured by the Queen's Award are profiled in this section

Celebrating excellence and achievement, the Queen's Awards for Enterprise have recognised the outstanding efforts of 162 British businesses this year. The prestigious annual awards honour successful enterprise in three fields: international trade, innovation and sustainable development.

This year's winners, unveiled recently on HM The Queen's birthday, feature more than 100 awards in the international trade section, a statistic welcomed by Vince Cable, the secretary of state for business, innovation and skills. "Companies that are growing, innovating and championing UK business overseas deserve the recognition that these awards bestow," Mr Cable said.

"With more than 100 international trade winners this year, it is clear that Britain is emerging as a leader in selling its quality services and products throughout the world."

Of course, winning a Queen's Award is not just about kudos – and a trip to Buckingham Palace at the end of the summer. It is the highest official UK award for British businesses, and a survey of Queen's Award winners revealed 76 per cent saying the win had brought them added commercial value, with 55 per cent identifying new business opportunities and 79 per cent highlighting a boost to staff morale.

Many businesses noted the benefits that a raised profile brings to a winner, with additional press coverage reported by 63 per cent, along with increased recognition in the UK at 69 per cent and overseas at 49 per cent.

It is interesting that, in terms of a success rate, the North of England, Scotland, Northern Ireland and Wales have done rather well in their bids for Queen's Award recognition, and in this issue of *Business Insight* we turn the spotlight on several of those successful entrants, all of whom have been recognised for their outstanding achievements in international trade.

Newcastle upon Tyne's Thomas Miller Claims Management (see page 19), part of the Thomas Miller Group, has grown into a major presence in the international claims handling and consultancy



market. TMCM provides global risk management, problem-solving, claims adjusting and operational support services to its clients in the marine, transport and general commercial business sectors.

In the last three years, exports have risen from 44 per cent of total turnover to 78 per cent. "Winning a Queen's Award in the international trade category is a testament to the very high standards set by the firm and achieved by colleagues," said Peter Jackson, chief executive of TMCM. "It also reflects the continuing confidence our clients place in us in what has been a difficult few years financially for businesses."

Durham-based Ikon GeoPressure (page 20) started as a spin-out from industry consortium-based research in Durham University's Earth Sciences department in 1997, and went on to become part of the Ikon Science group in 2006. That academic research and geologically based industry experience underpins the successful development of their software and digital regional studies that are used by oil companies to explore and develop the world's oil and gas fields.

Stephen Jenkins, senior vice-president for the Ikon division, said the company

was honoured: "Ikon GeoPressure has won this award in recognition of its outstanding performance in growing international trade. We have increased overseas earnings by 771 per cent over the last six years and now export to 22 countries which include new markets in the Americas, Africa and Asia."

Johnson & Johnson Professional Export (page 21), a division of Johnson & Johnson Medical Ltd, was one of the successful Scottish businesses in this year's awards. Based at the Kirkton Campus in Livingston, Johnson & Johnson Professional Export develop advanced medical devices and diagnostic products, and have been successful in strategies here and overseas that have extended access to their products in emerging markets such as Iran, Malta, Gibraltar and Sub-Saharan Africa.

"Our vision is to significantly increase the number of healthcare professionals and ultimately patients who benefit from our advanced medical devices and diagnostic products," said Ian Walker, managing director of Johnson & Johnson Professional Export, following the announcement of their Queen's Award success.

Thomas Miller Claims Management provides global risk management to clients in the marine and transport sectors



The award reflects the continuing confidence placed in us by our customers after some hard years

"By achieving consistent growth, we have been able to increase investment in this region, offering the best possible training for healthcare professionals while building valuable partnerships with local organisations, businesses and customers in both the UK and emerging markets."

Other businesses highlighted include TISS Security Systems of Blackpool (page 18), with their innovative TankSafe™ fuel security device which prevents the siphoning, skimming and overfilling of fuel tanks, and Heat Trace of Cheshire (page 22), experts in the heating control of cables. There is also feedback, on page 17, from Totalpost Services of Cumbria, Merseyside-based Glen Dimplex Home Appliances and Metalube of Manchester, all of which won Queen's Awards in previous years and describe how it has been a great help in boosting business.

Businesses which achieve the Queen's Award receive a Grant of Appointment and a presentational item with the Queen's Awards emblem, courtesy of the Queen's representative. The Grant of Appointment is valid for five years, and winning organisations are allowed to fly the Queen's Award flag at their main premises, along with using the emblem on stationery, advertising and goods.

The Queen's Awards for Enterprise have been an evolving format since they began in 1966, with the current setup comprising the three categories for companies and one for individual winners of enterprise promotion. HM The Queen makes the annual awards on the advice of the Prime Minister, who is assisted in the decision-making process by an advisory committee that includes representatives from Government, industry and commerce, and the trade unions.

The announcement of this year's winners also marked the launch of the 50th anniversary awards for 2015, with entries being accepted until the end of September. Entry is free, and open to any business based in the UK, including the Channel Islands and the Isle of Man, if it is a self-contained enterprise that markets its own products or services, is under its own management, and has at least two full-time employees or part-time equivalents. Finally, of course, entrants must be able to demonstrate commercial success.

