



Score **Energy Limited**

Intelligent Gas Turbine Solutions™

www.score-energy.com

Gas Turbine and Accessories Specialist Newsletter

Issue 4 November 2018



About Score Energy

Score Energy is an award-winning, global service company which focuses on integrated gas turbine solutions for the oil, gas, and energy industries. The company's specialist teams work around the clock to deliver exceptional customer services.

From the manufacture, overhaul, test, supply and exchange of fuel systems, accessories and auxiliaries, through to global field service support, overhaul, repair, testing and supply of gas turbines, along with the design and manufacture services for obsolete controls and support system modules such as fuel, oil and instrumentation. the company leads the market in third party services provision for the industrial gas turbine operator and service provider.

Score Energy's industry leading quality and OEM approved solutions are ready to be called on at a moment's notice. More than 30-years of experience ensures each project is customer focused, cost effective and delivered on time.



Calum Melhuish - Sales Director

It's hard to believe that we are already in the fourth quarter of 2018, this year has flown by with some exciting moments for Score Energy, and interesting ones still developing for the UK and the global Energy industry.

It has also been positive to see the Oil price rising steadily through the year, to what many in the industry believe to be a stable position that will hopefully allow continued investment by our customers in the industry and their gas turbine assets.

Over the past 12 months at Score Energy, we have expanded our AS9100 quality accreditation, as well as achieved the ROSPA gold award for Health and Safety for the third year in a row. Increased customer numbers as well as year on year growth, whilst adding more than 30 people to the team is hopefully a great indicator of for the 12 months ahead.

We also increased our investment through 2018, which is aligned with some significant developments and new global contracts that will be announced in the coming months. These achievements really do solidify Score Energy's position at the forefront of Gas Turbine technology and capability, ensuring our ability to offer you our customers expanded services and support for many years to come.

Stateside, our overhaul facility in Houston Texas continues to go from strength to strength with a record amount of customers and customer satisfaction in 2018.

With all of that 2019 is shaping up to be an exciting year for Score Energy, our team members and hopefully you our valued customers. Thanks for your continued custom, we do this with one aim in mind and that's to offer you and your gas turbine the best service possible.

We hope that the features in this issue of the Score Energy Newsletter will be of interest and value, and look forward to any feedback which you may have.

Thanks again for your continued business, Calum



Score Energy Expands Field Services Technical Capabilities And Generates Jobs For North East



Score Energy, has expanded its Field Services division, adding an instrumentation and controls department generating a significant number of jobs.

Our organisation already has extensive customer demand for technicians and engineers to attend sites globally, carrying out routine inspections and maintenance, providing first hand professional assistance on their aeroderivative and light industrial gas turbines.

The division delivers troubleshooting capabilities – mechanical or controls, Boroscopic inspections, gas turbine installation and commissioning, on-site repairs, engine removal or re-installation, site assessments and vibration analysis.

The department offers support to a broad range of common and legacy control systems typically no longer or sparsely supported by the OEM, ensuring our customers gas turbines are kept running and not facing

obsolescence and expensive upgrade bills safeguarding the longevity of the equipment and extending life cycles.

Managing Director of Score Energy, Julia Brown, said:

“At Score Energy our priority is to always deliver cost effective and time efficient services to all our clients. We have delivered Field Services for several years now, with an unrivaled track record for customer focused solutions, service and satisfaction.

The expansion of our instrumentation and controls department offers us an opportunity to answer the ongoing demand we have for specific services. We have a world leading reputation for delivering overhaul, repair, upgrade, modification, testing and supply of gas turbines, along with their fuel systems and accessories – and we will continue to build on that reputation.”

Score Energy Achieves AEO Status

Score Energy has been approved as an Authorised Economic Operator (AEO) by Her Majesty’s Revenue and Customs (HMRC). This was awarded and became effective as of 2nd May 2017.

As detailed on [our website](#), AEO status is an internationally recognised quality mark indicating that your role in the international supply chain is secure, and that your customs controls and procedures are efficient and compliant. It isn’t mandatory, but it gives quicker access to certain simplified customs procedures and in some cases the right to ‘fast-track’ your shipments through some customs, safety and security procedures.

This approval is a major achievement and brings with it a number of changes within Score Energy; especially in security arrangements to ensure that everything to be sent through customs is recorded and compliant with HMRC policies.

Fun fact: Gas is shrunk by 600 times to form a liquid before being transported. That’s like squashing the world’s tallest building, the Burj Khalifa at 830 mtrs, down to the height of an average man. It makes for a much more efficient method of transport, which is essential because the UK gets gas from all over the world – shipped from as far as the Arabian Gulf (6,140 miles away)

Peterhead Academy's "Girls Into Energy" Initiative Visit Score



Thirteen third year girls from Peterhead Academy visited Score Energy Limited in Peterhead on 19th March. The girls are all taking part in the Girls into Energy programme delivered through North East College Scotland (NESCol) in Fraserburgh.

