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## CHTA Secretariat

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The Contract Heat Treatment Association is not responsible for the statements made or opinions expressed by contributors to *Hotline*.



CHTA is affiliated to the Surface Engineering Association

## SEA and energy prices

### AN UPDATE FROM SEA CEO DAVE ELLIOTT

Over the years, the SEA has been instrumental in getting the sector access to climate change agreements and Min/Met exemptions but, as the make-up of energy bills keeps evolving, we have been looking at further ways to reduce total energy bills for members.

A number of years ago we met with BEIS (Department for Business, Energy & Industrial Strategy) to discuss the potential inclusion of our sector's SIC code into the compensation scheme for EII (Energy Intensive Industries). The scheme provides businesses with relief for the costs of the UK Emissions Trading Scheme (ETS) and Carbon Price Support mechanism in their electricity bills, recognising that UK industrial electricity prices are higher than those of other countries. The outcome of the meeting was that BEIS were unable to change the eligible SIC codes as this was an EU scheme.

Following the UK's withdrawal from the EU, we spoke to BEIS again and were advised that a consultation would be launched looking at extending the eligibility criteria. The SEA participated in the consultation and asked for the sector to be included.

In May 2022, the SEA participated in the EII Stakeholder Forum where we were informed that the number of SIC codes had actually been reduced. Our sector was not considered to be at risk of direct carbon leakage. (Carbon leakage occurs when emissions are reduced in the UK due to industry moving offshore where it is cheaper to operate because carbon policies are less ambitious or non-

existent). This shows a complete lack of understanding of manufacturing supply chains within the UK and the vital role that our sector plays.

We are continuing our efforts and will arrange meetings with the new Ministers once the summer recess and conference season are out of the way.



A simple guide to  
flexible energy contracts.



Following the astronomical increases in energy prices, the SEA recently arranged four webinars, with partner organisation Control Energy Costs, in which CHTA members may have participated. The purpose of the webinars was to advise members of their options should they be renewing contracts shortly. Whilst nothing can be done regarding the actual energy costs, the impact of increases can be substantially reduced by exploring alternative energy purchasing arrangements. The guide to flexible purchasing was e-mailed to CHTA members in July.



### PERFORMANCE REVIEW INSTITUTE

Since being established as a not-for-profit trade association in 1990, *Hotline* sponsor PRI has become the global authority in facilitating industry-managed programs and administering critical process accreditation programs, as well as developing web-based audit management software. (<https://p-r-i.org/>)

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November 14-15 2022: **NADCAP AUDIT PREPARATION: HEAT TREATING** Manchester

November 16-17 2022: **INTRODUCTION TO PYROMETRY** Manchester

### PRI heat treating webinars

For details go to PRI Training ([pri-training.com](http://pri-training.com)); also see *Hotline*'s page-8 diary.



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# The journey to net zero for an energy-intensive company

## Guidance from CONTROL ENERGY COSTS

Net zero is a goal that we encourage all UK businesses to work towards to protect the planet and reduce further global warming. The UK set a target to achieve net zero by 2050, which is looking increasingly over ambitious unless businesses act immediately.

There are also benefits to businesses, especially those in energy-intensive sectors, as part of the journey involves reducing your energy consumption, particularly important with the current high energy prices.

Moving to net zero will also support your environmental, social and corporate governance (ESG) credentials with your customers, employees, supply chain and potential investors.

### Net zero or carbon neutral?

The first step in the journey is to understand the difference between net zero and carbon neutral.

The Greenhouse Gas Protocol establishes a comprehensive framework for measuring and managing greenhouse gas emissions from private and public sector operations, value chains and mitigation actions.

They have produced the world's most widely-used greenhouse gas accounting standard. This includes three scopes of emissions.

### Scope 1

Scope 1 greenhouse gas emissions are the emissions released into the atmosphere as a direct result of an activity, or series of activities, carried out by a business. These are often referred to as direct emissions, such as processing product, heating an office or transporting goods by vehicle to a customer.

### Scope 2

Scope 2 is the energy your business purchases; in other words, the emissions created in the production of energy that is eventually used by the company. This can be zero if you are purchasing 100% renewable energy. More on that later.

