

The Tees Valley City Deal

*Tees Valley
Unlimited*



Stockton-on-Tees
BOROUGH COUNCIL

Executive Summary

The Tees Valley City Deal is an ambitious deal which will provide local partners with the powers and developments to become one of the five or six most significant locations for production and processing activities by achieving greater integration of feedstocks, energy usage and processes across different sectors to aid their economy's competitive advantage.

Tees Valley Unlimited's vision for the City Deal is to build upon the Tees Valley's strength in the processing, energy and new materials sectors and to enhance competitiveness in these areas. The deal focuses on providing an attractive environment for investment in the chemical, process and green technology sectors while increasing the integration and efficiency of the existing companies. The deal will complement the Government's approach to carbon capture and storage (CCS), providing a local, industrial based example of how CCS could be developed in the UK, and to increasing the utilisation of waste industrial heat. Through these proposals the City Deal will safeguard key industries within the UK, sustaining employment and creating a solid base for future economic growth.

Over its lifetime Tees Valley Unlimited predict that the City Deal will deliver:

- 3,500 supply chain or indirect jobs;
- The safeguarding of 800 jobs for the Tees Valley; and
- Over £10m of private sector investment in the industrial infrastructure and workforce of the Tees Valley.

The City Deal will enable the future development of industrial CCS and two district heating schemes. When these projects are completed in years to come Tees Valley Unlimited predict they will deliver:

- An increase in GVA of at least £280m.

Introduction

The Tees Valley City Deal will build upon Teesside's unique strengths in large scale production and processing of chemicals, energy (including renewable) and new materials by enhancing the development of three major industrial sites. This ambitious City Deal seeks to support the Tees Valley to become one of the world's premier integrated carbon efficient production and processing complexes.

The products that are produced in the Tees Valley are the building blocks for other advanced manufacturing sectors of the economy across the UK including both aerospace, automotive, life sciences and oil and gas. By developing an industrial complex that can compete on a global scale this City Deal will underpin the Government's drive to rebalance the economy, revitalise the UK's advanced manufacturing sectors by enhancing their competitiveness and help the Tees Valley and the UK be even more successful in the global marketplace.

The vision for the Tees Valley City Deal aligns with the long term economic strategy set out in Tees Valley Unlimited's Statement of Ambition, which also forms the basis for TVU's European Structural and Investment Fund Strategy and Local Growth Deal.

Tees Valley Unlimited has set out two ambitions for the economic future of the Tees Valley:

- **Ambition 1: Drive the transition to a High Value, Low Carbon Economy**
- **Ambition 2: Create a more Diversified and Inclusive Economy**

These ambitions will be delivered by achieving five objectives:

1. **Develop infrastructure and place to enable economic development**
2. **Support sector development and enterprise**
3. **Develop the workforce within the Tees Valley**
4. **Promote the Tees Valley economy**
5. **Secure investment to meet the economic development needs of the Tees Valley**

Why do we need the City Deal?

The Tees Valley faces a number of significant economic challenges to overcome and this City Deal provides local partners with the powers and tools to meet these challenges. Despite its world class industrial strengths, the Tees Valley is still characterised by a higher unemployment than other parts of the country.

The nature of the existing industries in the Tees Valley also creates challenges for the region. Energy usage and CO₂ emissions are high; with 4.8% of UK industrial CO₂ emissions and 5 of the top 25 single industrial emitters situated on Teesside. These industries also tend to be large employers, with ownership outside the UK, resulting in a local economy which can be vulnerable to economic shocks.

But there are good indications that the Tees Valley economy is growing, particularly in the private sector where there has been a net increase of over 8,000 jobs since January 2011. The rate of new investment in the area remains positive and the Tees Valley continues to attract new businesses to the area, such as the new £300m Air Products energy from waste plant,

This City Deal will build on the competitive advantages of the Tees Valley economy, support the sustainability and growth of existing businesses and create the conditions for new industries, services and employment to develop.

The Deal

The Tees Valley City Deal builds on the unique strengths of the area in large scale production and processing industries. It will support the sustainability and growth of these existing businesses while creating the conditions for new industries, services and employment to develop.