Businesses can enter more than one award provided they meet the criteria set out for each category. For more information and to find out how to enter, visit www.gov.uk/queens-awards-for-enterprise/business-awards

Such a boost for business

Endorsement by Her Majesty can really impress the clients, hears **Mike Cowley**

The Queen's Award for Enterprise is as good as it gets when it comes to honouring British companies for their export achievements – so the winners from the North will be out in force looking for fresh opportunities among the overseas visitors attending the International Festival for Business.

After all, the Queen's Award goes down well virtually everywhere abroad – with the possible exceptions of France, where they are known to greet the news with a Gallic shrug, and Germany, where it is politely acknowledged with just that hint of superiority. There is also a degree of confusion about the award in certain countries, with several winners reportedly being asked: "So you know the Queen, then?"

However, even though all the previous Queen's Award winners (and it has been in existence in one form or another since being established by Royal Warrant in 1965) agree that using the logo for the next five years on their letterhead or website brings tangible benefits, most find it difficult to put a figure on the bottom line.

And while being asked to attend a Buckingham Palace reception hosted by



New confidence: David Hymers

HM The Queen is not to be sniffed at – and a scroll and an engraved crystal bowl would look good in any corporate lobby – it is the potential to boost business that overshadows such niceties.

One Northern businessman prepared to put a definitive figure on it is David Hymers, managing director of Totalpost Services in Cumbria. He is convinced that, since his firm won in 2013, the direct impact has been a 33 per cent increase in annual turnover, amounting to a cool £1 million.

Mr Hymers reports that the Queen's Award went down particularly well in

the all-important United States market – "Where they love the English accent and anything about the Queen" – and in Commonwealth countries, where the monarch has an obvious high profile.

David Hymers is a man who relishes having facts and figures at his fingertips – he uses BIS (the Department for Business, Innovation & Skills) statistics as his ongoing benchmark – so is able to reel off how his business easily met the relatively non-demanding criteria to enter for the Queen's Award:

"A UK company with at least two full-time (or equivalent) employees." – When Totalpost applied, it had around 30 employees, and today this has doubled.

"An established company with a minimum of three years' trading figures, and with a minimum of £100,000 in overseas sales for the first year." – In 2010, Totalpost had a turnover of £1.9m, with 23 per cent of this in exports. Come 2012, turnover had edged above £3m, with 35 per cent accounted for by exports. This gradual curve also ticked the final box required: "Evidence of substantial and continuous growth over the period of entry."

David Hymers is convinced that winning the Queen's Award has not only increased Totalpost's international profile – so boosting export sales – but has also impacted on all his staff in such a way as to enable them to achieve results they would have found difficult to even contemplate before.

"The biggest thing it gave us was confidence as a group," he says, "confidence to go out and find new markets. We got the feeling we were invincible, which may sound arrogant, but is no bad thing."

Equally positive about the benefits of winning the Queen's Award for Enterprise for his company, Glen Dimplex Home Appliances, is chief executive Denver Hewlett. Unlike Mr Hymers, however, he cannot come up with a figure to measure the improvement.

A vocal champion of UK manufacturing – he launched the Made in Britain campaign – Mr Hewlett sees himself as custodian of some of the country's leading domestic cooking appliance brands. These include Belling – which started out manu-

facturing heating for British submarines during the First World War, then went on to create the legendary Baby Belling and has remained at the forefront of cooking appliances ever since.

Purchased by the Glen Dimplex Group in the 1990s, Belling became part of an international drive along with Stoves and New World cooking appliances in 1999, culminating in increased revenues of 880 per cent and eventually a Queen's Award for the company which employs 1,000 at its Merseyside headquarters.

Today, Denver Hewlett is more than happy to play the Queen's Award card alongside that of Made in Britain, and intends to do so at the IFB – emphasising, though, that Made in Britain is in itself not enough.

"It is not just about making and selling stuff," he says, "it is about administration, delivery, technical standards. Getting all the people behind you was tough. This is where the Queen's Award came into play. The award helped get everyone on-side, including the factory, because all their efforts had been recognised. That's what creates success, but how can you put a price on that?"

Meanwhile, Metalube in Manchester is celebrating its second Queen's Award, adding Innovation to its earlier International Trade accolade. The subject of a management buyout three years ago by its three Yorkshire-born directors, this is one of the smaller winners, with only 22 staff in the UK and a further nine abroad – emphasising that big is not necessarily beautiful in the context of the Queen's Awards.

With Metalube, some 98 per cent of the specialist industrial lubricant they make is exported, and there is acknowledgement that the award has made a significant contribution to their £7m turnover. "There is no doubt that the first Queen's Award has contributed to our success, and so will our second one," says Douglas Hunt, the commercial director.

Metalube's success has also generated one of oddest questions from an overseas client – who will remain anonymous to prevent any potential embarrassment. "What does the Queen use your lubricant for?" he asked...



We got the feeling that we were invincible, which is no bad thing

'Expect overseas royalties from such an award'

Clive Drinkwater, director of UKTI North West, has called on all businesses in the region to wake up and smell not just the coffee but also the potential of attending the International Festival for Business. He sees that there will be rich export pickings from the quarter of a million overseas business visitors who will be arriving in Liverpool to attend the 300 events – including 30 events sponsored by UKTI (UK Trade & Investment).