### Scope 3

Scope 3 covers a much wider remit and includes transportation and distribution, waste generated, leased assets, business travel, employee commuting and purchased goods and services through the supply chain, water consumption and IT equipment and

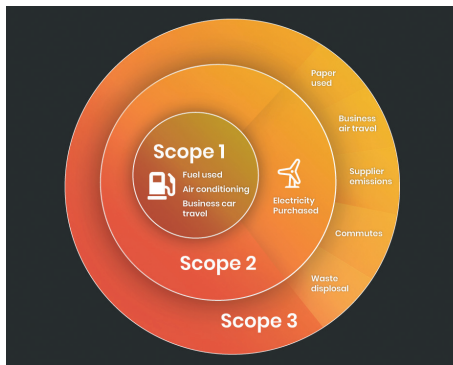
services. It covers all your indirect emissions.

### Carbon neutral

Carbon neutrality is defined by an internationally-recognised standard, PAS2060, which sets out requirements for the quantification, reduction and offsetting of greenhouse gas emissions.

Achieving carbon neutral status only covers scopes 1 and 2, with scope 3 emissions encouraged but not mandatory. To be carbon neutral, a business needs to offset the carbon they directly emit into the atmosphere and look at the energy they are using, offsetting the emissions associated with this power generation.

A business can eliminate scope 2 emissions by exclusively purchasing 100% green energy.



### Net zero

Achieving net zero takes it one step further, covering scopes 1, 2 and 3, and is therefore more challenging to achieve. It involves much more upfront work to collect and process data, setting targets that must align to a 1.5°C science-based target.

Achieving net zero requires more investment and buy-in from all areas of a business and thought needs to go into how to achieve it.

### What can your business do to start a journey to net zero?

There are a number of measures you can take, including:

- Establishing your carbon footprint.
- Setting up 100% renewable energy contracts, which eliminates your scope 2 emissions.
- Offsetting your carbon emission whilst you work on a net-zero plan.
- Understanding your energy consumption, identifying wastage and working to eliminate it.

- Adopting energy-saving technology.
- Moving to electric vehicles.
- Considering onsite renewable energy generation.
- Starting to engage with your supply chain to encourage them to work towards net zero and discover what progress they have already made – their emissions reduction will help you get to net zero more quickly.

### Legislation and Government schemes

There are several pieces of Government legislation to be aware of. For energy-intensive industries, the EII exemption is particularly important.

### Energy Intensive Industries (EII) exemption

Even before the current rises in energy prices, the Government's low-carbon targets resulted in an increase in the retail price of electricity, meaning that energy-intensive industries are faced with a possible financial disadvantage when competing in overseas markets.

In recognition of this, the Government introduced a scheme to assist Energy Intensive Industries (EIIs), providing a discount on the cost of Contract for Difference (CfD), Renewable Obligation (RO) and Small-scale Feed in Tariff (FiT) where they meet certain criteria. SEA efforts to gain participation for its sector are reported on page 1 here.

### Streamlined Energy and Carbon Reporting (SECR)

Large companies, as defined by the UK Government, are required to report on their annual energy consumption including gas, electricity and transport, the associated greenhouse emissions and to give a narrative on their energy efficiency measures.

### Climate Change Agreements

Climate change agreements (CCAs) are voluntary agreements made by businesses to reduce energy use and carbon emissions (CO<sub>2</sub>). In return, these businesses receive a discount on the Climate Change Levy (CCL), a tax added to electricity and fuel bills. CHTA members benefitted from CCAs before Min/Met exempted them from CCL.

### Renewable energy

Moving to a 100% renewable energy contract would represent a huge leap forward for any business on a journey to

net zero, and a cost-effective way to make an immediate impact.

Generation from renewable sources has been increasing year on year. In 2020, for the first time ever, renewables accounted for more of the total generation than fossil fuels.