The City Deal has three areas of focus: providing the conditions to enable increased investment in the processing and chemicals industries; taking industrial carbon capture and storage (CCS) forward for the Tees Valley and the UK; and creating new business and civic benefits from waste industrial heat. To deliver these flagship proposals City Deal partners will:

- Work with the Government to consider an appropriate mechanism to expand and enhance the **planning certainty** offered by the existing Instrument of Consent. In the short term local partners will lead the development of outline planning for the three key industrial sites (Billingham, North Tees and South Tees) while TVU works with the Government to explore the implications of removing regulatory and legislative barriers in order to provide planning certainty.
- Complete a pre-FEED study for a Tees Valley **industrial carbon capture and storage network** which will identify the best option for the full-chain network, explore investment mechanisms, and develop the business case for investment in industrial CCS.
- Develop **two waste industrial heat networks** by completing all required technical studies and business cases that will prepare these schemes for private and public sector investment. These two schemes will expand existing industrial heat infrastructure to provide heat for homes, small businesses, a local hospital and local authority buildings.

These flagship proposals will be complemented by:

- The completion of a **Low Carbon Action Plan**, with support from Government departments (DECC and BIS), which will identify the actions required for the Tees Valley to expand the production of green hydrogen, syngas, bio-chemicals and other new feedstocks.
- Government and UKTI agree to support the Tees Valley as a **recognised area for green technologies** – particularly for green energy.
- **Launch of an enhanced business support programme** that will improve co-ordination of business support services across the Tees Valley. This will be funded through an allocation from the RGF Lancaster University funding of £2.4m which will be matched with local public sector and private sector funding.
- The development of **an innovation and commercialisation hub** as a joint venture of Tees Valley Unlimited, Tata Steel, the Centre for Process Innovation and Harsco. Government will encourage the Technology Strategy Board to designate the centre as part of the successful Catapult network.

Geography

The Tees Valley in the North East comprises the Boroughs of Darlington, Hartlepool, Middlesbrough, Redcar & Cleveland and Stockton-on-Tees. With a population of 663,600, the Tees Valley is a functional economic area with a strong local focus; some 87% of residents work within the Tees Valley. It is home to a strong advanced manufacturing sector with expertise across automotive, subsea, renewable energy and engineering design. Such expertise has emerged because the Tees Valley is one of the largest industrial areas in the UK with process, energy and industrial technology plants of world scale. The long history of chemical production on Teesside continues today with 60% of the UK's chemical exports being produced in the Tees Valley.

The geographic focus of the Tees Valley City Deal is on the three industrial complexes of Billingham, North Tees and South Tees but the economic impact of the deal will reach across the Tees Valley and throughout the UK.

Key Elements of the City Deal

An Integrated Carbon Efficient Production and Processing Complex

The Tees Valley is home to energy intensive, high value industrial activity primarily located on the three large sites on Teesside of Billingham, North Tees and South Tees. These sites were formerly a single, integrated ICI complex but, with the demise of that company, ownership activities have become fragmented. While still of critical importance to the Tees Valley's and the UK's economic position, the sites are in danger of being eclipsed by more integrated approaches overseas.

The three sites on Teesside retain pipe work infrastructure that allows for the easy transmission of feedstocks, energy and products between occupiers. In order to build on these unique assets, further private sector investment is required to transform this integration and mutual competitiveness, both through infrastructure improvements and the attraction of new key occupiers. As well as boosting existing industrial activities the production and processing complex will seek to attract new green technologies to build upon the success already achieved through the attraction of the Air Products waste to energy plant (a capital investment of £300m), the intended Sembcorp / Sita waste to energy plant (£200m capital investment) and the potential second Air Products plant (estimated £300m capital investment).

The attraction of new investments will be critical to the safeguarding and expansion of the Tees Valley's core industries. This City Deal proposes two measures to support Tees Valley Unlimited's work in attracting new investments:

Planning Certainty

Through this City Deal Tees Valley Unlimited will work with the Department for Communities & Local Government (DCLG) to consider an appropriate mechanism that provides planning certainty for Billingham, North Tees and South Tees, in consultation with Defra and its relevant arms-length bodies.