This is part of his personal challenge to those regional businesses currently exporting: to pick up one new overseas market this year, a move that would add an estimated additional £2 billion to £3 billion to the North West economy. "This would be truly transformational for our region," Mr Drinkwater says.

So much importance does he place on the event – the most significant of its type since the Festival of Britain in 1951 – that he is moving his office from War-

rington to Liverpool for the duration. His plan doesn't end there, however.

He hopes that export business generated from the IFB will in turn generate the next wave of Queen's Awards for Enterprise for North West firms, in what is the blue ribbon of UK business awards. "This does truly reflect the best of the best," Mr Drinkwater says, "and lets potential customers know just who they are dealing with."

"Everywhere round the world, people recognise our Queen and so the award. So more of us should be having a go and reaping the benefits accordingly."

Nor does he overlook the impact much closer to home – specifically within companies that win the Queen's Award. "It is fantastically motivational for everyone in the company," he says, "from the cleaner to the chief executive."

Clive Drinkwater also has a more altruistic motive, as Queen's Award winners provide a significant source for his North West Export Champions, who

are all prepared to give something back for the time and effort which UKTI has invested in their export success.

Companies such as Totalpost Services, Glen Dimplex Home Appliances and Metalube are all in payback mode for the help they received from Clive Drinkwater and his team. Denver Hewlett of Glen Dimplex Home Appliances summed up the feeling: "UKTI has been fabulous for us, and I would encourage anyone interested in exporting to get involved with them. That's why we are happy to get involved as Export Champions."

"Companies often think about exporting but get fazed by what they see as the size of the task. UKTI is there to help them every step of the way."

Mr Drinkwater is hoping that the IFB in Liverpool will not simply begin and end there. "If I have any ambition for it," he says, "it is to see the baton passed on, so that in three or four years' time the event is hosted by another Northern city."



Have a go: UKTI North West director Clive Drinkwater

QUEEN'S AWARDS: TISS SECURITY SYSTEMS

Tanks a lot, say hauliers to this diesel-thief buster

Appreciation goes beyond the Queen's highway...to win the Queen's Award, writes **Mike Cowley**

Like most hauliers, Brian Wholey had experienced the theft of diesel from the 15-strong fleet of trucks at the Wholey International base in Blackpool from which they covered Europe. The final straw for him, however, came when he checked one of the vehicles early one morning and found the fuel tank was empty, despite his having filled it only the previous evening.

With diesel prices on a constant upward slant – a standard tank could cost £800 to fill at today's pump prices – Mr Wholey decided to source a solution to the problem. Then, when no adequate option could be found, he sensed a huge market opportunity. With an engineering background and his haulage experience, he created his own first prototype based on the humble baked bean tin with holes drilled in the bottom.

Since then, this simple solution has become significantly more sophisticated, having evolved into the TankSafe™ "Impregnable" Fuel Security Device – a world-leading product to prevent siphoning, skimming and overfilling – and one which has just won TISS Security Systems, the company Brian Wholey founded with his son Ryan in 2001, the prestigious Queen's Award for Enterprise.

The distinction for the family firm with a workforce of 11 comes on the recommendation of the Prime Minister to the Queen and is a direct result of outstanding overseas sales success. These have rocketed in the last three years, from just 13 per cent of turnover to 45 per cent at present.

TISS made its name and its now-global reputation with the TankSafe™ device. The patented product utilises a unique float valve that allows fuel to flow into the tank but locks off when the tank is almost full. Essentially, this means that no fuel can be siphoned, unlike rival basic anti-siphon products which all allow the top amount to be stolen.

With most diesel thefts involving small quantities – although amounting to millions of litres in total – this has ensured that TankSafe™ leads the market both nationally and internationally. It also provides a benefit not offered by any "basic" anti-siphon system, as independent tests have proved that, for a 330-litre tank, fuel was limited to 94 per cent capacity with the TankSafe™ fitted, therefore eliminating overfilling



Ryan Wholey and colleague Matthew Rose



The award is a dream for us...one of our main selling points is 'Made in the UK'

with both its cost and hazard implications.

Diesel spills are a big health and safety issue, as they cause numerous road accidents, pollution incidents and industrial injuries each year, in addition to costing hauliers thousands of pounds in terms of wasted fuel. So when you add to the impressive company CV the fact that customers are reporting 10 per cent savings through a combination of reduced spillage and siphoning, then TankSafe™ becomes a no-brainer.

That is why the TISS fleet customer list includes household names such as DHL, Tesco, Sainsbury's and Asda, while Iveco, Volvo, Mercedes and MAN truck dealerships have selected TISS as an approved supplier. And that is without taking into account the return on investment for each device being, on average, a budget-easing six weeks.

With fuel security being a global concern, TISS was always aware that the

market for TankSafe™ would extend outside British waters. Coinciding with the extension of re-seller agreements with truck manufacturers into global supply contracts, TISS began to expand its horizons with the help of experts from UK Trade & Investment (UKTI).

