

Vision 2030
The UK Metals Industry's
New Strategic Approach



Sector recruits 2,700 graduates and 9,200 apprentices & technicians every year

First SME collaboration in 2015 lays the groundwork for 'Ready for Innovation' and Innovation to SMEs raising sector's RD&I output



Establish circular economy standard by 2017 to drive life cycle efficiency

Procurement policy reflects value of sourcing materials locally; infrastructure >50% local materials

Objective measures of international competitiveness for key parts of the metals industry

A Vision for 2030

By 2030, a modern and progressive UK Metals Industry will be supplying high quality, innovative and competitively priced products to a wide range of customers. It will be the principal supplier to the UK's main manufacturers and infrastructure projects, and a leading global exporter.

A forward-thinking, collaborative approach to R&D will have embedded innovation throughout the industry, from the smallest firms to the largest, directed by customers' needs.

A long-term commitment to, and involvement in, education and training will have created a modern, specialised workforce. The Metals Industry will be seen as a desirable employer able to attract the highest calibre recruits.

Metals and metal products will be at the heart of the new circular economy, recognising their innate potential for resource-efficient reuse, remanufacture and recycling.

The industry will be represented by a Metals Council and will have worked with government to ensure a balanced regulatory environment that puts UK metals firms on a level playing field with overseas competitors.

By delivering this vision, the UK Metals Industry aims to increase its GVA by 50% by 2030.

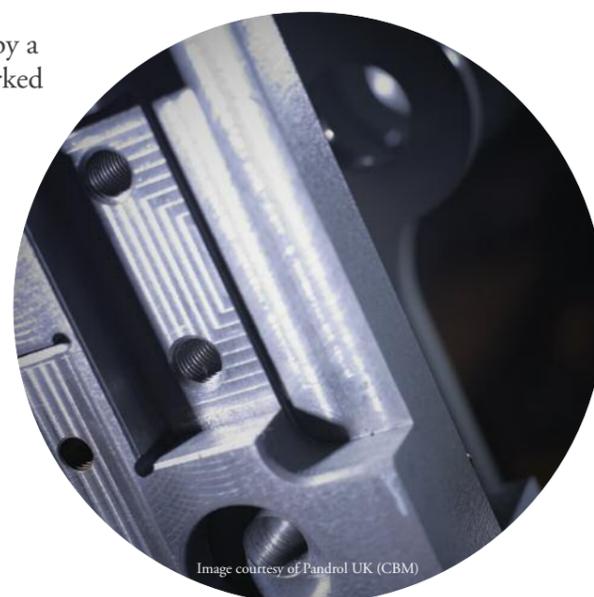
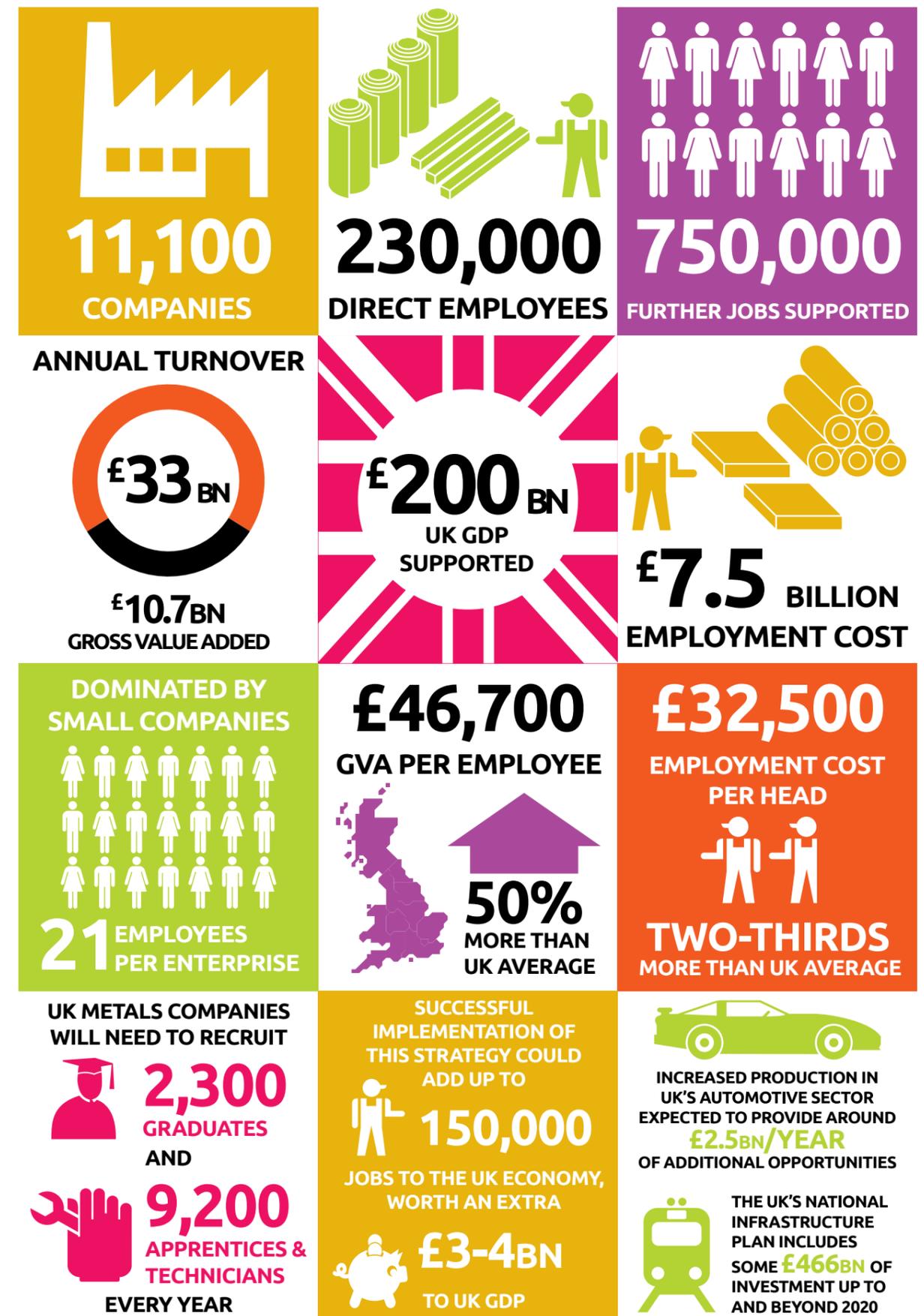