There are now many renewable technologies, including:

- Solar - solar photovoltaics (PV) is the conversion of sunlight into electricity.
- Wind - offshore wind generation from large wind turbines which turn the kinetic energy of wind into electricity.
- Biomass - the conversion of solid fuel made from plant materials into electricity, generally by burning agricultural waste to create steam that powers turbines.
- Hydro - turbines are used to turn the power of flowing water from a river or a dam storage scheme into electricity.
- Tidal - another form of hydrogeneration that uses tidal currents to drive turbine generators.
- Geothermal - this harnesses the natural heat in water and steam from underground which is used to power turbines and in turn generate electricity or directly heat buildings.

### Carbon offsetting

Carbon offsetting is the process of calculating total carbon emissions (CO<sub>2</sub>e) and offsetting them by paying a contribution for these emissions into recognised schemes.

This balances the impact your business is having on the environment and by offsetting all scope 1 and 2 emissions, and ideally scope 3 emissions too, you will be on the way to achieving net zero. We advocate this as part of a wider agenda to reduce your energy use, using renewables wherever possible, offsetting to rebalance your emissions as part of the journey. Ideally, every business should have a sustained goal to reduce emissions aligned to a science-based target, continually looking at ways to have less impact on the environment.

With so many variables, it's important to understand the pros and cons of each. The two main routes to offsetting are:

- Tree planting in the UK or overseas, which directly benefits the environment as well as providing local employment, biodiversity, health improvement and other social benefits.
  - Gold Standard project investment (or 'buddying') which allows you to invest in green projects in developing countries and claim a portion of the carbon reduction.
- We would suggest that you check standards associated with the schemes, as they will provide assurance that

the offsets you purchase are genuinely helping to achieve a net-zero society.

### Greenwashing

This leads on to greenwashing, defined in the Cambridge Dictionary as being "behaviour or activities that make people believe that a company is doing more to protect the environment than it really is."

Signing a 100% renewable energy contract with an energy supplier leaves you believing that what you are buying is energy generated from a renewable source, but this is not always the case and you need to be clear whether you are signing a truly renewable energy contract.

When renewable energy is generated, each MWh generated produces one Renewable Energy Guarantees of Origin (REGO) certificate. These REGO certificates can then be sold on.

Ofgem administers the REGO certificates scheme on behalf of the Government. Ofgem requires suppliers who offer green tariffs to explain to their customers clearly and transparently how they are sourcing their renewable energy, but this information often hides behind glossy marketing materials and promises of saving the planet.

Some suppliers sell 100% renewable energy by way of purchasing REGO certificates from genuine renewable generators, but the energy they are selling is actually generated from fossil fuels and other sources that are not renewable. They 'greenwash' the energy by purchasing enough REGO certificates to cover themselves and market the tariff as 100% renewable, without making the investment in green energy infrastructure.

### Getting started on your journey

The journey to net zero is made up of four steps:

1. Review - identify your carbon footprint and first steps to net zero.
2. Reduce - identify and implement opportunities to reduce your energy use.
3. Renew - generate electricity with renewables and transition to use cleaner technology, vehicles and solutions.
4. Rebalance - rebalance your emissions with carbon offsetting.

There are a number of companies that businesses can use to support them on their net-zero journey. Control Energy Costs works with two key partners to help businesses establish a carbon footprint, identify opportunities to reduce their impact on the planet and make real financial savings on the way.

If you would like to have a conversation about any of the areas covered in this article, please get in touch via [info@cec.uk.com](mailto:info@cec.uk.com), or via LiveChat on our website [www.cec.uk.com](http://www.cec.uk.com).

## Net zero – a CHTA member's view

Some thoughts from Mike Leach,  
MD of Alpha-Rowen Ltd...

The UK Government has set out to decarbonise all sectors of the UK economy by 2050. It has a plan at [www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution](http://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution).

At Alpha-Rowen we are currently working towards net zero. Everyone is, aren't they? If not they should be, shouldn't they?

After all, getting everyone weaned off natural gas onto hydrogen-based fuels and electricity is not going to be easy. Alpha-Rowen use roughly ten times as much gas as we do electricity. Gas used to be a lot cheaper than electricity, so why would we or anyone else change.

Market data in July 2022 suggest electricity prices near 52p/kWh and 12p/kWh for gas. This is likely to get worse rather than better, but is it still enough of a drive to move away from gas to electricity given the huge investments required?