Today, TankSafe™ products are handled by distributors in over 40 major overseas territories, from Germany to Mexico, with the company opting in each case for knowledgeable, locally-based partners rather than any direct sales. As the devices are extremely simple to fit – they come with easy instructions in the relevant language – this has meant that distribution channels do not lead to problems, no matter which country is involved.

The TankSafe™ device is now patented in 39 territories and is one of 63 product lines, enabling fitment to any vehicle around the world. Despite the almost universal welcome overseas,

however, TISS prides itself on carrying out in-depth research with the help of UKTI into each new market, as export mistakes can prove costly. It has found there to be a particular demand in continents where there is a significant disparity on the distribution of wealth – such as Africa, South America and Asia.

Unsurprisingly, then, Nigeria is proving to be a rapid growth market – but TISS has admitted to being somewhat surprised that sales took off significantly in the United Arab Emirates, given that it is the source of much of the world's diesel. However, this reinforces the TISS belief that fuel security is a significant issue in every territory in the world.

Now with the Queen's Award under their belt, the TISS management are expecting a dramatic uplift in sales, particularly in light of the universally positive reaction received from the entire distribution network. All of the company's international partners have confirmed that the award has provided additional gravitas for the product in client meetings, and TISS's UAE-based distributors have already requested that the Queen's Award emblem be printed on all TankSafe™ packaging.

At the time this article was being written, TISS managing director Ryan Wholey was on yet another trip to the United States to deal with the ever-increasing demand for the company's product range. Also, along with the increase in overseas sales, TISS has been expanding into a range of new sectors outside of haulage. This includes heavy construction equipment – and in fact any application which has a large fuel tank offers a viable potential market for TISS.

The TISS directors see the Queen's Award as the catalyst for the next stage in the company's ambitious expansion plans, when over the next three years they intend to enter into 16 new major territories. "When we started the business in 2001 we knew it had huge potential," Ryan Wholey says. "However, we never envisaged being in a position where we would be receiving the UK's highest business award."

The TISS management board is completed by Matthew Rose – who, alongside Ryan Wholey, leads the company's international expansion. Mr Rose first joined TISS in 2005 to look at marketing when he was completing an MSc at Lancaster University.

"The Queen's Award for Enterprise is a dream for us," he says. "One of our unique selling points has been 'Made in the UK', and now the overseas markets – particularly America – will see this award as a wonderful further endorsement of a company they have already grown to trust to do business with, and proof that we are recognised as the world's leading authority on fuel security and siphoning."

From sinkings to hijackings, troubleshooting on the high seas has made this company's rise to success a swift one, says **Frank Simpson**

Who says the world of insurance is just about office pen-pushing? Certainly not the people of Thomas Miller Claims Management (TMCM) who recently found themselves centre-stage in two exciting happenings – one being the announcement that they were to receive the Queen's Award for Enterprise in International Trade, the other being a massive haul of cocaine worth £30million discovered hidden under a ship moored off the Scottish coast.

Each prompted very different responses, of course. The first allowed for some long-awaited celebration – with chief executive Peter Jackson hailing this “testament to our high standards” – while the other called on the firm for discreet mediation between the ship's officers and interested agencies, not least the police, who eventually arrested three Dutchmen living near the docks.

None of the crew of the Greek vessel, bringing coal (and, inadvertently, drugs) into Scotland from Colombia, was implicated in the affair, but there was a point at which they needed tangible support and reassurance that they would not be treated as criminals in a foreign land – this was provided by senior TMCM executives on the dockside, there to ensure smooth cooperation with the UK authorities but also proper procedure and fair play.

The episode is recalled by the company's operations director Stephen Hunt, explaining that they offered “some hand-holding” to the Captain – as official representative of the ship's owners – on behalf of those owners and their insurers.

“Criminalisation of crew has been one of the big issues in shipping in recent times – they worry that because they're on the spot, they will take the punishment. The Captain is most in the spotlight, but still has to deal with a dozen government agencies and other port formalities, so incidents like this place an enormous additional burden on him or her.”

Based in Newcastle, this relatively new troubleshooting company, launched in 2007, is an offshoot of the London-based Thomas Miller & Co that was set up around the parent company's 125-year-old roots to become a conspicuous North-east success story. And Mr Hunt describes its rapid results as “dizzying”, with overseas sales earnings having grown 153 per cent over the last three years, while exports rose from 44 per cent of total turnover to 78 per cent.

This impressive record in securing and maintaining international business is at the heart of TMCM's achievement in winning the Queen's Award. Quite simply, it has grown from a standing start – in very troubled economic times – to a major presence in the international claims handling and consultancy market.

“TMCM is showing how the expertise and client-driven approach, which have always been Thomas Miller's hallmark, can be applied to problems way beyond the realm of everyday insurance”, says group CEO Bruce Kesterton. “Our present corporate plan emphasises our heartland



Top team: Thomas Miller Claims Management's Chief Executive Peter Jackson with Director Stephen Hunt and Claims Director Patrick Bond

Calming troubled waters



transport insurance sectors but also a commitment to growth and innovation, and TMCM is showing all of that in action. The Queen's Award is a great achievement for TMCM and also a terrific advertisement for the strength and culture of Thomas Miller as a whole, so at the group level we could not be happier.”