Image courtesy of Pandrol UK (CBM)



Ministerial Foreword



I welcome the initiative of the Metals Forum and the wider UK metals community to produce this report setting out their vision for their industry. This is especially important at a time when many companies in the sector are facing major pressures on their businesses. I have seen for myself how hard the sector is working in order to remain competitive in such a challenging environment. This Strategy is a timely and welcome analysis of the issues and heralds a new phase in the industry's dialogue with Government.

The UK's metal sectors are part of the foundation of many of the nation's great, world beating supply chains – automotive, aerospace, construction and energy to name just four. Their importance to the economy should not be underestimated; some 11,000 companies collectively contribute or underpin £200bn of GDP and as many as a million jobs.

That is why the Government remains committed to enabling a healthy and growing metals industry in the UK and one focused on the UK's strengths in highly skilled manufacturing. This is essential if we are to increase productivity, which is an important driver of our economic success and the route to raising standards of living for everyone in this country.

The best way that the Government can create the right conditions for the metals sector to flourish, first and foremost, is through a successful economy and successful metals-using industries, which is why we will stick to our long-term economic plan. We are creating the right business environment for free enterprise and removing barriers to productivity and growth within sectors, including de-regulation, promoting fair competition and a simplified business landscape.

The Metals Strategy will provide a platform for Government to work with the sector on the issues which may hold back growth of the sector. Please be assured that where I can reasonably provide support, I will do so.

I also look forward to working with the UK Metals Council in leading the sector to deliver its vision and to a long term sustainable future.

