GRAHAM

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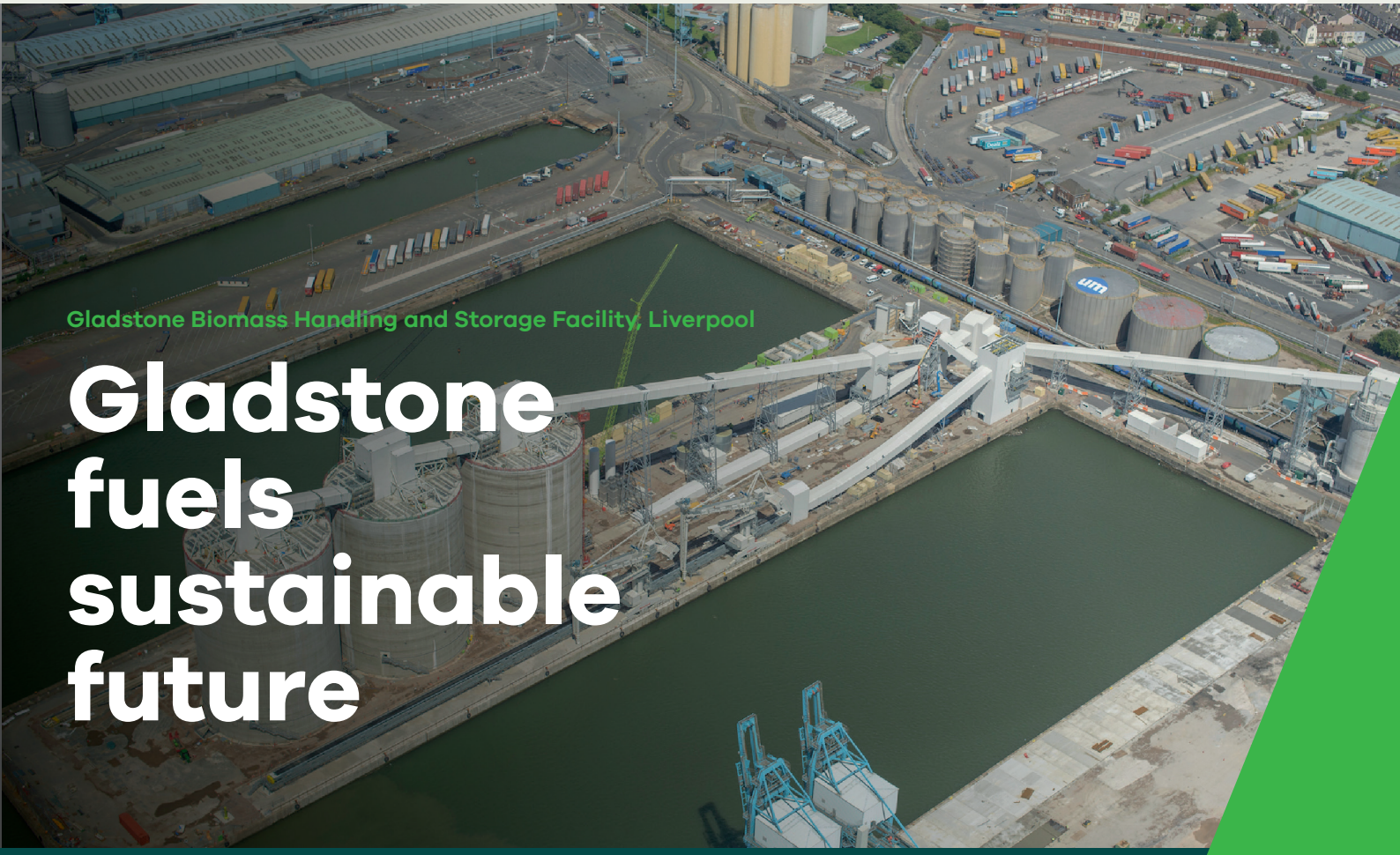


Gladstone Biomass Handling and Storage Facility, Liverpool

Gladstone fuels sustainable future

£85m
/ Project value

December 2014
/ The build commenced

July 2016
/ The build was completed

Recognised as a "truly stunning project" by the Institution of Civil Engineers (ICE), the £85m Gladstone Biomass Handling and Storage Facility is a core supply chain component of the largest decarbonisation project in the EU taking place at Drax's Selby Power Station. A feat of complex engineering, this truly automated bulk-handling facility, designed and built by our experts over a 19-month programme, is capable of handling three million tonnes of wood pellets a year.

The Brief

Supporting the transition from coal to sustainable biomass, Peel Ports Group, and its end user Drax Power Limited, were committed to investing in an expansive biomass terminal with the capacity to store 100,000 tonnes of wood pellets, incorporating a rail loading facility, to bolster the creation of sustainable, affordable renewable power.