“There can't be anyone with a bigger international name or history in marine and transport insurance than Thomas Miller – that's where a lot of our skills and approach come from and it also gave us credibility with oil majors, cruise giants and the like in the early years,” says Mr Hunt. “The parent group is going from strength to strength in its core markets but also investing in natural stable mates like TMCM, so we're still very much part of a prestigious family. A critical part of that is our independence and autonomy, though – all our working, thinking and doing gets done in Newcastle and we work for the client, not the parent.”

Shipping and transport remain key markets for TMCM with problems such as damaged goods, passenger claims, charter disputes and injuries to crew or dockwork-

ers forming a large part of its caseload. “Sinkings, hijackings, disappearances, the fallout from scratching Putin's yacht – it's all in a day's work,” says Mr Hunt.

But it has espoused an even wider approach than that. This is partly a conscious and rational strategy – expertise in handling all manner of practical, legal and technical problems worldwide is just as useful beyond transport and insurance, and TMCM is keen not to be pigeonholed. “Other companies in the consultancy/adjusting field tend to categorise themselves quite strictly as law specialists or technical consultancies, or purely high-volume claims adjusters. We realised there wasn't a lot of room there, so we had to think out of the box.”

It was also prompted by the imperatives of its difficult birth when the global economy was “about to fall of the edge”.

“It wasn't a great time to be opening anything,” recalls Mr Hunt, who was in on the ground floor along with Peter Jackson and claims director Patrick Bond. “Potential clients were looking closely at how they spent their money internally, let alone on external providers like us. So it was a very challenging time. But what we did was look for areas where needs were not being served; and at ways in which our particular skills and experience could be best used and appreciated.”

“It took a couple of years of just visiting target clients and listening to their requirements, then tailoring our offer accordingly, rather than going in and saying rather pompously: ‘This is what we think you need, and we can do it – OK?’ So now we work with considerably more versatility than we perhaps envisaged when the launch plan was hatched.”

And it clearly works. “Every client is different in terms of in-house resources, overseas offices and the like,” say Patrick Bond, “and no two clients come to us with the same set of problems.”

“We might be handling a casualty, doing a face-to-face negotiation or reviewing a run-off caseload at any given time, for a client anywhere in the world. Whatever the requirement, we have a balanced and experienced team in Newcastle and a global

network which is probably second to none, so we're confident we can add value on just about anything.”

That team includes lawyers, medics, mariners and insurance professionals covering every relevant field and able to call on decades of experience. A cost-effective base in the North-east, combined with the service standards of the London market, makes TMCM a natural choice for businesses needing top-class claims handling and risk management solutions without the price tag of big-city law firms or consultancies.

As well as more traditional claims adjusting, litigation management and third-party administration, the company has established itself as the biggest provider of medical emergency and case management services to the shipping industry, particularly in the energy and cruise sectors. Through its BlueMed product, TMCM offers total medical assistance to the industry, from emergency medical advice in the middle of the ocean through to rehabilitation and return to work, and manages cases in over 50 countries.

“We've benefited strongly from the cost advantages, the thriving services sector and the talent pool in the North-East, especially in the maritime field which remains a key focus for us,” says Stephen Hunt. “We started with three people and now we have 18. We've created 18 skilled jobs which are bringing overseas revenue directly into the North-east, and as such they represent a nice little success story for the region.”

All 18 are looking forward to receiving the Queen's Award crystal bowl at historic Alnwick Castle on 14th August. Before that chief executive Peter Jackson will be attending the royal reception in London, and he says with a detectable glint of pride: “Winning a Queen's Award in the international trade category reflects the continuing confidence our clients place in us.”

“We believe our success in attracting clients internationally results from our commitment to listening to them, then harnessing our unique blend of skills and experience to solve their particular problems worldwide.”

“We have a balanced and experienced team and a global network which is probably second to none

QUEEN'S AWARDS: IKON GEOPRESSURE

Pressure at work wins royal award

With overseas earnings growing by a huge 771 per cent, Stephen Jenkins tells **Rick Wilson** how a small company won its accolade

For most people, pressure at work is not always welcome. For Stephen Jenkins and his team, however, it is their work. They thrive on pressure and their unique knowledge of its behaviour below the earth's surface has been recognised as not only vitally valuable in the field of exploration but as worthy of "the highest accolade for business success".

"We are honoured to be named a winner of the Queen's Award for Enterprise," says Mr Jenkins, Senior Vice-President for the Ikon GeoPressure division of Ikon Science. "Which is in recognition of our outstanding performance in growing international trade."

For a company that still describes itself as a small specialist consultancy, that level of growth has been remarkable

by any standards. "We have increased overseas earnings by 771 per cent over the past six years and now export to 22 countries that include new markets in the Americas, Africa and Asia. And we have recently added three teams totalling 11 people to our parent company's offices in Kuala Lumpur, Calgary and Lagos – while also just beginning to set up a team in Houston, Texas."

This suggests that potential markets for the firm's services have been expanding apace, as have client-related concerns about the safety aspects of ever more adventurous exploration, drilling and development.

"The big oil exploration companies do have their own geology teams of course, but they have many other strings to their bows and often need the help of our unique expertise and understanding of sub-surface pressure. So it's quite a specialist market, and one that is indeed growing fast."

