



PROJECT SUMMARY:



CLIENT

The University of Strathclyde

PROJECT

CHP, District Heating

TIMESCALE:

96 Weeks

CONTRACT VALUE:

£20 Million

OVERVIEW

The University of Strathclyde is investing £1billion pounds over a 10 year period to improve its campus and create an ideal working and learning environment for students and staff. As part of this work we have created a £14.5m project to refurbish their existing John Street Boiler House, introducing CHP Technology, new boiler and thermal stores and a campus-wide district heating network.

To ensure the local economic and social benefits are maximised, the University created The Strathclyde Commitment which clearly set out a series of spending, employment and social measures which it expected the winning contractor to meet as well as inviting them to suggest additional initiatives which would benefit the community. These were formally submitted as part of the tender process.

THE SOLUTION

Whilst we have developed our supply chain and sub-contractors over decades, with a strong focus on health and safety and quality, we constantly try to expand this to incorporate smaller, local businesses to realise social and economic benefits. In the initial stages, smaller and medium sized enterprises may not necessarily have the H&S standards we require or the resources to meet other requirements. Our approach has adopted a national standard, using the 'Safe Contractor' meaning any investment in accreditation results in more benefits the supplier than the single project. Additionally, Safe Contractor provides a learning and improvement platform for smaller organisations to develop and

implement improved standards.

We have engaged with local supply chain at the earliest possible opportunity, educating them about the work packages available and supporting them to meet the nationally recognised industry benchmarks.

On this project we carried out a well-publicised, dedicated supply chain event. These were run by the Vital Energi staff who would be directly involved in the project and senior Quantity Surveyors, Commercial Managers, Project Directors and H&S Directors attended to describe both the opportunities and the requirements.

The presentations described a range of work packages on offer and covered various disciplines such as mechanical

THE BENEFITS:

- > £12.5m added to the Scottish Economy
- > 230 additional years of person employment
- > 5 apprentices hired
- > 3 work placements created
- > 7 undergraduate/graduate placements delivered

▶ As part of the project we created a classroom and viewing platform which allows visitors to learn more about the energy project.



The CHP project is anticipated to generate 230 person years of full-time employment. By the completion of phase one, the direct expenditure of the project is expected to have created 100 person years of full-time employment in the Scottish economy.

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contractors, water treatment and commissioning, BMS, insulation, builders, demolition, mechanical and electrical suppliers, pump manufacturers, ventilation.

Whilst introducing potential supply chain to our H&S standards is important, providing ongoing assessment and support is essential to a successful project. Our SHEQ director supported engagement from the pre-construction phase and oversaw a range of measures which included full system compliance and competency audits, through to regular monthly meetings and site performance reviews. By recognising that smaller companies may not have the dedicated staff or expertise necessary for a large, multi-contractor site we were able to help several companies work on the project who would not previously have been able to. This allowed us to increase the percentage of the budget spent locally and exceed the target figure.

Creating Employment Opportunities & Work Experience

By leveraging our supply chain, on-site pre-fabrication facilities and on-site delivery teams we were able to offer a mixture of apprenticeships, undergraduate/paid graduate internships and work placements, not just delivering a boost to Scotland's current workforce, but also helping the emerging talent

which will contribute so much in the coming decades.

In each of these categories we were able to work positively with all stakeholders to meet or exceed the levels suggested by The University of Strathclyde.

·Apprenticeships - We were able to employ three "craft" apprentices within the offsite fabrication department where they would be working on the prefabricated skids and plant work destined for the energy centre.

In addition, 2 apprentices were hired for "on-site" work and our subcontractors employed 5 apprentices, making a total of ten on the project.

Work Placements - Three 12-week work placements were arranged so participants new to the employment market would gain valuable on-site skills and experience.

·Undergraduate/Graduate Placements - During the course of the project we committed to offering 4 on-site undergraduate/graduate internships, but were able to extend this to 7.

When assessing the Socio Economic Impact Assessment for the project, the Fraser of Allander Institute, who reported on the benefits of the project stated, "By the completion of phase one, the direct expenditure of the project is expected to have created 100 person years of full-time employment in the Scottish economy. The 100 full

time equivalent jobs created by the direct expenditure of the Combined Heat & Power project are expected to support an additional 130 (60 indirect and 70 induced) jobs in the Scottish economy."

Spending locally to boost the Regional and Local economy

By focusing local supply chain and contractor involvement we were able to ensure the maximum percentage of the budget was spent locally. The initial target was to achieve 65% of local budget spend and we have a final forecast to surpass this and achieve 71% local budget spend.

The Fraser Allander Institute has quantified the overall effect of the project on the Scottish economy, "The total economic impact of the University of Strathclyde's combined heat and power project on the Scottish economy is anticipated to be £12.5 million in 2018/19.

"Of this impact, £5.2million is related to direct spending. The spill-over effects on the supply chain of the CHP project add an additional £3million to GDP. The remaining £4.3m of GDP is generated by the spending of wages paid as a result of the CHP project and its supply chain."

Another significant boost for the local economy is that the CHP project is extremely efficient and will deliver significant financial savings from the University's energy bill each year. The system utilises the waste

► We worked closely with the client to ensure the long-term benefits of the project were communicated to the public.



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► THE SOLUTION

heat generated during electricity generation and uses this to create low-temperature hot water. By capturing this heat and utilising it, the University expects the project to save £2.6m per year, or more than £65 million over the design life of the project.

Creating Voluntary Community Benefits

One of the exciting parts of the University of Strathclyde project was that we could work with stakeholders to create voluntary community benefits and saw opportunities to engage, inspire and educate students of all levels.

In one of our events we worked with the local St Mungo’s Primary School and educate them about the work we do. We initially gave a presentation to the students on climate change, the CHP project and the environmental benefits it would bring before. Following this we took the children to the University’s Rottenrow Gardens where they helped us to plant a mixture of apple, pear and plum trees. The children added name tags to their specific trees so that they could share their contribution with their family and friends and each child was given a goody bag and allowed to keep their gardening gloves and trowel

in the hope it would inspire them to continue gardening.

At the other end of the educational spectrum we also assisted the University to use the project as a degree level educational resource and integral to the design and briefing process, was the requirement to create an education experience within the project. In order to achieve the brief, the designer created an energy centre observation platform and teaching space, allowing visitors, students and practitioners to observe and manipulate the performance of the heat network and energy centre. The construction works incorporated a mezzanine gantry system which provides elevated access throughout the energy centre and is connected to the energy centre control room. The learning environment created provides a ‘vital insight into the projects energy performance’.

While it is planned that this platform, along with the dedicated classroom, will provide numerous opportunities, an example of the work we do can be found in a presentation and tour we gave to 35 French engineering students. Each year the University’s English Language department hosts engineering students from the Ecole des Mines D’alpes region of France and the students study their course

whilst improving their language skills. To assist the University our staff prepared a presentation, tour and Q&A presentation of the energy centre, giving them a close-up view of a major energy infrastructure project. Similarly, directors from Vital Energi and the University of Strathclyde delivered a presentation to 36 members of the University of Strathclyde Energy MSc students before taking them on a tour of the energy centre.

We intend to continue making our staff available for these educational events and look forward to promoting the benefits of sustainable energy projects to everyone from primary school pupils to members of the parliament.