Durham University Business School | Policy Hub

THE NORTHERN POWERHOUSE PARTNERSHIP

NEP Humber Carbon Capture Pipeline: economic impact headline figures

19 October 2026

Quality assurance complete. Every figure below has been reconciled against the source data and the SIC crosswalk is confirmed. The limitations that remain are assumptions, not open questions: they are set out under each statement and should be quoted with it.

General caveats

These apply to every figure in this document.

- **Gross, not net.** The figures show activity supported (Type I: the firms paid directly and their supply chains). They make no allowance for displacement or deadweight and exclude induced effects (spending out of wages).
- **UK-wide.** The ONS input-output tables are national, so these are UK figures, not Humber figures.
- **Mixed capacity basis.** The pipeline figures are at NEP's 17mtpa pipeline capacity; the emitter figures cover only the 6mtpa of currently confirmed emitters. The two are not on a common basis, and no scaling is applied between them. Every combined total therefore pairs a full-capacity pipeline with a partial set of emitters, and the emitter contribution should be read as a minimum that will grow as further emitters are confirmed.
- **UK content.** Every spend figure is scaled down to UK spend before the ONS multipliers are applied, using the low end of a UK content range. The ranges, where each applies and whether it is from NEP's data return or assumed are set out in the next section.
- **Pipeline capex covers the Execute phase only (2029–2034).** Feasibility, Pre-FEED and FEED spend (£544m in money of the day, about £503m in real 2024 prices, or 12% of all pipeline capex on that basis) falls in 2025–2030 and is excluded from every figure, because the supply-chain breakdown and UK content ranges cover the Execute phase alone. The pipeline figures are therefore understated. Of the excluded spend, £200m falls in 2025–2026 and is already under way.
- **Price bases are mixed and not deflated.** Pipeline capex is in real 2024 prices against 2023 ONS tables. Pipeline opex is in real 2023 prices. Some emitter figures are in 2024 prices, though one includes an inflation provision and so may not be in real terms. Others do not state a price base.
- **Emitter figures are unaudited operator returns.** All emitter capex is modelled as construction spend.

UK content assumptions

NEP's data return does not define UK content; we read it as the share of spend that goes to UK-based suppliers. Only that share enters the ONS multipliers. The headline figures use the low end of every range; the mid and high figures quoted under each statement use the midpoint and the top of every range.

Spend	Range source	UK content range	Headline share	Headline UK spend
Pipeline capex: civil engineering and groundworks; logistics, marine and port services; subsea injection system; pipeline fabrication and welding; project management and engineering design	From NEP's data return	40–60%	40%	£1,103m
Pipeline capex: commissioning; drilling; owner's costs	From NEP's data return	80–100%	80%	£600m
Pipeline capex: compression and mechanical equipment; instrumentation, control and automation	Assumed	40–60%	40%	£89m
Emitter capex: three projects	Assumed	40–60%	40%	£2,104m
Pipeline operating costs: all 10 cost lines	Assumed	80–100%	80%	£79m a year
Emitter operating costs: two projects	Assumed	80–100%	80%	£72m a year

- **Ranges from NEP's data return** are those given in NEP's supply-chain return for each pipeline capex category.
- **Assumed capex range (40–60%)** applies where no range was reported: the two pipeline categories NEP left blank, and all emitter capex, since no operator reported UK content. It is based on Keadby 2 (BiGGAR Economics, 2020), which put 48% of its construction spend in the UK (most of the rest was the gas turbine, built in Germany), and on NEP's own 40–60% range for most pipeline categories. Keadby 2 is a gas-fired power station without carbon capture, so it calibrates the assumption but is not capture-plant data.
- **Assumed operating-cost range (80–100%)** applies to every operating cost line, pipeline and emitter, since none was reported. It is based on NEP's 80–100% range for its service-type capex (commissioning, owner's costs, drilling) and on Keadby 2's operating spend excluding fuel, estimated at 87% UK. This evidence is weaker than for capex: the Keadby 2 figure is a forecast and includes staff pay, which is always UK.
- **Imports further down the supply chain** are removed by the ONS tables. If NEP's percentages already net off those deeper imports, they are removed twice and the figures are understated.

Headline figures

1. GVA

Together with the emitter projects that would connect to it, the pipeline would support around **£3.2bn** of gross value added (GVA) across the UK during construction, and around **£110m per year** once operational. Over a 25-year operating life, the operating GVA is around **£1.8bn** in present-value terms.