"When a client approaches us for initial advice, we first find out if they're looking at a whole exploration plan in a region or just at an individual well – and if it's an area we already know or a completely unexplored area with new challenges."

"As oil exploration evolves, it's moving towards more sensitive environments – deeper targets further offshore in deeper water and strata – and the temperatures and pressures in these new



Stephen Jenkins says that exports overseas have led to adding teams in Malaysia, Canada and Nigeria

areas are much higher than in those we encountered ten or 20 years ago.

"We have built up a reputation for creating best practice processes and technology to predict and understand pressures in the subsurface – and it's to this that our domestic and overseas growth can be attributed."

Ikon GeoPressure was formed in 1997 as a spin-out from industry consortium-based research originating in the Durham University Earth Sciences Department and became part of the Ikon Science group in 2006. It still operates out of Durham where, in "a very modern environment and friendly place to work" in the Rivergreen Centre, it accommodates

15 technical specialists within a total staffing of 30 people.

So what exactly is its offering, explained in simple terms? Mr Jenkins explains: "To help exploring companies to plan safe drilling strategies in detail, we estimate the pressures – in rocks, anything below the surface – in oil fields they may be working on or intending to develop."

Water pressure is well understood – but rocks? "Rocks consist of more than just solid matter; there are pore spaces within them which contain fluids whose pressure is very important."

"Also important is the stress that's transmitted between the grains of the rock. So the whole build-up of pressure is critical to safe development of a site and we can estimate for the client precisely what that pressure is doing."

"For this, we employ various geological principles as well as our own unique methods and data collected from a whole variety of wells."

The oil industry's bold new strides in explorative growth must mean that for Ikon GeoPressure the future looks brighter the darker it gets down there.

"Indeed, we expect to expand even faster with new science and innovations, including real-time pore pressure monitoring to help explorers and producers overcome their greatest challenge: drilling safely and efficiently in new frontiers and deep water."

Traditional values. Modern thinking.

As members of the North West Business Leadership Team we are proud to have supported the development of the North West Energy Squared (NWE2) model for the International Festival of Business.

Dewhurst Torevell provides independent financial advice and active investment management to a growing number of high net worth clients across the North West and the United Kingdom.

Our wealth management business is focused on delivering excellent service and building long term relationships with our clients and professional connections. In many cases we provide advice to several generations of the same family, offering continuity of support from a well-qualified team of advisers and support staff.

We are proud of our investment track record. Our approach to investment research combines rigorous financial analysis and regular meetings with senior fund managers. This approach takes time but we believe the perspective and insight this provides leads to better investment decisions and advice.

If you think that there are any areas where our long term commitment and perspective could be useful to your financial plans please contact us at our Manchester office on 0161 281 6400 or via our website www.dewhurst-torevell.co.uk.

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Mission is possible: to get the best out of Africa

Rick Wilson talks to an award-winning company which is not just about selling products but making sure they are used effectively and efficiently by skilled people

It could only happen in Livingston, one presumes. There is a missionary zeal instantly detectable in the long, low modern building there that houses the 27-strong team of Johnson & Johnson Professional Export as they prepare – less usually – to focus on Buckingham Palace and the royal grandeur of being awarded the Queen's Award for Enterprise in International Trade.

More usually, they are focused on faraway emerging markets in Iran and Malta and especially the challenging under-served countries of sub-Saharan Africa. A central feature of their office in the West Lothian new town is a huge map of the world... around which they clearly know their way.

Why are we talking geography? A clue may be in the word “export” in the company's title. But Johnson & Johnson is about baby powder, is it not, and – fine product as it is – that might not be one of Africa's most urgent requirements?

“That's how most people relate to the name,” says managing director Ian Walker. “But it's a huge global structure with the parent company divided into three major sectors – consumer (that's the baby powder, etc), pharmaceutical, and Medical Devices and Diagnostics (MD&D) – which is where we fit in.”

The MD&D business segment produces a broad range of innovative products and solutions used by healthcare professionals in general surgery, orthopaedics, neurological disease, vision care, diabetes care, infection prevention, diagnostics, cardiovascular care, and aesthetics. Some of the leading Johnson & Johnson businesses of MD&D include DePuy Synthes, Ethicon, Acclarent, Biosense Webster, Cordis and Mentor.

The J&J Professional Export team is by comparison – certainly with 125-year-old parent company's worldwide staff of 123,000 – relatively modest, though its impact is anything but, having won not just that prestigious award but also the admiration of many colleagues in Commonwealth countries who have been mightily impressed by the news and have sent effusive messages of support.

The team is based at the same Kirkton

Campus facility as the company's state-of-the-art facility where 400 people are employed in the manufacture and distribution of Ethicon surgical suture devices used every day in surgical procedures globally, including those countries serviced by Johnson & Johnson Professional Export.

Serviced in more ways than one. This operation is not just about organising the export of these products to 45 distributors in 43 countries, it is also about expanding access to medical expertise in emerging markets with under-served communities – particularly in Africa – to stimulate new confidence and private sector development to face the continent's “immense” healthcare challenges.