Their day began with a Safety Induction at the facility's lecture theatre before then being given a presentation about the company highlighting careers and opportunities offered. Following this, an opportunity was then given to speak with a few of our current female apprentices from both the Turbine and Valve divisions.

The girls were then given a guided tour of Score Energy Limited which is a vast facility and houses the company's Industrial Gas Turbine, and Fuel Nozzle and Accessories divisions in addition to the Glen Test Cell.

The Glen Test Cell is a state-of-the-art facility where turbines are tested with full monitoring technology with it being one of the very few places in Europe where this can be done.

The girls asked many questions during the tour and a further opportunity was given for questions at the end of the day while they enjoyed some refreshments.

The Girls into Energy course is a vital initiative delivered via NESCol in local schools to help girls build a view of modern engineering and STEM careers. The hope is that some will choose this area as a career path and therefore assist in addressing the gender bias in these important and rewarding career paths.

Fun Fact: the world Energy consumption is estimated to increase by 56% by 2040.

Extending The life of Gas Turbines in Harsh Environments



From -30C to +41C. From dry desert to constant rain and salty sea water. The oil and gas industry is a diverse and tough environment to operate in, no matter where in the world you are based.

These harsh environments create risk and that's why asset integrity and platform life extension is an integral part of oil and gas production globally. Not only is it important that the asset is up to standard to continue to produce but it's also imperative from a health and safety of the men and women working on the platform.

In November 2017 the UK Health and Safety Executive (HSE) created a page on its website discussing the 2011-2013 study conducted across the industry called Ageing and Life Extension (ALE) Programme (KP4).

The document "identified areas of industry strengths, and areas for additional focus, which will deliver improvements for the long-term management and assurance of workforce safety on offshore installations on the UK continental shelf through to cessation of production and into decommissioning."

In areas where power cannot be easily accessed in remote areas throughout the world, gas turbines – which burn a

mixture of air and fuel, causing hot gas to drive the turbines which then produce power – can be the primary source of energy. However, harsh environments and longevity of the industry on the UK continental shelf means continued maintenance and platform life extension includes the maintenance of critical and often aged equipment like a gas turbine.

With world leading facilities in Peterhead, Scotland, the organisation provides vital field and depot services to its loyal clients, extending the life span of gas turbines throughout the globe.

The company, which employs more than 140 people all working to the latest quality standards throughout the world, has state-of-the-art, purpose built gas turbine overhaul workshop, providing operators with a complete service for Siemens industrial (Rolls-Royce) Avon and the Siemens (Ruston) TB5000 / 5400 Gas Generators and Power Turbines. Its 11,000m² facility has dedicated workshops with capacity to process the range of gas generators and power turbines simultaneously through the workshop.

The team of Score engineers, who pride themselves in their safety processes and procedures, often maintain gas turbines which are more than 40-years-old. The company also has a dual fuel test cell capable of testing up to 60MW on gas or liquid fuels, known as the 'GLEN', located in the same facility as the extensive gas turbine overhaul workshop. Where a customer witness is required but not convenient for the customer a secure online test environment is available. From this online environment performance data, vibration analysis and a live digital camera feed can be viewed.

Keeping everything in-house permits the Score Energy team to maintain strict control over the quality and turn-time delivering a faster more flexible solution to its customers. All work comes with a market leading warranty.

That warranty is a sign of support, integrity and pride offering clients a promise that the work carried out by Score Energy is of the highest quality and that it has longevity and durability – ensuring the global oil and gas industry is provided with power for a further 40 years, and who knows? Maybe longer!

Fun Fact : Water doesn't actually conduct electricity. Impurities in water is what makes it conduct electricity.

Score Energy Receives Triple Recognition for Commitment To Quality, Health and Safety



Score Energy continually strives to exceed the highest quality and safety standards within the gas turbine industry. In recognition of this commitment, the company was delighted to receive 100% in all areas in our last audit from Achilles, an independent provider of supplier risk management services.

Achilles manages a database that provides a unique community in which organisations can form trade relationships. In turn, they deliver managed supplier pre-qualification programmes, carry out industry audits, mitigate risks, cleanse supplier data and provide reports and analysis to drive continuous improvement – Reducing the time and resources spent on pre-qualification and sourcing.

Additionally, Score Energy has also successfully transitioned to the latest revision of a globally recognised aerospace standard, meaning we can continue serving the aviation, space and defence sectors with the latest approvals.

The aerospace management systems standard of excellence (AS9100:2015/AS9100 revision D) shows new and existing clients that Score Energy is operating at the highest of standards. The certification is awarded by Lloyds Register to organisations which meet its demanding requirements.

In order to retain the new certification we have demonstrated high quality management systems, a dedication to leadership and commitment to customers.