### What else is UK plc doing?

BEIS (Department for Business, Energy and Industrial Strategy) have set up seven UK industrial clusters to drive decarbonisation. Those at Grangemouth, Teeside, Humberside, Merseyside, South Wales and Southampton are all based on the coast and are typically refineries, steel works, chemical plants, cement or fertiliser sites.

Projects here are heavily based around Carbon Capture and Storage (CCS) in North Sea depleted wells and developing technologies for the generation and use of green and blue hydrogen. These energy-intensive clusters emit approximately 46% of the CO<sub>2</sub> from the industrial activities in the UK.

There is a seventh cluster in the Black Country, the only one inland, to develop net-zero carbon solutions and technologies, such as generation of hydrogen from waste to replace natural gas and Carbon Capture and Use (CCU) for the industrial operations not located on the coastline. BEIS realises that, to meet the challenge of decarbonisation by 2050, one cannot move all the industrial sectors to the coast.

The Black Country cluster is seen as slightly different as it is made up of a large number of smaller manufacturing companies. It is perceived as more typical of large parts of the country in that it faces challenges given its distance from the sea and the problem this would pose with carbon capture and storage, for example.

Other projects here are based around



concepts such as circular economy, where different companies would work together; perhaps to pass on excess heat to a neighbour (perhaps a vertical farm) or reduce transport distances by bringing supply chains closer (e.g. having recyclers next to scrap producers). Combined heat and power generation from greener sources can also be a part of potential projects.

Much more information is available on the *Repowering the Black Country* website at: [www.zerocarbonhubs.co.uk/industrial-clusters.html](http://www.zerocarbonhubs.co.uk/industrial-clusters.html).

### Working towards net zero

We use the services of Pro Enviro Ltd who we have employed for many projects and who are directly involved with the *Repowering the Black Country* project.

The first step is to work out your current footprint. This involves data collection and is where some support is handy in translating raw data to CO<sub>2</sub> outputs.

Measuring your carbon footprint is split into three "scopes" as described in the foregoing article. Scope 1 (direct emissions) and 2 (indirect emissions) both need breaking down into specific categories and reporting separately.

Scope 3 emissions: this is where it really seems to kick off into an administrative nightmare. You need to be able to find out the footprint associated with the production and transportation of your materials. This includes fuels in Scope 1 (well to tank) and fuel sources for the electricity in Scope 2. It also includes water used, materials used, business travel (including hotel stays), waste disposal and employee commuting. The majority of this information will need to come from your upstream and downstream supply chain. I guess you must hope they have already calculated their carbon footprint and have the information to hand.

We found Scope 1 and 2 can be done reasonably easily from existing invoices, though we were grateful for the software and support from Pro Enviro that then calculated the footprint data from the raw data. Scope 3 and its administrative burden is what concerns us more.

Will it be worth the time and effort? Only time will really tell. These exercises normally throw up a shock or two. Access to future funding will no doubt require a detailed knowledge of your carbon footprint and the ability to show a reduction off the back of it.

Knowing your carbon footprint will also enable you to buy the right amount of offsets to be able to claim to meet your zero-carbon objective. Is that going to help UK manufacturing to continue making products and keep us all in business, as energy prices continue to rocket, though?



### Built to last

Although it was originally located on a small riverside site in Sheffield, Summitglow ([www.summitglow.co.uk](http://www.summitglow.co.uk)) has expanded into a leading business that continues to take advantage of both traditional and new technologies in order to overcome manufacturing challenges.

Summitglow is a family-owned business that began its journey in 1983 as a salt-bath heat treatment facility in Sheffield. It then went on to expand into operating sealed-quench and vacuum furnaces. In 2001, the company bought its first vacuum furnace used for treating specialist and medical components. Summitglow started its first large-scale vacuum heat treatment in 2015, with a half-ton Ipsen vacuum furnace, which was followed by a second purchase in 2018.