At present a part of South Tees, Wilton International, benefits from Instruments of Consent dating from 1946. These provide planning permission to chemical and industrial development on green field sections of the site. The owners of the site, Sembcorp, have highlighted that having planning certainty within their marketing package has considerably added to the attractiveness of the site. Tees Valley partners will work to extend the powers granted under the Instruments of Consent and provide long term certainty of planning permission for the chemical, process and green technology industries on these sites, including areas of brownfield land.

Through the negotiation of this City Deal it has been identified that under existing legislation the Tees Valley cannot provide planning certainty for the kinds of industry they are seeking to attract. It is therefore agreed within this deal that the Tees Valley will further identify the regulatory or legislative changes that would be required to empower the area to enact this proposal. DCLG will undertake a continuing dialogue with TVU on this proposal, with a view to concluding discussions by January 2015.

In the short term the Tees Valley local authorities will work with the businesses on the sites to develop outline planning permissions for those locations, reducing risk as far as is possible and ensuring appropriate planning permission requirements are placed upon new developments.

A Location for Green Technologies

The Tees Valley is a national and European centre for chemicals, petrochemicals, and steel and is recognised as an area for green technology investment. The Tees Valley will proactively market the area to international green technology investors and this marketing will be supported by UKTI.

Marketing the Tees Valley as a recognised area for green technology will produce a critical mass of companies on the three core sites, further increasing integration and efficiency. This cluster will host large energy and bio-chemical plants turning waste into low carbon products that provide the building blocks for products of the future. This will further reinforce the Tees Valley's status as an area for green technologies.

Heat, Carbon and Feedstock Integration

Due to the concentration of energy intensive industry in the Tees Valley that emit 4.8% of UK industrial emissions there is a need to reduce emissions both to meet carbon reduction targets and to ensure that Teesside industries remain globally competitive. The most appropriate local solution is to capitalise on the sheer scale of local industrial activity, the proximity of the plants, and the integration that already exists in the Tees Valley.

The market for chemicals, plastics and steel is changing; multinational companies that buy the chemicals produced in the Tees Valley are increasingly demanding low carbon products. This growing trend is opening up a market for low carbon products in which local companies could compete. This is recognised by global competitor industrial locations, such as Rotterdam and Qatar, and reiterates the need to develop integrated low carbon industrial complexes where CCS infrastructure, waste heat networks and low carbon feedstock are readily available to growing businesses.

The Tees Valley is uniquely positioned within the UK to meet this challenge. The existing infrastructure connecting our three core sites is already being used and developed by companies to produce efficiencies and new processes. The Tees Valley has already commissioned initial feasibility studies into waste industrial heat sourced district heating schemes and have already secured commitment from local companies to develop an industrial CCS network. The proposals set out in this City Deal will unlock the investment and potential to enable a step change in industrial integration.

Industrial Carbon Capture and Storage

Through this City Deal the Tees Valley will secure the support to take forward industrial carbon capture and storage to sustain local industries and enable the growth of future low carbon industries.

It is widely recognised that the Tees Valley offers a unique opportunity to develop industrial CCS in the UK due to the closely located industrial plants, proximity to the shoreline, and proximity to large scale CCS developments in Yorkshire. 58% of the UK's chemical industry, 50% of the UK's hydrogen production and Europe's second largest blast furnace are located in the Tees Valley which has a unique range of ammonia, hydrogen, petrochemical, plastic and steel manufacturing. A number of these plants already capture their CO₂; the technology for industrial carbon capture exists and is proven at commercial scale. The Tees Valley also has extensive pipe networks, for which a CO₂ pipeline would be a deliverable extension, and already exports CO₂ via ships across Europe for commercial uses.

Currently the Tees Valley emits 4.8% of UK industrial CO₂ emissions and 5 of the top 25 single industrial emitters are situated on Teesside. Local industry has already done much to lower their carbon impact (for example GrowHow now produce the lowest carbon fertiliser in the EU) but to secure these industries and further reduce their carbon impact a change in approach is required by creating the UK's first industrial CCS network.