Rt Hon Anna Soubry
Minister of State, Small Business,
Industry and Enterprise

Industry Foreword



The UK's metals companies are the backbone of the nation's manufacturing, construction and infrastructure. The enormous value they contribute to the UK is largely hidden. We all recognise the car we drive, or the bridge we cross, or the aeroplane that takes us on holiday. But most of us take for granted the myriad types of metal that are essential to these integral parts of modern life. Taken together a million jobs are directly or indirectly connected to the UK metals industry, which makes an essential direct and indirect contribution to some £400bn of the UK's GDP.

As importantly, the UK metals industry is a key part of the UK's knowledge economy through innovation and skills development, and it plays a key role in a lower carbon, more resource efficient UK. Metals companies are essential to the fabric of the communities in which they operate.

To many, the metals industry is representative of the industrial history of the UK, and the industry is rightly proud of its heritage. But too often this obscures the substantial contribution it already makes today and how it enables the economy of tomorrow. By looking at themselves and asking hard questions about historical patterns of investment and strategy, and by pressing policy makers in the UK and the EU to avoid repeating the mistakes of the past, we can look to a future where metals are recognised as an essential part of a sustainable economy, and the UK can build a metals industry with a bright future.

Recognising this potential, but also the challenges, the UK's metals industry has come together in a common purpose, joining different metals and process routes, across the full spectrum of the supply chain, from primary manufacturing to recycling.

70 individuals, including many senior leaders from over 50 metals companies, associated organisations and stakeholders, such as the Advanced Forming Research Centre, AMRC Sheffield and the trade union Community representing the TUC, have worked together to forge a single vision for the future development of this vital industry.

Different though many parts of the industry are, three core themes have emerged from an intensive programme of working groups and review:

1. Ensuring that the UK captures the most value it can from its manufacturing, construction and infrastructure supply chains
2. Improving the connectivity of the metals industry to the critical ingredients for long term success, such as skills and innovation, especially for the industry's many smaller companies
3. Ensuring the UK metals industry is recognised as being at the heart of a future UK circular economy

Taken together, action under these three overarching themes should revitalise the UK metals industry. It will create sustainable companies ready to deliver metals and metal products to the increasingly demanding specifications UK manufacturing is going to rely on and companies that will be able to compete with the best in the world for the long term.

Bringing the industry together under a single voice and working in partnership with the government and other key industrial sectors holds out the potential that this contribution can not only be maintained but grown substantially.

I'd like to thank BIS for their support throughout the development of this report and to acknowledge the dedicated contribution of the many people from across the industry who have committed their time and effort to delivering this report.

Jon Bolton
Chair, Metals Strategy Steering Group

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The UK Metals Industry and its contribution to the national economy



Metals companies are a vital part of the UK economy and essential for manufacturing.

The UK Metals Industry includes:

- Primary manufacture of metals such as aluminium and steel
- Provision of metals to industrial users through supply chain management
- Processing metals through casting, forging, forming, extrusion, rolling and other methods for use by industrial users
- Fabrication of high integrity structural components, such as steel frames for buildings
- Application of surface coatings to improve performance or appearance
- Recycling metals contained in end-of-life products or in off-cuts and scrap metals arising from the industrial supply chain

There are some 11,100 companies in the UK metals industry, employing around 230,000 people and directly contributing nearly £10.7bn to UK GDP.

The Metals Industry also supports another 750,000 employees indirectly, including contractors, suppliers and people working in the communities around metals sites, and underpins some £200bn of the UK's GDP.

The industry is dominated by small companies but its employees get paid more than the UK average.

Companies in the Metals Industry operate globally, importing raw materials such as ores, coal and unprocessed metals and exporting around the world. They compete globally too, often against the international suppliers who have come to dominate parts of the UK market.

Many firms are themselves part of multinational, foreign-owned enterprises, which in some cases requires them to compete internally for investment.

Regionally, the industry is strongest in the Midlands and North of England, and in Wales. Its importance has declined in Scotland and Northern Ireland, although some sectors continue to have a presence there.