### Covid challenges

Philip Watkinson, the Managing Director of the business, shares details as to how the company has coped with the pandemic's challenges, as well as the lessons Summitglow is taking on to ensure a successful future. "Before Covid-19, we were growing from strength-to-strength," he begins. "In early 2020, we completed the installation of our second vacuum furnace, although it was more difficult because many of our customers across some of the sectors we serve shut down for a bit. We then had to make some adjustments to working patterns and shifts," Philip says.

What came to the company's rescue was an increase in wood-turning tools within the craft market as customers took time to work on their hobbies. "People were spending more time at home, which is why that market exploded. Thankfully, the gap that was created by aerospace tooling was rapidly filled with high-speed wood-turning tools for our salt baths. What we are seeing at the moment is the aircraft market slowly starting to recover, while the wood-turning market has remained strong and stable.

### Cost challenges

"Now, a new challenge is costs, and we are working hard against cost increases

and pressures. The troubles we have had recently with the conflict in Ukraine have started to impact us as well. I believe this is behind the recent increase in price of the heat treatment salts. So, we are doing what we can to control that, and ensure there is as little consequence on our customers as possible," he shares.

Taking this into consideration, we ask Philip about other measures he is exploring to combat the rising costs of raw materials. "The truth is that because this material is so specific, there is very little that we can do. Although there is not a huge amount of competition in this market, everyone is looking for the same ingredient. Bearing that in mind, we have to remain as efficient as possible, and maintain relationships with long-term partners, rather than continuously changing. This way, we can do our best to guarantee reliability within our supply chain," he elaborates.

### Diversification

Coupling with the dependability of its network, another factor that serves the company well is its diversification, as Philip alluded to earlier. "I think one of the things that works well for us is the range of sectors we serve. Because some companies are highly specialised in either aerospace or oil and gas, it's really difficult when those markets suffer. We work across a range of sectors, and I have always believed that this has stood us in good stead, especially when one market goes down.

"The resurgence of the oil and gas market appears to be in full effect, and we passed a recertification audit from a major oil company at the end of last year. That means that they have a strong order book for the next five years, which will provide us with great business as well. We also deal with people supplying the rail industry, others in engineering, and we have won new customers recently in the machine knife industry," Philip explains.

Considering the instability of the manufacturing sector at the moment, Philip highlights that these challenges will not sway the company away from delivering on high-quality service. "We are ISO 9001:

2015 registered. Although many companies are, we operate an open-door policy with our customers. Regardless of the condition in the market space right now, it is imperative that we remain dedicated to delivering the sort of service that our clients have always expected from us."

### The future

We turn the conversation towards the future. In discussing the trajectory of Summitglow, we ask Philip what a successful five-year plan would look like. "Considering what has happened over the last two years, I think a lot of people are waiting for the market to stabilise first.

"There may also be a need to replace work within the oil and gas industry, as people move away from that, so I think we will have to keep examining new markets, which may include nuclear modular reactors. Wind energy is already a market we deal with, and that is becoming more established. The push for us will be sustainable growth into high-spec markets, which will also be the general trend across UK manufacturers," he shares.

For the remainder of 2022, however, Summitglow has a plan in place to install a new nitriding furnace as well, and at the

moment, Philip divulges that different suppliers are currently being evaluated to partner with the company. "The reason for this investment is twofold. Firstly, it's to help us match our increased capacity and, secondly, it will help us offer a greater range of nitriding treatments. Aside from that, we are determined to continue building on our strategies to ensure that our business is one that our customers can trust, and remain with us for the long-run."

### Optimism

Philip then brings the discussion to a close on an encouraging and optimistic note. He takes a moment to pay tribute to the excellent and hardworking team at Summitglow, without whom none of its operations would be possible. "We have a fantastic group of people, and the majority of them have been with us for years; some have got 35 years-plus of service behind them. This has allowed us to retain a great deal of knowledge and skills that have helped us through some of these difficult times.

"At the start of the year, we brought a new

*This article is based upon one that first appeared in 2022's issue 200 of Manufacturing Today magazine (<https://manufacturing-today.com>).*

person into our accounts department, who is brilliant, and we now have somebody new who is also learning about the high-temperature salt-bath line. It's wonderful to see that, as our business grows, so does our team, not only in personnel but also within their respective careers. I look forward to seeing how Summitglow continues to take on new challenges, because I know we have an excellent team behind us," Philip says.

