



NJUG CASE STUDY

CASE STUDY 15: Project Omega – Reducing Waste and Emissions

The National Joint Utilities Group (NJUG) is the UK industry association representing utilities on street works issues. The thirty-eight companies¹ we represent work to deliver gas, electricity, water and telecommunications to both individual consumers and UK plc.

NJUG members need to continue to drive forward further improvements. We have therefore developed the NJUG Vision for Street Works, which revolves around six main principles:

1. Safety is the number one priority
2. Damage to underground assets is avoided
3. Utilities work together and in partnership with local authorities to minimise disruption
4. Utilities deliver consistent high quality
5. Utilities maximise the use of sustainable methods and materials
6. Street works in the UK are regarded as world class

This case study is an example of NJUG delivering on these principles and turning the Vision into a reality.

Overview:

Project Omega was a Northern Ireland Water project, worth £122million, which aimed to:

- Upgrade a number of existing wastewater treatment facilities (at Ballyrickard, Ballynacor, Bullays Hill, Seagoe Armagh and Richill)
- Construct a new wastewater treatment facility for North Down/Ards (in line with EU Directives)
- Provide a sludge disposal solution for Northern Ireland (in line with EU Directives)

The project increased wastewater treatment capacity for Northern Ireland to support growth and commercial and industrial development, while ensuring value for money, affordability and swift compliance with EU directives.

Prior to commencing construction work on Project Omega, the Laing O'Rourke team, in collaboration with Northern Ireland Water and the Carbon Trust, set itself targets relating to minimisation of waste and emissions during the construction process. The targets set were:

- 2.5 – 5% reduction of electricity usage
- 5 – 10% reduction on water usage

The reductions were measured against historical data collated from previous Laing O'Rourke construction sites.



¹ NJUG's current members are Energy Networks Association (representing electricity and gas), Water UK (representing all water and wastewater companies), National Grid, Openreach, Virgin Media and THUS, a Cable and Wireless Business. Our associate members are Clancy Docwra, Skanska McNicholas, Balfour Beatty, Morrison, Morgan Est, NACAP, PJ Keary, First Intervention, Carillion, Enterprise and Laing O'Rourke. Including members through trade associations, NJUG represents thirty-eight utility companies.

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The team approached achieving their targets through a variety of Project-wide initiatives.

Site waste management plans were employed on all project sites. This led to a high percentage of construction and office waste segregation, enabling savings in the recycling process. 100% of waste paper generated on the sites was shredded and distributed to farmers and pet-shops for use as animal bedding.

The team instigated an IT awareness campaign, which encouraged users to turn their monitors off when not at their computers and overnight, rather than leave them in screen-saver or stand-by mode. This led to less power usage on site. Further aspects of the campaign targeted paper use and encouraged users to add an environmentally friendly message in the footer of their outgoing emails requesting the receiver to 'consider the environment before printing this email'. These initiatives led to reduced electricity costs and less paper used for printing. Additionally, all printers were set to print on double-sided paper as their default setting.

In order to reduce fuel emissions, Project Omega employed a car-pooling system for transporting operatives to and from site in the morning and evening, and between sites throughout the day. Company cars were actively serviced throughout the project, to ensure that they ran as efficiently as possible.

Efforts were also taken to ensure site buildings were as 'green' as possible. All site offices across the various project sites contained timed heating and movement sensor lighting to reduce power consumption. Timed push button taps and reduced flush toilets were also employed in an effort to save water. In addition to these measures, site buildings used heating systems specifically selected for their high fuel-efficiency.

Following the introduction of the methods above, the team bettered their goal by achieving 7.5% saving on energy costs and 15% reduction in the water resource used

Through collaboration and innovation, the Project Omega team introduced policies and procedures which drastically reduced the environmental impact of the construction work involved. The initiatives employed by Laing O'Rourke on Project Omega benefited the environment through:

- Decreasing fuel emissions through car pooling, regular servicing and decreased power usage
- Decreasing the project carbon footprint by 4,536 tons through recycling construction waste
- Increasing recycling leading to a decrease in waste going to landfill
- Decreasing water usage, and therefore protecting a valuable natural resource
- Increasing environmental awareness amongst the personnel on the project
- Breeding good habits amongst personnel that will hopefully cross over into their personal lives
- Cost benefits associated with decreased power & water usage