The challenges and opportunities facing the UK Metals Industry



Image courtesy of Tata Steel

For generations the UK was a world leader in the metals sector, refining, processing and manufacturing metals and metal products that were exported around the world. But international change and globalisation have caused its global market share to decline significantly over the last forty years and even domestic demand has been increasingly met by imports.

As a result, important parts of the metals supply chain are located overseas and some key markets now seem inaccessible to smaller UK firms.

At the same time, recession and changes in government support have upset training practices in the industry, deterred new recruits and resulted in an ageing workforce.

There have been positive trends too, with decades of technological developments making metals production much more efficient, less labour-intensive, and cleaner and more environmentally friendly.

Nonetheless, metals manufacture remains a very capital-intensive business with long-investment cycles leaving firms vulnerable to changeable and unpredictable government policies. Some of the most expensive equipment in the sector is expected to run almost continuously for up to 12 years before refurbishment and might not be replaced for more than 20 years. Once UK plants are closed they are rarely re-opened or replaced.



Image courtesy of Tata Steel

Regulation

The metals industry feels it has been at the whim of successive UK governments with varied approaches to fiscal, industrial, trade, energy and environmental policy from laissez-faire to actively interventionist.

On the environment, the UK has been keen to be seen as a leader in environmental policy, and tended to interpret and enforce EU regulations more strictly than other countries, which can put metals firms at a disadvantage.

As a low-profit industry, the Metals Industry has not benefitted particularly from recent reductions in corporation tax. At the same time, we have seen an increase in the taxes and charges hitting our cost base, such as business rates, which make it harder to compete with some other parts of Europe.

Opportunities

On the other hand, the government's renewed focus on manufacturing, emphasis on re-establishing UK supply chains, and commitment to infrastructure development are hugely welcome and very significant for our industry.

The UK has ambitious plans to develop new generations of world-leading cars, aircraft and other products, and for a major upgrade of its energy and transport infrastructure, all of which will create extra demand for metals.

Reshoring and increased production in the UK automotive sector, for instance, is expected to provide around £2.5bn/year of additional opportunities for the Metals Industry, while the UK's latest national infrastructure plan includes some £466bn of investment up to and beyond 2020.

These plans are reliant on metals; if these are not provided domestically a substantial part of their value will be lost to the economy.

The move towards a more circular economy is also an opportunity for our industry. Metals are endlessly reusable and recyclable, and become increasingly attractive from a life-cycle perspective the more times they are reused or recycled. Circular economy business models like remanufacture and product leasing may also give UK metals firms a competitive edge by helping them build closer relationships with their customers.

Achieving the Metals Industry's vision for 2030 will require considerable change within the sector, including new working practices, additional investment and a more outward-facing attitude. Full and active support from policymakers will also be essential.

Within each of our core themes from the 2030 visions, there are a range of sub-targets, actions and recommendations.



Image courtesy of voestalpine Metsec (CBM)



Realising our vision Supply Chains



Image courtesy of Airbus

“By 2030, a modern and progressive UK Metals Industry will be supplying high quality, innovative and competitively priced products to a wide range of customers. It will be the principal supplier to the UK’s main manufacturers and infrastructure projects, and a leading global exporter.”

Rationale: The sector needs to engage more closely with its key customers, ensure even the smallest companies at the opposite ends of supply chains are aware of their needs, and that those needs can be more than met.

Government can also help by reviewing procurement policies to ensure they support domestic suppliers as much as possible. Existing approaches frequently focus solely on headline price, ignoring the additional benefits local suppliers bring to the UK economy.

Proposed actions:

Supply chain integration:

The UK Metals Industry will work with government and other sectors with industrial strategies to understand the opportunities arising in their industries, and tailor our capabilities and future investment to their needs. The initial focus will be on Automotive, Nuclear Energy, Offshore Wind, Construction, Aerospace and Rail Supply and on smaller companies in the metals sector. This will include a full analysis of each supply chain to see where the current gaps are and what can be done to fill them.

Opportunities for greater take up of supply chain-level collaboration projects will also be explored.



Image courtesy of ALFED



Image courtesy of Sheffield Forgemasters

Encourage more local content by:

Finding new ways to incentivise end users to increasingly source locally.