The globally competitive market within which the Tees Valley's industries operate creates a barrier to investment in CCS as they are not able to pass the initial costs of constructing the network on to consumers, as is the case for power generator CCS schemes. Due to the current costs and values of carbon the public sector needs to develop the first stages of industrial CCS to give private investors the confidence in the costs and returns available.

The City Deal will achieve two outputs; firstly it will develop the costs for the Tees Valley's industrial CCS network, including the business model, and secondly it will use these costs to develop the investment mechanism for industrial CCS. The outcome will be increased confidence amongst private investors in industrial CCS across the UK and the securing of a project developer to develop the Tees Valley network. Government will contribute £1m of resource funding to complete this work and prepare the way for future private sector investment.

It is estimated that when completed the network will reduce CO₂ emissions by 7m tonnes per year, based on the current industrial emissions. This represents a step change in carbon reduction – for example bringing GrowHow's fertiliser production down from 1.15 to 0.36 tonnes of CO₂ per tonne of fertiliser, a 69% reduction.

District Heating

Many of the Tees Valley's energy intensive industries emit low temperature, low pressure heat for which there is limited industrial use. This represents wasted energy which could be used to heat homes, businesses, hospitals, and local authority buildings, and in the process improve the energy efficiency of local companies. The Tees Valley local authorities have already commissioned feasibility studies into two schemes and secured support from anchor users and industrial heat suppliers. Collectively these schemes could save over 50,000 tonnes of CO₂ every year and would be commissioned in 2017/18.

However, as recognised in the Government's Heat Strategy, local authorities often struggle to finance the feasibility of district heating networks, and while the funding already invested by the Tees Valley in feasibility studies has identified two viable networks the funds are not available locally to take these schemes to the next stage. The City Deal will deliver two schemes which will be ready to procure an EPC contract for build and commissioning.

The South Tees District Heating scheme, which will take industrial heat from Wilton International and supply homes, local authority buildings and a large hospital, is currently completing the final stages of scheme feasibility. This work will optimise and cost the route, detail supply arrangements, determine heat costs, secure commitments from users including draft Heads of Terms and develop the overall business model.

The North Tees District Heating Scheme is at an earlier stage than the South Tees; however pre-feasibility has identified two routes radiating from GrowHow, whose processes produce large amounts of industrial heat of which they currently distribute a small proportion to companies in close proximity. There is potential to extend this network to cover local authority buildings, large commercial premises and a prison. The work undertaken so far has confirmed the available supply of industrial heat, secured support from the supplier of this heat and secured backing from a number of potential large commercial users.

To take these two schemes forward Government will contribute £1.3m over four years which will be matched by £627k of local authority funding. When completed this work will unlock £44m of public and private sector investment.

A Plan for the Efficient, Low Carbon Future

Industrial CCS and extending the use of waste industrial heat will take forward key areas of industrial integration and efficiency. However, there is a need to unlock the new growth areas of green hydrogen, bio-chemicals and renewable syngas and in particular their use as a feedstock rather than a fuel. Currently there are barriers to the expansion and use of these feedstocks; the Tees Valley Low Carbon Action Plan will identify a set of investment mechanisms which will be funded and implemented and be capable of unlocking investment in green chemicals to supply growing markets for low carbon products.

The development of the Action Plan will be managed by a Steering Group led by Tees Valley Unlimited, co-ordinating members from local industry, DECC and BIS. The group will be capable of making decisions and provide high level influence when required.

The Action Plan will take 2 years to develop and follow the structure below:

- Analysis of the technical and economic feasibility to produce bio-chemicals and green hydrogen in the Tees Valley from existing plants and new investors
- Analysis of existing and future chemical company requirements to utilise bio-chemicals and green hydrogen including mass-balance, price and technical constraints
- Analysis of future demand for green hydrogen transport fuel, quality and specification
- Determination of actions required to improve the supply, quality and cost of bio-chemicals and green hydrogen
- Determine the actions required to attract investment in bio-chemicals and green hydrogen
- Detail the business model and business case for any identified funding requirements.