**Other CHTA members wishing to publish a company profile in Hotline should contact the Editor at [mail@chta.co.uk](mailto:mail@chta.co.uk).**

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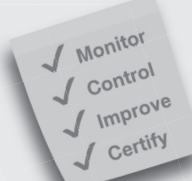


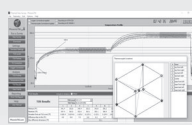
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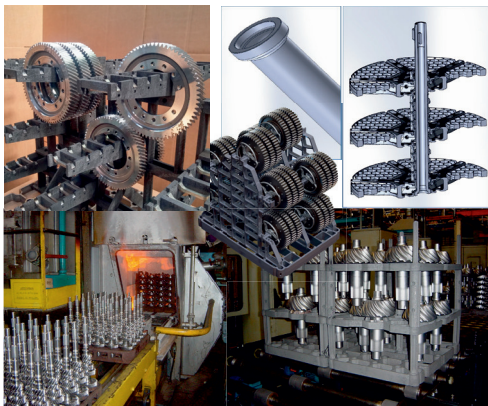




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HEAT TREATING, FURNACES AND EQUIPMENT  
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ADVANCED PYROMETRY  
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September 28-29 2022  
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Bristol, England [PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

September 29 2022  
PRI WEBINAR: HEAT TREATMENT OF ALUMINIUM ALLOYS  
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October 3-5 2022  
FURNACES NORTH AMERICA 2022  
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October 11-13 2022  
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October 12 2022  
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SURFACE TECHNOLOGY INNOVATIONS FOR NET ZERO BY 2050  
Manchester, England  
IoM3 conference: [www.iom3.org/events-awards/surface-engineering-innovations-for-net-zero.html](http://www.iom3.org/events-awards/surface-engineering-innovations-for-net-zero.html)

October 13 2022  
PRI WEBINAR: HEAT TREATMENT OF TITANIUM ALLOYS  
[PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

October 17-18 2022  
VACUUM HEAT TREATING  
ASM Education virtual option online  
[www.asminternational.org/learning/courses](http://www.asminternational.org/learning/courses)

October 19 2022 (New date)  
CHTA PUBLICITY SUBCOMMITTEE  
Birmingham, England

October 26-27 2022  
PRI WEBINAR: HEAT TREATING: PROCESS OPERATOR  
[PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

October 26-27 2022  
PRI WEBINAR: HEAT TREATING: PROCESS OWNER  
[PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

October 31- November 1 2022  
INTRODUCTION TO PYROMETRY  
Sheffield, England [PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

November 2-3 2022  
ADVANCED ENGINEERING 2022  
Birmingham, England [www.advancedengineeringuk.com](http://www.advancedengineeringuk.com)

November 2-4 2022 (New date)  
14TH HEAT TREAT SHOW – 2022  
Mumbai, India [www.htsindiaexpo.com/](http://www.htsindiaexpo.com/)

November 3-4 2022  
HEAT TREATING: PROCESS OWNER  
Sheffield, England [PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

November 7-8 2022  
PRI WEBINAR: INTRODUCTION TO PYROMETRY  
[PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

November 7-9 2022  
PRACTICAL INDUCTION HEAT TREATING ASM  
Education virtual option online  
[www.asminternational.org/learning/courses](http://www.asminternational.org/learning/courses)

November 8 2022  
PRI WEBINAR: HEAT TREATMENT CONTROL & INSPECTION  
[PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