Working with government and infrastructure providers to develop public procurement practices and policies that work more in favour of UK suppliers without contravening legal frameworks.

Organising a joint UK Metals Industry / government PR campaign to celebrate significant UK Metals content examples.

Enable fitter supply chains by working with government and LEPs to improve logistics and telecommunications systems.

2. To set and monitor target levels of UK content in public, and publicly enabled, infrastructure projects and find legally compliant ways to facilitate use of local content through for example, local economic benefit clauses. Explanations should be provided when measured content falls significantly below target.
3. Work with the industry to celebrate significant UK metals content examples.

Initial targets:

By 2016, UK Metals Industry representation to the strategy councils of all the industries prioritised in the industrial strategy, and the UK Metals Industry to have a seat on the Industrial Strategy Council or its equivalent.

By the end of 2016, procurement policy for publicly funded infrastructure to reflect the value of locally sourced materials, and publicly enabled infrastructure projects to have targets to source at least 50% of materials locally.

Commitments sought from policymakers:

1. A seat for the UK Metals Industry on the Industry Strategy Council or its equivalent and specific inclusion of metals in horizontal supply chain industrial strategy work.



Image courtesy of Severfield plc



Realising our vision Innovation

“A forward-thinking, collaborative approach to R&D will have embedded innovation throughout the industry, from the smallest firms to the largest, directed by customers’ needs.”

Rationale: Process and product innovation is vital if the UK Metals Industry is to regain ground against its rivals, many of whom can currently produce basic products more cheaply.

However, AFRC research shows most companies in the sector do not see R&D as important due to the cost and perceived high rate of failure. Many demand a very rapid payback from investments which means R&D cannot compete against other business improvements.

On the whole, small firms also have a restricted view of the demands of OEMs and Tier 1 suppliers and feel unable to engage with such large firms and compete with their overseas suppliers.

Government’s innovation support mechanisms are patchy and poorly coordinated, and not well-suited to smaller companies. Small firms also find it difficult to participate in signature programmes such as Catapult.

Proposed actions:

1. The UK Metals Industry has developed a three-part action plan to address risk aversion among SMEs, bring about coordination and new connections in the sector, and changing wider attitudes to R&D:

1.1. Addressing risk aversion:

1.1.1. Readiness for Innovation diagnostic (R4I) – A tool for assessing the capability of a company to implement innovation successfully. It will use a standard set of factors that are known to influence the process.

1.1.2. Innovations to SMEs (I2SMEs) - A planning framework to help companies identify and manage risk in innovation. This will be based around the techniques already used in larger companies but tailored specifically to SMEs and projects with short timescales. We believe this will be the first tool of its type specifically designed for SMEs.

1.1.3. SME collaboration projects – These will bring together groups of companies to collaborate on particular short term projects. It will aim to demonstrate the benefits of innovation to SMEs as well as providing successful outcomes to the projects themselves.



Image courtesy of Advanced Forming Research Centre

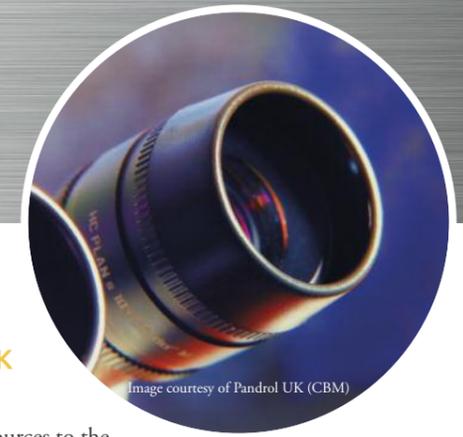


Image courtesy of Pandrol UK (CBM)

1.2. Achieving coordination and connection:

1.2.1. Establish a virtual coordination hub to facilitate information exchange through supply chains and provide expertise and guidance on innovation and accessing new markets to SMEs. This would also attempt to drive the development of regional clusters of associated industries that can cooperate on innovation and a cross-industry view of opportunities arising in major new industrial developments such as the Internet of Things and the development of additive layer manufacturing.