It is recognised that many of the actions will be developed using the knowledge and experience of Tees Valley Unlimited, industrial partners and government departments, however it is expected that specialist support will be required. This specialist support will be used to develop business cases and financial modelling and is expected to cost £500k, of which TVU and local partners will commit £150k, and the Government will provide £350k.

Funding for the final actions will come from private sector investment, ERDF, Local Growth Fund and local EZ income. TVU will implement the actions and monitor their effectiveness. It is expected that these actions will serve as demonstrator activities which can then be replicated across the UK if they prove successful.

Business and Innovation Support

The Tees Valley economy does not have enough jobs for the number of residents in the area, therefore making it heavily reliant upon large employers and the public sector, leading to high levels of unemployment, particularly youth unemployment. The Tees Valley also has low rates of enterprise, innovation and commercialisation which has resulted in a lack of economic resilience making it vulnerable in the global economy.

The City Deal provides an opportunity to address issues with the support provided to businesses. This can help stimulate entrepreneurship and new business formation and generate sustainable private sector growth leading to strengthened economic resilience. It will build upon the 8,000 net new private sector jobs already created since 2011 but will do it quicker and with a more solid foundation.

Key to this will be the establishment of a Tees Valley Business Growth Hub which will provide businesses with a single access point to both national and local support. It will signpost businesses to the most appropriate support available, utilising the range of key local and national partners that operate in the business support arena in the Tees Valley, and provide additional intensive targeted support to help businesses utilise technology better, operate in multiple sectors and access supply chain opportunities. An allocation of £2.4m to establish the Hub has been secured from the Lancaster University RGF4 fund. The Business Growth Programme will address access to finance, R+D and innovation.

Innovation and Commercialisation Hub

Tees Valley Unlimited are working to establish an Industrial Technology Transfer and Commercialisation Centre where world-class facilities will take proof of concept designs through to full scale commercial production. Discussions have reached an advanced stage with Tata Steel who are keen for their Research and Development site in Middlesbrough to be used as the base for this activity. Other partners include Harsco and the Centre for Process Innovation (CPI), representing the Advanced Manufacturing Catapult established by the Technology Strategy Board (TSB). Sheffield University have also expressed an interest in being the awarding university for Industrial Doctorates.

Through this City Deal the Tees Valley is seeking Government's encouragement that the Technology Strategy Board designates the centre as part of the Catapult Network. TVU will provide both capital and revenue funding from its European Structural Funds allocation to help establish the Centre. Already some 15 companies have expressed an interest in using the facilities to commercialise processes or products.

Skills

Tees Valley Unlimited was successful in achieving a £7m award within the RGF4 round to deliver flexible support for employers to create new jobs, particularly apprenticeships. Alongside this Tees Valley Unlimited are developing a Skills Hub which will bring partners and activities together and facilitate the engagement between employers, learners and training providers. These programmes will support the delivery of the City Deal.

Governance

The Tees Valley has a long track record of public and private sector collaboration to address strategic economic development, transport and housing matters. This collaborative cross boundary approach includes:

- Area wide strategy and vision development – Tees Valley Vision, Tees Valley City Deal Business Case, Tees Valley City Region Transport Strategy, and most recently the Tees Valley Statement of Ambition;

- The pooling of strategic economic functions – currently covering business engagement, economic strategy and intelligence, inward investment, marketing and promotions, strategic transport and investment planning;
- Cross-boundary prioritisation and decision making on spending – Tees Valley City Region Investment Plan, Single Programme Delivery Plan, Housing Market Renewal Business Plan, and most recently Enterprise Zone development and the Growing Places Fund; and
- The pooling of budgets – the five local authorities through TVU have agreed to pool the business rates uplift and the EZ income from the 8 Tees Valley Enterprise Zones sites to invest in growth.