# Market Movements

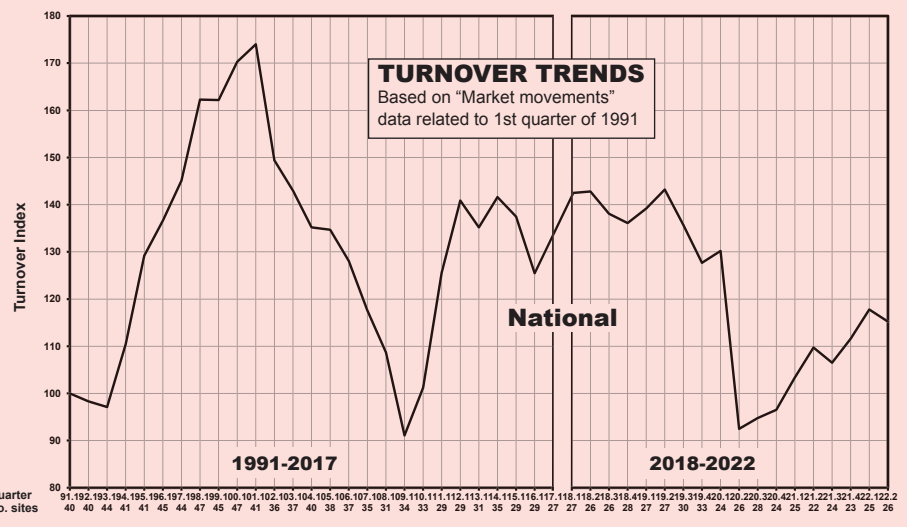
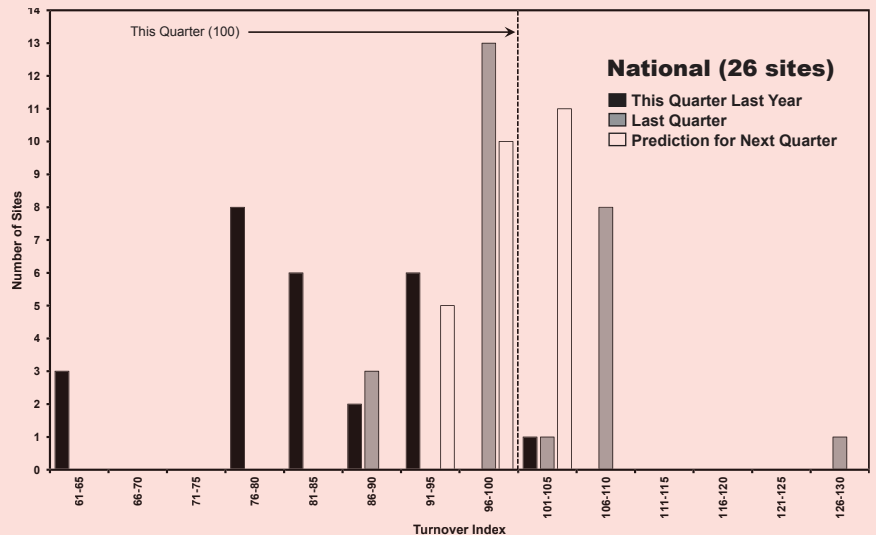
ANALYSIS OF QUESTIONNAIRE REPLIES RELATING TO 26 CHTA MEMBER SITES

“THIS QUARTER” =

## 1 APRIL - 30 JUNE 2022

= TURNOVER INDEX 100

OVERALL ANALYSIS (26 SITES)	Mean index
This quarter last year	82.9
Last quarter	102.3
Predicted next quarter	99.9



November 8-10 2022  
EUROPEAN MODERN FURNACE BRAZING SCHOOL  
Pontardawe, Wales  
[www.wallcolmonoy.com/products-capabilities/brazing-alloys/brazing-school/](http://www.wallcolmonoy.com/products-capabilities/brazing-alloys/brazing-school/)

November 10 2022  
CHTA MANAGEMENT COMMITTEE  
Birmingham, England

November 14-15 2022  
NADCAP AUDIT PREPARATION - HEAT TREATING  
Manchester, England [PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

November 15-16 2022  
METALLURGY FOR NON-METALLURGISTS  
Confederation of British Metalforming online course  
<https://thebcm.co.uk/news-and-events/events/>

November 16-17 2022  
INTRODUCTION TO PYROMETRY  
Manchester, England  
[PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

November 23-24 2022  
PRI WEBINAR: INTRODUCTION TO PYROMETRY  
[PRI Training \(pri-training.com\)](http://PRI Training (pri-training.com))

## NICKEL PRICE (US\$/lb)



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Deadline: November 11th