1.3. Moving the perception dial:

1.3.1 The outcome of the previous two measures will be communicated as widely as possible to encourage more participants and build on successes.

2. Develop proposals for better funding frameworks for large-scale breakthrough technology demonstration, working where necessary with other sectors, and look for cross-sector opportunities for clustering, eg for Carbon Capture and Storage (CCS).

Commitments sought from UK policymakers:

1. To contribute resources to the UK Metals Industry’s efforts to widen participation in R&D.
2. Incorporate the UK Metals Industry’s virtual hub into the High Value Manufacturing (HVM) Catapult network.
3. To re-examine current support for R&D, particularly for smaller companies and in relation to local delivery.
4. Lead EU work on better funding frameworks for large-scale breakthrough technology demonstration.

Initial targets:

First SME collaboration pilot commenced by end 2015. Ten SMEs should also have been supported through the use of R4I and ten more through application of I2SMEs.



Image courtesy of Advanced Forming Research Centre



Realising our vision Skills



Image courtesy of Advanced Forming Research Centre



Image courtesy of Wilkinson Fyre Architects

“A long-term commitment to, and involvement in, education and training will have created a modern, specialised workforce. The Metals Industry will be seen as a desirable employer able to attract the highest calibre recruits.”

Rationale: To meet expected replacement demand and our wider ambitions for growth, we need to attract a steady flow of new entrants into the sector and retain and retrain those within the sector to acquire the specific skills required for the future.

Meeting this requirement will not be without its challenges. The sector is not seen as an attractive career choice for young people. In addition, there has been an erosion of the vocational education and training landscape over the last few decades.

There has been little or no focus on practical skills in schools, with a huge decline in the number of young people taking practical subjects such as Design and Technology together with the downgrading of Diplomas, including those relevant to the metals sector.

Training for schools leavers is fragmented, often uncoordinated and does not meet companies' needs. This is especially true of smaller companies which are less able to demand relevant and responsive provision from training providers. Provision relevant to the metals sector has suffered as a result of some training providers not being responsive to industry demands and not having the capacity or resource to invest in the facilities and specialist staff needed to teach relevant courses.

Some of the skills we require are generic, leaving the metals sector competing with not only other industrial sectors but those outside of the industrial sector.

Where more specific skills-sets are required, for example metallurgy, degree-level provision and therefore students are in short supply.

The replacement rate for an industry employing around 230,000 people would be 5,000-6,000 a year. To support our ambitions for growth we have estimated we need around 2,300 graduates a year and 9,200 apprentices and technicians.

Successful implementation of this strategy could add 50,000 high quality jobs in the UK's metals companies and up to 100,000 jobs in the wider economy, worth an extra £3-4bn to UK GDP by 2030.

Proposed actions:

1. Improving the supply of candidates:
 - 1.1. Work with government to re-focus parts of the school curriculum to place a greater focus on materials and particularly metals, and provide better careers advice.
 - 1.2. Encourage universities to retain metallurgy as a separate discipline at degree level.
2. Increase awareness of training opportunities among employers and ensure what is available is fit for purpose:
 - 2.1. Raise awareness of relevant platforms that allow UK metals companies, particularly SMEs, to find advice and guidance on apprenticeships, and relevant brokering initiatives that match potential candidates to vacancies.
 - 2.2. Encourage smaller company participation in apprenticeships through greater awareness of Group Training Associations that support the metals sector.
 - 2.3. Work with government to ensure the continued roll-out of the Employer Ownership of Skills initiatives to support the metals sector to deliver specialist training in-house with a more flexible, modular-based approach to learning.

3. Fill the current gaps in provision by:

- 3.1 Supporting the education sector by using experienced employees as trainers to pass on their skills to the next generation of employees and fill gaps in provision. This might be done on a part-time or full-time basis with such employees seconded to relevant schools, colleges or other training providers.