"Gladstone Biomass Terminal is a truly stunning project, the first facility of its kind on the west coast of England. Built with safety and the environment to the fore, the complexity of the engineering made it a clear winner,"

Darrell Matthews
ICE North West Regional Director

"Reaching a million 'man-hours' without a RIDDOR reportable incident is a phenomenal achievement by GRAHAM and their supply chain partners. GRAHAM's management team have driven a culture of safety awareness with a strong focus on the basics,"

Garry Sharpe
Peel Ports' Project Director

The Challenges

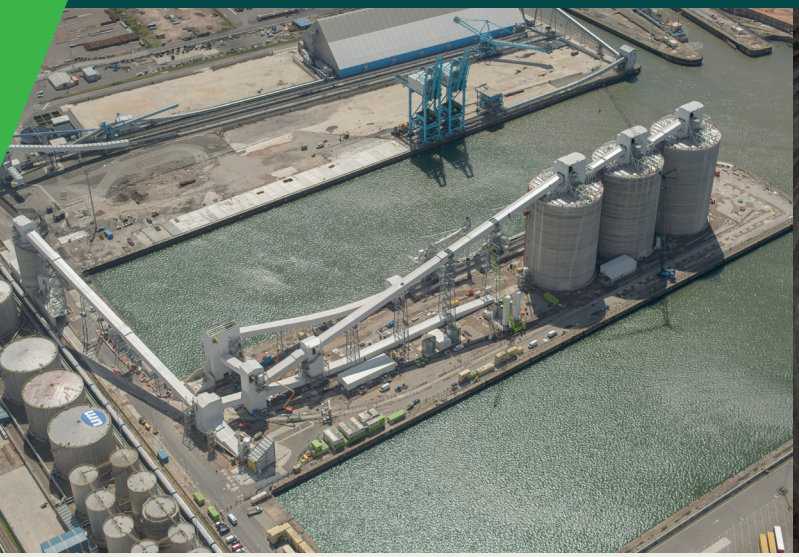
Testing wind speeds presented particularly challenging problems during the lifting of over 1,000 tonnes of steelwork, which would form the roof structures of the three 55m high concrete slipformed silos. With the heaviest single lift comprising approximately 160 tonnes, robust weather controls were implemented, a detailed lifting plan was put in place and a 500 tonne crawler crane, sited on the quayside, was utilised to overcome the inclement weather conditions. A fully operational site throughout the construction process, 20,000 tonnes of contaminated soil material were also identified, requiring the expertise of contamination consultants to ensure its compliant management and removal.

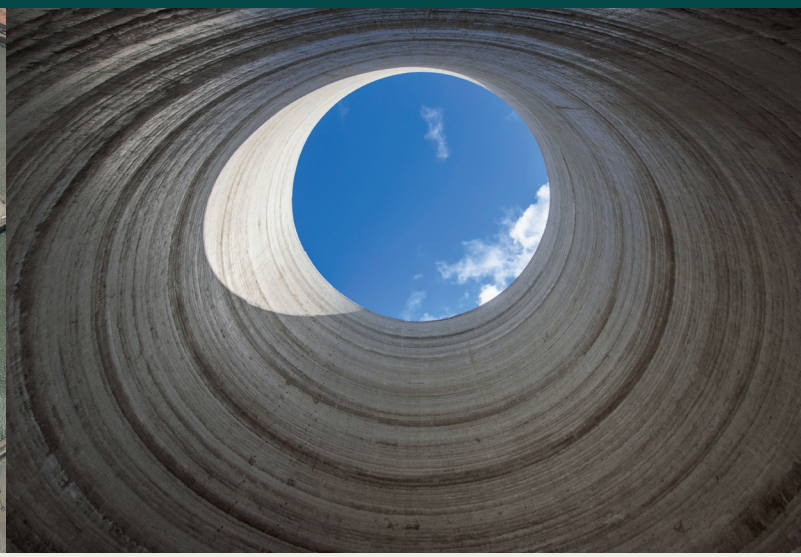
GRAHAM's added value solution

Testament to the quality of our work at the Immingham Renewable Fuels Terminal, we were subsequently entrusted to design and build our second significant biomass facility for the same end customer (Drax Power Station), albeit on behalf of a different port authority (Peel Ports). Awarded the 'Large Project of the Year' by the ICE, the Gladstone facility was completed on plan, within 19-months, and built safely with over 1,000,000 RIDDOR free 'man-hours'. Comprising three 33,000t storage silos, 40m in diameter, and 55m in height, the terminal also features a rail loading silo (14m in diameter/44m high), and 1,200m of conveyors facilitating the transport of biomass from ship to silo and silo to rail. Our innovative construction included the design and fabrication of the largest hydraulic slide valve, which is now an approved unit on the open market.

Outputs & Benefits

- **Award Winning:** Large Project of the Year at the ICE North West Awards
- **Sustainable Legacy:** Gladstone has been instrumental in reducing Drax's CO_2 footprint by 12 tonnes per annum - the equivalent of removing 10% of the cars on UK roads
- **Safety First:** Over 1,000,000 'man-hours' RIDDOR free
- **Scope and Scale:** Capable of handling 3,000,000 wood pellets per annum
- **Stretching the Limits:** Over 1,200m of conveyors constructed
- **Kicking Off:** Sponsorship of the Waterloo Vipers youth football team





For more information on how we're delivering lasting impact:

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