Gordon Stewart (QHSE Manager) of Score Energy said: "This new certification is recognition of the continuing hard work and dedication our teams of professionals put into servicing our existing clients. We pride ourselves on our ability to deliver excellent customer service alongside delivering exceptional projects which are delivered on time, in a cost-effective manner, anywhere in the world."

More recently, Score Energy achieved our 3rd consecutive Gold in the internationally-renowned RoSPA Health and Safety Awards.

The RoSPA Awards scheme, which receives entries from organisations around the world, recognises achievement in health and safety management systems, including practices such as leadership and workforce involvement.

Julia Small, RoSPA's head of qualifications, awards and events, said: "The RoSPA Awards are the most highly-respected in the health and safety arena, with almost 2,000 entrants every year, and allow organisations to prove excellence in the workplace, demonstrating a commitment to the wellbeing of not only employees but all those who interact with it."

First TDI Sprag Clutch Installed On An LM6000

Score Energy has recently been an integral part of the team involved in installing the first TDI 56H sprag clutch on a GE LM6000 gas turbine for one of their international clients.

Operators have reported that some clutch types being used within gas turbine industry are failing to disengage due to contamination issues. Failure to disengage results in the hydraulic motor portion being driven past its design rating leading to catastrophic failure.

Score's client has previous experience of this failure mode across their fleet leading to unplanned down time & the associated costs attributed with these types of failure. As a result they enlisted Score's help in resolving the issue.

A team of experienced engineers, from Score Energy, the customer and the OEM, TDI, travelled to their site and successfully installed and operated the 22 point TDI 56H Sprag Clutch on the LM6000 gas turbine.

Calum Melhuish, Sales Director for Score Energy, said: "Score Energy became an approved distributor for TDI, a GE owned company, in 2012. It was a natural fit into our existing portfolio, in that it allowed us to offer additional quality technical solutions to our established customer base, as well as offering a new customer focused fix to an industry known issue, something which we at Score Energy are renowned for.

The feedback from our client has been very positive and we look forward to assisting with future solutions"

Client feedback:

"In October 2017 at one of our LM6000PD sites the starting system was converted to accommodate a TDI 56H starter clutch. We are convinced it will ensure trouble free operation for at least 25K hours and avoid catastrophic failures as experienced with the current ones. Thanks to a thorough preparation and communication between all parties involved all components and test procedures were at hand resulting in a successful modification, no surprises occurred. The clutch performed as expected during test start/base load and observed parameters within normal limits"

Fun fact: If a person yelled for 8 years, 7 months, and 6 days, he or she would produce enough energy to heat one cup of coffee.

Meet The Team: Girls In Energy Special

Left to right: Christine, Morgen and Emma



Apprentice Christine



At Score Energy we strive to increase the number of female apprentices we take on yearly, not because it makes up any “numbers quota” but because we find they make great apprentices. It’s often found that girls are more prepared for their new role and excel in their engineering apprenticeship, yet over the last decade in the UK, no more than 5% of young people starting an apprenticeship in engineering have been female in any one year.

We caught up with three of our female Engineering Technician apprentices to find out what they have achieved so far, how they see their future in Score Energy, and how they feel about being a minority in the engineering industry...

Christine is currently in the final year of her apprenticeship, qualifying in January 2019: “I was brought up on a farm, and loved helping my dad fix and maintain machinery, so I’ve always had an interest in engineering.

I’m very proud of getting an A in my HNC exam. I’m also proud that I made an impact while being in the drawing office, so I was welcomed back there fulltime. It was somewhere that I always saw myself going.

I don’t see being a minority in the industry as an issue, in this day and age I think there’s less stigma of being a female, and you get treated the same as the guys. I do feel like we have to prove ourselves that bit more though, but then it’s just motivation to do better. I think that’s why the majority of girls I know within engineering have all received A’s in their exams.

I’ve always wanted to go to university; a year or two ago, I had spoken to the Score training team about continuing my studies to HND, which will lead to university. They encouraged me and advised that they will support me should I continue. I’d like to get as high a qualification as I can, and just continue doing what I’m doing.”

Advice for female Engineering Technician Apprentices – “You might be intimidated now, but go in and prove yourself; just stick in, work hard, and prove yourself. We’re just as equal.”

Emma is in the 5th year of her apprenticeship, currently working in the Turbines department: “I started at Score as an Admin apprentice and during a year in the production office, I was getting a glimpse into the engineering side of the company which I found really interesting. I then spoke to the Score Apprentice Co-ordinators and reapplied for an engineering apprenticeship.

College was really challenging, especially because I had never done anything at school to prepare for engineering. The subject was totally new to me. But I enjoyed it, so I don’t really see myself stopping anytime soon.

Being a female in the workshop, especially having moved into the workshop from admin, I felt I had to prove myself. I think it makes some girls better apprentices, and better workers.