Commitments sought from UK policymakers:

1. To work with the Metals Industry to examine and address its skills needs and reduce any future mismatch.
2. Improving the supply of candidates:
 - 2.1. To put a greater emphasis on practical subjects and other forms of work-based learning in schools and to ensure materials, including metals, is incorporated into the curriculum.
 - 2.2. “Educate the educators” by ensuring young people have access to an independent careers adviser who has knowledge of the opportunities available in the metals industry. There must also be clarity about the steps a student can take from starting as an apprentice to degree-level pathways.
 - 2.3. Extend the current Destination Measures to the activity of school leavers after two years and to track the pathways they have taken.

3. Increase awareness of training opportunities among employers and ensure what is available is fit for purpose:

- 3.1 Put employers in the driving seat so they are able to demand local and relevant training provision that meets the industry's needs.
 - 3.2 Continue to roll-out Apprenticeship Trailblazers specifically targeting employers in the Metals Industry, giving them the responsibility for designing and developing apprenticeship standards that meet their needs.
 - 3.3 Provide greater support and more responsive provision for companies needing to re-skill and up-skill their existing workforce.
 - 3.4 “Bite-size” courses offering modular training available at lower cost.
4. Fill the current gaps in provision by:
- 4.1. Ensuring the continued roll-out of Employer Ownership of Skills initiatives to support the Metals Industry to deliver specialist training in-house with a more flexible, modular-based approach to learning.
 - 4.2. Make it easier for employers to seek funding and accreditation for tailored in-house training, making them less reliant on third parties.
 - 4.3. Develop qualifications and programmes of training outside of apprenticeships, focusing on areas such as supply chain management, leadership and general management training.

Initial targets:

To recruit and train through a partnership approach the 2,300 graduates and 9,200 apprentices and technicians the industry is thought to require each year, aiming for capacity to reach 50% of this level (at least 6,000 people) by 2018 and 100% by 2025.

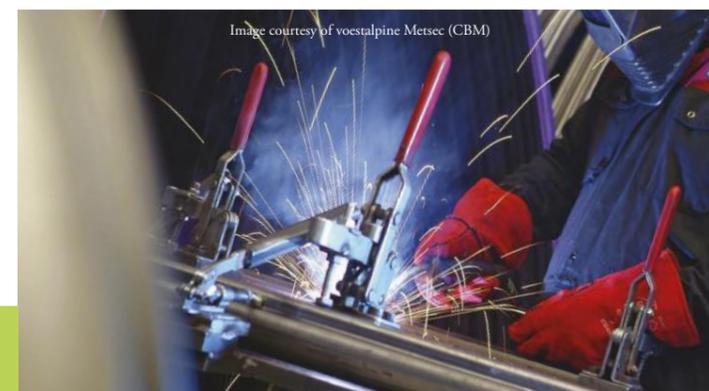


Image courtesy of voestalpine Metsec (CBM)



Realising our vision Circular Economy and Sustainability

“Metals and metal products will be at the heart of the new circular economy, recognising their innate potential for resource-efficient reuse, remanufacture and recycling.”

Rationale: Policymakers are keen to move towards a more circular economy, replacing the use of virgin resources and discard of end-of-life products with systems based on repair, re-use, remanufacture and recycling.

Metals are an excellent fit with this agenda as they are well-suited to reuse, remanufacture and endlessly recyclable, amortising the initial energy used in their extraction over many generations of products.

However, capturing the full environmental benefits of metal products also requires good product design to ensure components can be easily disassembled and a supportive regulatory environment.



Image courtesy of BMRA

Proposed actions:

1. To work with government and other industrial sectors to develop actions in support of creating a circular economy, including:
 - 1.1. More widespread use of Life Cycle Analysis (LCA) and carbon footprinting methods that reflect the real value of metals.
 - 1.2. Promotion of metals as a material capable of true recycling and re-use instead of down-cycling into less valuable products.
 - 1.3. Advocating product design strategies that aid eventual separation and re-use or recycling.
 - 1.4. More appropriate definitions of wastes and process by-products, particularly those deemed as hazardous wastes, to maximise re-use and recycling of metals and process by-products.
 - 1.5. Measures to support increased resource efficiency and responsible sourcing, including working with supply chains and providing them with guidance on best practice (eg BES6001)
 - 1.6. Full participation in UK 2050 low-carbon roadmap project and European resource efficiency agenda.
2. To develop a sustainability best practice exchange for the UK Metals Industry, aimed particularly at smaller companies.