“Africans absolutely want new businesses,” says Mr Walker. “There's a very entrepreneurial spirit there, and by helping them to grow businesses we can then re-invest back into these areas.”

“There comes a point where, if you're growing a business in Africa, the needs of the people and the surgeons to get access to quality healthcare and products reach a point where they have to undergo additional surgical training. We could take surgeons from there and send them to our training centres in America or Europe but we don't think that would be the best option. The best way to do it is to get people trained locally in the spirit of that old adage that if you give someone a fish they'll eat one meal; but if you teach them how to fish, the family will eat for the rest of their lives.”

To that end, with local government cooperation, J&J has established two regional training centres in Ghana and Kenya – in partnership with Korle Bu Hospital in Accra and the University Medical School in Nairobi. Through these facilities, it has been able to train more than 1,200 healthcare professionals across a range of surgical procedures, enabling expanded access to healthcare for patients in parts of the region that have historically been more challenging to reach.

To some, that might look like a copper-bottomed assurance of product sales to come, but Mr Walker says: “No, not necessarily. We're big enough to realise that, if we train surgeons, it doesn't



J&J's training centres in Kenya and Ghana have trained 1200 healthcare professionals in surgical procedures

imply that there's an obligation to use our products in the future. We don't mandate that. We train them in procedure and it's then up to them whether they think our products are good enough. Setting any kind of condition would be completely the wrong thing to do.”

In any case, this reaching-out chimes positively with the company's philosophy embodied in what other firms might call in words reminiscent again of explorer David Livingston – their mission statement. The difference is that J&J's giant 300-word moral compass is called Our Credo and it's “a good deal more than one statement”, with all employees, right across the board in all divisions, “living and breathing” its 70-year-old guidelines with an unusual corporate enthusiasm.

“We even have Our Credo in Swahili,” he adds, chuckling at the thought. “And I can tell you that translation was quite a challenge.”

“But for me, the most important sentence in it is the very first one: ‘We believe our first responsibility is to the doctors, nurses and patients, to mothers and fathers and all others who use our products and services’. Because J&J is not just about selling products; we've got to make sure they're used effectively and efficiently by skilled people. And if you get that right, the rest of it should take care of itself.”

The award-winning company is a division of Johnson and Johnson Medical Ltd, which can claim a record of previous



Ian Walker says there is a very entrepreneurial spirit existing in Africa

Experts in export

It might look like a deskbound operation with so many departments – from commercial through finance to general management – seemingly well planted in its West Lothian office. But J&J Professional Export has deceptively wide horizons and does what it says on the tin: it exports professionally – this year to no fewer than 25 African countries, from Ghana and Kenya to Mali and Zambia.

At time of writing it had representatives off to Zambia, Mozambique and Angola, and MD Ian Walker – who has personally visited Ethiopia, Ghana and Kenya this year – says: “We're proud of the fact that the expertise is here in West Lothian to be the biggest exporter from Scotland to Africa for medical device products.”

Queen's Awards through Ethicon – in 1966, 1970, 1975, 1977, 1990 and 1995. This one was earned on the basis of three achievements by J&J Professional Export: significant business growth, the aforementioned surgical training, and corporate social responsibility (CSR) work.

While there is a significant element of life- and skills-improving CSR within the first and second brackets of business growth and investment in training in Africa, the team is careful to not neglect its domestic base, an integral focus of the company since the Credo was penned in 1943: “We are responsible to the communities in which we live and work ... We must be good citizens – support good works and charities and bear our fair share of taxes. We must encourage civic improvements and better health and education. We must maintain in good order the property we are privileged to use, protecting the environment and natural resources.”

Last June Johnson & Johnson Scotland won the CSR award in the Scottish Business Awards and it supports local young people pursuing health careers through the Bridge to Employment programme. Its employees demonstrate commitment to service through a Save the Children volunteering programme, with Edinburgh as one of the key focus locations, which helps families in need transform their living environment.

Talking of Edinburgh, the affable Mr Walker – who lives in a leafy village near Dunfermline – got his MBA in international business at the capital's university and is quite taken by the idea that his company is now linking back to that by assisting with projects for students there who wish to follow its footsteps into medical care in emerging markets – and into the great new challenging horizons of Africa.

As Denis Robson, the company's director of African affairs, puts it: “Although Africa is the new frontier, the health burden is considerable and resources very limited. Our support through medical education and products help our local partners transform the lives of these communities.”

It's all in the spirit of Livingston, one presumes.

QUEEN'S AWARDS: HEAT TRACE

Piping hot innovation rewarded

Delivering drinking water to the Inuit people of Canada is just one application of this company's technology, writes **Alex McDiarmid**

Self-regulating heating cable is not something too many UK residents are familiar with, but it's a different matter in northern Russia, China and Scandinavia, not forgetting Canada. For while many clients are currently applauding the news that its maker, Heat Trace Ltd, is to receive the Queen's Award for Enterprise in the Innovation category, few are more appreciative than the Eskimos who warmed to the product – almost literally – a good few chilly moons ago.

"The relevant local government in northern Canada has been a very good client for many years," says managing director Dan Berrisford, "using our cable to distribute drinking water to the Inuit community and therefore being assured that their systems won't freeze or seize up."