It’s the same as any workplace, if you were in an office with guys, you’d probably get the same banter. I don’t see it as being any different to any other job.



Apprentice Emma

Fun fact: Google accounts for roughly 0.013% of the world’s energy use. It uses enough energy to continuously power 200,000 homes.

In the future I'd like to be in the situation that if I was needed offshore, I could go, and I'd be very comfortable to do so. I would really like to be doing a job that I know well, and I'm respected for too."

Advice for female Engineering Technician Apprentices – "Don't be scared to give engineering a go. It's like going into any job after finishing school. You're going to be nervous and wary about what's going to happen. But it shouldn't be any different than going into any other job."

Morgen is in the 5th year of her apprenticeship based in the aeroderivative Accessories department: "I became interested in engineering because my dad used to work in a similar industry, so I've always been interested since a young age.

I found college difficult, but despite this, I worked hard in my HNC and I was delighted to get an A in my exam, that's something I'll always be proud of.

Being a female apprentice, I don't think it's any different to being male. We just get treated the same, and I like it that way.

Although I enjoyed my time at college, I don't plan on continuing my studies after my HNC. Because you don't have to have a HND or a degree to progress in Score, I plan on working hard and concentrating on my workshop skills and knowledge. Moving up the ranks within my current department is my goal.

However, I couldn't see myself becoming a team leader, as a lot of their work is office based. I'd rather be in the workshop than working in an office, doing that just doesn't appeal to me at the moment. I really enjoy my current role and would recommend it to any girl as a future career."

Advice for female Engineering Technician Apprentices – "If it's what you want to do, do it. I love my job, and it was the best decision I could have made, so go for it."

For the full article visit:

Apprentice Morgen



Fun fact: natural gas is odorless, so energy companies add the smell of rotten egg (mercaptan) to enable customers to detect natural gas.

This is also helpful in detecting natural gas leaks.

Score Energy Event Attendance 2018/2019



ADIPEC
November 12-15
Abu Dhabi, UAE



Power-Gen International
December 4-6
Orlando, Florida



WTUI
March 17-20, 2019,
Las Vegas, Nevada



Power-Gen Asia
September 3 -5 2019
Kuala Lumpur, Malaysia



Power-Gen Europe
12 - 14 November 2019
Paris, France

For more information and on these events please email:

or visit:



Fun Fact: Benjamin Harrison, the 23rd president of the US, was the first president to have electricity in the White House but he never touched any light switches because he was too scared of getting electrocuted and would often go to sleep with the lights on.



Score **Energy Limited**

Intelligent Gas Turbine Solutions™

www.score-energy.com

Here for you, did you know we do this?

GE LM Gas Turbines:

New Manufacture, Supply, Exchange, Inspection, testing, repair and overhaul of Fuel systems- from Fuel control valves through to fuel nozzles and premixers, Accessories and Auxiliaries.

All completed as per our unique OEM approvals.

Solar® gas turbines:

Inspection, testing, repair and overhaul of Fuel Injectors, Accessories and Auxiliaries across the range of Solar® gas turbines.

All completed to our industry leading quality standards.

GE Frame 5 Units:

- Inspection, Testing, Repair and Overhaul of Fuel Burners, Accessories and Auxiliaries.

Siemens (Rolls Royce) Avon:

- Field Service - Mechanical and Controls
- Repairs and full zero hour Overhauls
- Gas Turbine dual fuel testing
- Turbine Parts supply- OEM and Score manufactured components.
- Supply, Exchange, Inspection, testing, repair and overhaul of Fuel burners, Accessories and Auxiliaries
- Fuel skid upgrades
- Controls modifications and upgrades
- Engineering Consultancy

Siemens (Rolls Royce) RB211:

- Gas Turbine dual fuel testing
- OEM Turbine Parts supply
- Supply, Exchange, Inspection, testing, repair and overhaul of Fuel burners, Accessories and Auxiliaries.
- Fuel Skid upgrades

Siemens (Ruston) TB Range:

- Field Service - Mechanical and Controls
- Repairs and full zero hour Overhauls
- Gas Turbine dual fuel testing
- Turbine Parts supply- OEM and Score manufactured components.
- Supply, Exchange, Inspection, testing, repair and overhaul of Fuel burners, Accessories and Auxiliaries.
- Fuel Skid upgrades
- Controls modifications and upgrades
- Engineering Consultancy

Company Headquarters:

Score **Energy Limited**

Ian M. Cheyne Building

Glen Test Facility

Wellbank

Peterhead

Aberdeenshire AB42 3GL

United Kingdom

Tel: + 44 (0) 1779 482 300

Fax: + 44 (0) 1779 482 345

Email: energycustomersupport@score-group.com

Website: www.score-energy.com

www.score-group.com



Part of the
Score Group plc
Group of Companies