Commitments sought from UK policymakers:

1. Incorporate true cradle-to-cradle sustainability tools, such as LCA and carbon footprint assessment, in public procurement.
2. Recognise and promote metals as a permanent material and maximise their use in a future circular economy.
3. Develop a regulatory system that supports and encourages the use of responsibly produced UK-based metals products and aids re-use, remanufacture and recycling.
4. To take forward the Industrial Decarbonisation and Energy Efficiency Roadmap to 2050 for the steel sector over 2015 and 2016, and develop it into a comprehensive action plan.
5. Consider the roll out of similar decarbonisation roadmaps to other industrial sectors, including other metals sectors.

Initial targets:

By 2017, establish an accredited circular economy standard as a key driver for materials efficiency across the product lifecycle.

To have investigated the proposal for a 2050 low carbon roadmap for the metal sector by the end of 2016.

In the absence of direct government support, this could be an independent Metals Council project for later endorsement by government.

For the metals sector to strongly support the drafting of a new EU circular economy package, including:

- The establishment of sectoral and material-based recycling targets.
- Improved recycling definitions.
- Harmonized calculations and reporting methods.
- A 2025 target for ending the landfilling of recyclable waste.
- The harmonisation of ecodesign criteria.



Image courtesy of Grainger and Worrall



Image courtesy of Metal Packaging Manufacturers Association



Realising our vision Better representation and ensuring a level-playing field

List of contributors

“The industry will be represented by a Metals Council and will have worked with government to ensure a balanced regulatory environment that puts UK metals firms on a level playing field with overseas competitors.”

Rationale: A Metals Council led by senior industry figures would help deliver the metal sector's new strategic approach and ensure it leads to a sustainable growth-led future for the industry.

It would also improve the way the UK Metals Industry communicates its messages and enable it to speak with authority to government, other industries, and educators.

The industry is often put at a disadvantage to European and other competitors when it comes to tax and environmental policies. Other issues where more support from policymakers is needed include international competition for raw materials, prevention of dumping, and access to finance.

Proposed actions:

1. CEO-level commitment and engagement with the Metals Industry's new strategic approach.
2. Metals Council formed to drive forward the new strategic approach.
3. Work with government to ensure that taxation, regulation and the UK's energy and carbon policy framework supports long-term economic sustainability as well as environmental responsibility and is appropriately tailored to the Metals Industry's needs.

Commitments sought from UK policymakers:

1. Ministerial-level commitment and engagement with the UK Metals Industry's new strategic approach.
2. To utilise the new Metals Council as a core consultative body and offer occasional Ministerial presence at enhanced meetings of the Metals Council.
3. To ensure a fair and fit-for-purpose taxation and regulatory landscape that reflects the particular characteristics of the UK Metals Industry.

Initial targets:

Metals Council established in 2015.

Establish and track objective measures of international competitiveness for key parts of the metals industry by 2016.

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Simon Alexander	Sheffield Forgemasters Engineering Ltd
John Baker	SSI UK
Paul Barker	British Stainless Steel Association
Geraldine Bolton	Confederation of British Metalforming
Jon Bolton	TATA Steel Europe
James Booth	Smiths Metal Centres
Roz Bulleid	EEF
Jane Champion	Mabey Bridge
Graeme Carus	EMR
Mike Castellucci	Hadley Industries
Corina Cato	Billington Structures
Peter Corfield	National Association of Steel Service Centres
Jo Davies	SSI UK
Henry Dickinson	Norton Aluminium
John Dowling	British Constructional Steelwork Association
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Martin Dudley	Thomas Dudley Ltd (Dudley)
James Ellis	Celsa Steel
Deirdre Fox	TATA Steel
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Graham Small	AMRC Training Centre
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Mike Smith	Atotech
Gareth Stace	UK Steel
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Ben Towe	Hadley Industries
Ian Walsh	Saint Gobain PAM UK Ltd (Ilkeston)
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Image courtesy of Galvanizers' Association

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