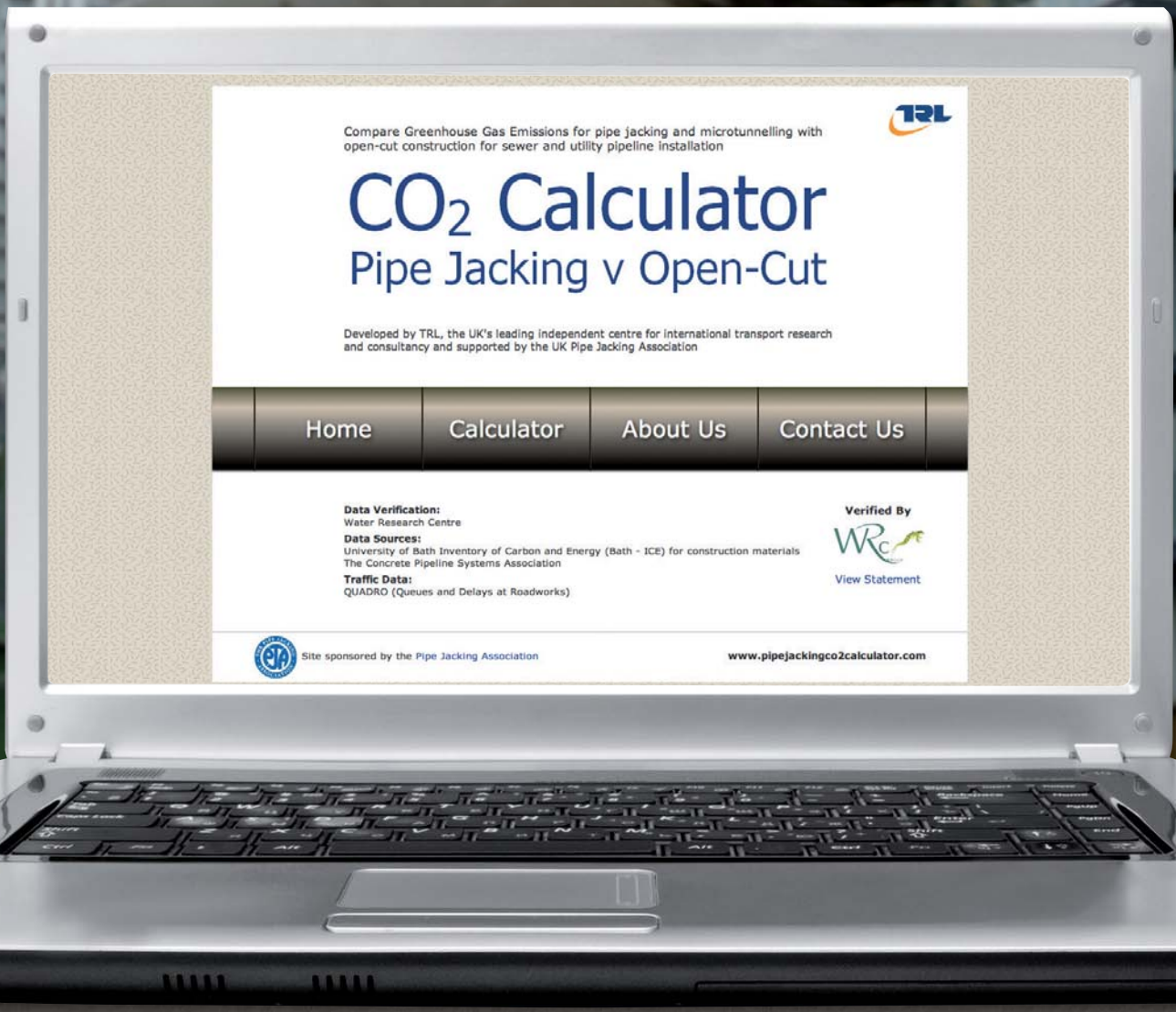


Free on-line CO₂ calculator

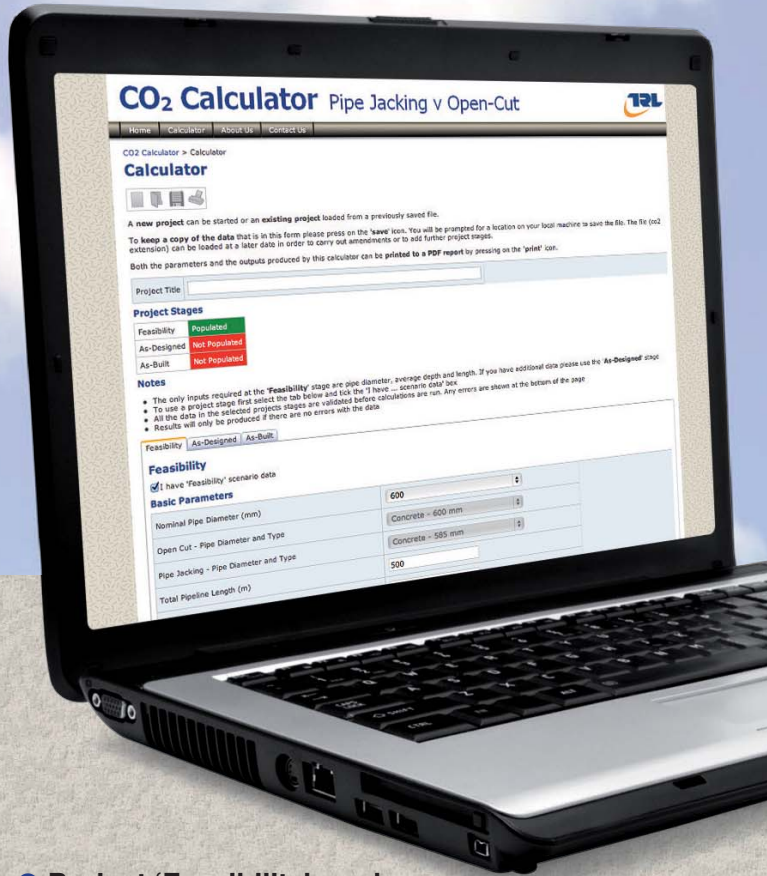
Pipe Jacking versus Open-Cut
www.pipejackingco2calculator.com