But the cable's virtues are by no means confined to residential needs. Heat Trace also does vital work in transportation, commercial and industrial fields – where applications for electric trace-heating are found in refineries, pharmaceutical production, power generation, water and waste treatment plants, food processing, and of course oil and petro-chemical plants.

Heat Trace makes and sells full heat-tracing systems for pipelines, complex in-plant piping systems, buried or sub-sea pipelines, safe or hazardous area installations, heated helidecks, tanks and ships; along with temperature maintenance, or raising, up to 600°C.

Innovation is the company's watchword across all of these fields, and its people believe the Queen's Award has come in recognition of that. It invests a significant proportion of its revenue in research and development, resulting in many new ideas and processes. The result has been a stream of novel, patented products – both heating cables and control and monitoring equipment – that has seriously influenced the direction and focus of the heat-tracing industry.

Indeed, the company's founder, owner and current chairman Neil Malone says: "Heat Trace's innovation culture has filtered down to its second generation. It now has more patents or applications than at any time in its 40-year history."

It is a history begun by Mr Malone himself when he saw an opportunity in the early 1970s and decided to develop it for Britain. His company now employs 63 personnel at its two plants in the North West – the main corporate HQ in Helsby, Cheshire and at the company's Technology and Innovation Centre in Bredbury, Cheshire. Its products are distributed through affiliate companies, partner companies and distributors, strategically located around the world to ensure representation in over 50 countries.



From the start, Heat Trace developed products and systems that not only satisfy new European standards but also meet its own corporate aims of "improving safety, efficiency, reliability and performance". These highly-focused objectives engendered a corporate culture that remains to this day.

One outstanding example of its innovative thinking is Powermatch, a self-regulating controller (as opposed to on/off control) that turns heater power up or down in response to changes in heat. Although launched some years ago, its energy-efficiency benefits are ever more relevant in today's world of major environmental issues. A more recent brand, HeatSafe, has been launched to satisfy the heating requirements of residential and light commercial applications. It comprises a complete range of safe, modular, easy-to-fit, heating and freeze protection solutions, created to the customer's own requirements and designed for easy installation with no need for a professional installer or electrician.

Employing multi-purpose, self-regulating heaters, the HeatSafe range is an affordable solution for the consumer

with applications that include pipe freeze protection, roof and gutter heating, snow and ice prevention on paths, steps and driveways; horticultural soil warming for seed and plant propagation.

Today, Heat Trace's range of electronic control and monitoring equipment extends from simple thermostats to microprocessor controls capable of integration with full plant supervisory control and data acquisition (SCADA) computer systems.

"We pride ourselves in having good, clever ideas, most of which are the brainchild of our technical director Jason O'Connor," says Dan Berrisford. "But what is most important is that we achieve commercial success from these over a period of time; so for me innovation is very much about making success from great ideas. We think it's the combination of these two things that has won us the award. And we are, of course, very proud about that."

But what, in simple words, does the product look like and what is its basic raison d'être? "Trace-heating is now a well-established control system for any kind of industry that is processing temperature-sensitive fluids and gases – be

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Our innovation culture has filtered down to its second generation and has more patents than at any time in its 40 year-history

it oil or chocolate – that have to flow through pipework," he says. "We make and supply the trace-heating cable that can stop such pipes freezing or maintain them at the optimum temperature for safe and efficient product transfer.

"The product is a cable strapped to the outside of the pipe and it uses semi-conductive technology to self-regulate, which essentially means that as the pipe heats up the cable switches itself off – and that means it's inherently safe and energy efficient. The safety aspect is really important, of course, given that a lot of the products go into hazardous areas such as in the oil and gas industry.

"Oil particularly needs to be maintained in pipework at around 60°C to make sure there is an effective and efficient flow – and that is especially important when the oil contains a lot of impurities."

Such as Scotland's, perhaps? "Yes – while we are mainly an exporter we recently began to take on direct business in the UK and we had a quite challenging project in Scotland two years ago. It was a first from an innovation point of view, working on a sub-sea pipeline in the North Sea. The contract was for an Aberdeen-based company. The cable was put on the pipe at Inverness, where we based four staff for a couple of months; then we had one colleague on the ship that laid the cable."

Why such a challenge? "It was a first because the product being transferred contained a lot of waxy deposits in the pipeline and the topography of the seabed in that area was undulating. When you get troughs in the pipeline that's where the deposits settle that can – in extreme cases – cause dangerous blockages. So our product is a safety mechanism as much as it's an efficiency mechanism for the extractors."

Heat Trace's work also takes in office blocks, institutional buildings, hospitals and nursing homes, leisure complexes and educational establishments, where it supplies energy-efficient systems for freeze protection of pipes and tanks, hot water pipes, heated walls, and heating for storage tanks and snow or ice prevention on roofs, gutters, roads, ramps, walkways, steps, and access areas.

In other words, future opportunities for what he says is "still a family business" are everywhere, and Mr Berrisford's partner Suzanne, who took over his position as finance director when he became MD 18 months ago, is anticipating a pretty heavy workload after she travels to London with Mr O'Connor for the Award presentation in July.

Dan Berrisford says a combination of clever ideas and commercial success helped win the award



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