Looking to the future the Tees Valley partners have decided to strengthen governance arrangements to give confidence to private sector partners and Government about the delivery of the City Deal and future local growth initiatives. To that end the five local authority leaders and mayors have agreed in principle to establish a Combined Authority, Joint Committee or similar formal structure to undertake the functions of economic development, transport and skills. The Tees Valley are currently developing proposals for such a model which ensures that decision making is expedited and a strong private sector voice is maintained.

Tees Valley Unlimited will oversee the local delivery of the City Deal, reporting progress to the LEP board and local authority leaders and mayors.

Summary of Commitments

A World-Class Integrated Carbon Efficient Production and Processing Complex

The Tees Valley Commitments	Central Government Commitments
<p>Work with local businesses to agree outline planning permissions across the three core sites (Billingham, North Tees and South Tees).</p> <p>Further identify the regulatory and legislative barriers to providing planning certainty to development of the three sites and produce a finalised proposal by June 2014.</p> <p>Develop a marketing strategy, recognising the Tees Valley as an area for green technology growth</p> <p>Complete and publish Local Plans within 2014.</p> <p>The Tees Valley local authorities will continue to use publicly owned land and property to deliver new homes and create more investment opportunities, where appropriate.</p> <p>The Tees Valley local authorities will explore engagement with the Government Property Unit to provide external support for the management of their assets and upload local assets to the ePIMS database by Feb 2014.</p>	<p>DCLG will provide critical friend guidance on the development of outline planning permissions.</p> <p>DLCG will undertake a dialogue with Tees Valley Unlimited to refine the emerging planning certainty proposals and assess the regulatory or legislative implications of the Tees Valley's proposals, in consultation with Defra and its relevant arms length bodies.</p> <p>UKTI will support Tees Valley Unlimited in the marketing of the three core sites.</p>

Heat, Carbon and Feedstock Integration

The Tees Valley Commitments	Central Government Commitments
<p>£250k of engineering support from local industries to support the development of industrial CCS on Teesside.</p> <p>£627k of local authority funding to develop the North and South Tees district heating schemes.</p> <p>Of TVU's £173m ERDF allocation, a minimum of £24.6m will be made available for low carbon projects and Tees Valley Unlimited will focus its ERDF allocation in order to deliver district heating.</p> <p>With local industry, lead the completion of the Low Carbon Action Plan</p> <p>£150k of funding to support the completion of the Action Plan.</p>	<p>£1m of funding to take forward industrial CCS, including completing a pre-FEED study, develop the business model and possible investment mechanisms.</p> <p>£1.3m of funding to develop two waste industrial heat schemes and prepare the way for future private investment.</p> <p>Engagement from DECC and BIS in the completion of the Low Carbon Action Plan</p> <p>£350k of resource funding to support the completion of the Action Plan.</p>

Business and Innovation Support

The Tees Valley Commitments	Central Government Commitments
<p>£800k of TVU co-funding for the Tees Valley Business Growth Hub, securing over £5m of private investment</p> <p>Investment of £15m ERDF from ERFD 2014-20 for</p>	<p>The award of a £2.4m allocation from the Lancaster University RGF4 fund</p> <p>Government to encourage TSB to designate the innovation and commercialisation hub as part of the</p>

<p>Business Growth Hub activities</p> <p>Investment of £6m ERDF in local growth and commercialisation fund</p> <p>Secure at least £3m private sector investment</p> <p>Development of an innovation and commercialisation hub through a joint venture between TVU, Tata, CPI and Harsco</p> <p>£8m ERDF to be identified for 2014-20 for commercialisation support</p>	<p>Catapult network.</p>
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Skills

The Tees Valley Commitments	Central Government Commitments
<p>TVU to deliver the £7m RGF4 funded programme to support employers and individuals, providing 700 jobs.</p> <p>TVU to create a Skills Hub to bring partners and activities together and facilitate engagement between employers, learners and training providers</p>	<p>£7m RGF4 funding – in place.</p>

Governance

The Tees Valley Commitments	Central Government Commitments
<p>Darlington, Hartlepool, Middlesbrough, Redcar & Cleveland and Stockton Councils commit to supporting the development of a Combined Authority, or Joint Committee or similar formal structure</p>	