Developed by TRL and verified by WRC for the Pipe Jacking Association

Pipe Jacking versus Open-Cut

www.pipejackingco2calculator.com



Compare the CO₂ emissions for pipelaying projects, simply by inputting a few basic parameters. The calculator will undertake all the detailed calculations and in seconds produce an emissions comparison between non-disruptive pipejacking or microtunnelling and open cut construction. The calculator has been developed by TRL and verified by WRc for the Pipe Jacking Association.

The calculator is free to use and no registration is required.

- Project 'Feasibility' mode
- Project 'As-Designed' mode
- Project 'As-Built' mode
- Clearly defined Data Assumptions

Data Verification: Water Research Centre

Data Sources: University of Bath Inventory of Carbon and Energy (Bath - ICE) for construction materials, The Concrete Pipeline Systems Association

Traffic Data: QUADRO (Queues and Delays at Roadworks)

CO₂ Calculator | Report

Pipe Jacking versus Open Cut Comparison - Summary of Input Parameters and

| Specified Parameters | |
|---|-------|
| Basic Parameters | |
| Project Title: [Untitled Project] | |
| Nominal Pipe Diameter (mm) | 600 |
| Open Cut - Pipe Diameter and Type | Concr |
| Pipe Jacking - Pipe Diameter and Type | Concr |
| Total Pipeline Length (m) | 500 |
| Average Depth to Invert (m) | 6 |
| Site Location | A-Roa |
| Open Cut - Using Imported Fill? | True |
| Number of Manholes/Shafts | 6 |
| Site Parameters | |
| Groundwater Present? | No |
| Ground Type | Cohes |
| Open Cut - Construction Period (Days) | 130 |
| Open Cut - Site Working Hours | 1040 |
| Open Cut - Machine Working Hours | 1024 |
| Pipe Jacking - Construction Period (Days) | 65 |
| Pipe Jacking - Site Working Hours | 520 |
| Pipe Jacking - Machine Working Hours | 504 |

Project - [Untitled Project]
Generated using the Pipe Jacking vs. Open-Cut CO₂e calculator

CO₂ Calculator | Report

Printable reports

| Transport | | Open Cut Scenario | |
|-------------------------------------|--|-------------------|--------------------------------------|
| | Designed | As-Designed | As-Built |
| One way transport distance | | | Specified by user |
| Vehicle types | | | Status, trench support - Articulated |
| Vehicle utilisation | | | |
| Exclusions | | | and from site are excluded |
| Traffic | | Open Cut Scenario | |
| | Feasibility | As-Designed | As-Built |
| Site location (daily traffic level) | Minor Road - Rural (1000); Minor Road - Urban (2000); A Road - Rural (10000); A Road - Urban (20000); Non-Highway (0). | | |
| Site length | Rounded-up to nearest 50m plus an additional 50m (e.g. a 132m pipe would be 200m) | | |
| Road type | 2-way single carriageway all purpose (S2AP) | | |
| Junction length | 1 km | | |
| Side roads intersect | | | |
| Closure type | | | |
| Speed limit | | | |
| Proportion of HGVs | | | |
| Converting carbon c | 158.87 per tonne of carbon) | | |

Project - [Untitled Project]
Generated using the Pipe Jacking vs. Open-Cut CO₂e calculator



TRL is an internationally recognised centre of excellence providing world-class research, consultancy, testing and certification for all aspects of transport.

www.trl.co.uk



WRc is an independent and innovative research-based consultancy, utilising scientific and engineering skills to develop robust and sustainable solutions for clients in the water, waste and environment sectors. WRc contributes to the protection, enhancement and maintenance of the natural environment.

www.wrcplc.co.uk



The Pipe Jacking Association is an industry body representing the leading contractors, pipe suppliers, and machinery and associated suppliers in the United Kingdom pipe jacking and microtunnelling industry. Pipe jacking is a specialist tunnelling method for installing underground pipelines, primarily for new sewer construction, with the minimum of surface disruption.

www.pipejacking.org