- **Range.** At the mid and high ends of the UK content ranges, construction GVA is £3.9bn / £4.7bn, and operating GVA £120m / £140m a year.
- **Construction covers the pipeline and three emitters.** Pipeline £1.4bn; emitters £1.8bn.
- **One emitter's capex** includes a consented gas-fired power station (CCGT), as well as the capture plant, so the construction figures include both.
- **Owner's Cost** contributes £277m. It is modelled as management services but may include NEP's own staff, land or contingency. Without it, construction GVA is £2.9bn.
- **"During construction" covers the pipeline's Execute phase and the emitters' capex.** Earlier pipeline design and development spend is excluded (see General caveats).
- **Present value** uses the Green Book 3.5% real rate and is valued at the start of operation, not today. The 25-year operating life is one operator's appraisal period, applied to every asset. Undiscounted, the 25-year total is £2.7bn.
- **Only operating costs caused by the project are counted.** Costs which a plant already incurs are excluded and only additional costs of the capture plant are counted. Counting them would assume those units close without the project, which the data does not evidence.
- **The operating figure assumes every asset runs at once.** It excludes emitters for which no operating cost figures were available.

2. Construction employment

Together with the projects that would connect to it, support around **46,000 job-years** of employment across the UK over the construction programme.

- **A job-year is one full-time-equivalent (FTE) year of work.** This is a total over the build, not a headcount: at no point are 46,000 people employed at once. The pipeline alone peaks at about 7,900 FTE in 2031 (Figure 1).
- **The pipeline alone accounts for about 21,200 job-years;** three emitter projects account for approximately 24,900.
- **Range.** 57,000 / 67,000 job-years at the mid and high ends of the UK content ranges.
- **Pipeline Execute phase only.** Design and development work in 2025–2030 (£503m, real 2024) supports job-years that are not counted here.
- **Split categories.** Instrumentation, control and automation and Logistics, marine and port services are each split 50/50 between two industries on a judgement, not measured shares. Modelled wholly in one industry or the other, the total ranges from about 44,400 to 47,900 job-years.
- **Owner's Cost** accounts for 5,730 job-years (without it: 40,000).

- **Not comparable with operators' own job estimates.** Operators count jobs at a point in time on their own sites. The model counts FTE-years over the whole build, including the supply chain.

3. Construction employment in the supply chain

Of that, around **23,000 job-years** sit in the wider supply chain rather than with the firms contracted directly.

- **"Direct" means employment at the firms NEP and the operators pay directly.** The supply chain covers their suppliers and subcontractors, including other construction firms that may work on site. Direct is therefore not the same as on-site work: Owner's Cost, for example, contributes 4,365 direct job-years in head-office and management consultancy activity. The supply chain figure is total less direct (46,138 less 23,249).
- **Robust to the 50/50 splits.** Under the alternatives above, supply-chain job-years stay between about 22,800 and 22,900, although the direct figure moves much more.

4. Operating employment

Sustain around **1,000 FTE per year** on an ongoing basis once the pipeline and the projects that would connect to it are operating. Approximately **600** of these are in the supply chain; this split is indicative.

- **This is a per-year figure,** the same in every operating year, and is not additive with the construction job-years. Over 25 years it would be 26,000 FTE-years. Mid and high UK content: 1,200 / 1,300 FTE.
- **Operating costs the project does not cause are excluded.** Where a project is part of an existing plant, the running costs the plant already incurs are left out. Counting them would give about 1,800 FTE, of which about 1,300 in the supply chain.
- **The supply-chain split is indicative.** One emitter's operating costs are modelled as purchases from the electricity industry, whose average costs are mostly bought-in power and gas. The operator's figures exclude fuel, so the model probably places too few jobs in direct employment and too many in the supply chain.
- **It assumes the pipeline and emitters operate at once,** and excludes sites for which no operating cost figures were available.
- **Each operating cost line is modelled as a purchase from the industry it best matches.** The emitters' costs go to their own industries. NEP's own pipeline operation is matched to land transport, which is mostly road haulage and buses and more labour-intensive than running a pipeline, and insurance premiums and land rents are treated as industry output. Both choices probably overstate the pipeline's operating employment. Pipeline opex is NEP's scaling of Teesside costs, not a Humber-specific estimate.

5. Spend with UK suppliers

Deliver around **£1.4bn** of spend with UK suppliers from the pipeline alone, on the low end of the UK content ranges — NEP's own where NEP gave one, otherwise assumed — rising to around **£1.8bn** including NEP's owner's costs, before any emitter-site spend is counted.

- **This is spend, not a modelled impact.** It is forecast pipeline capex multiplied by the low end of each category's UK content range. NEP's return does not define UK content; we read it as the share of spend with UK-based suppliers. The figure is a forecast, not a guaranteed minimum. Real 2024 prices. Execute phase only: earlier design and development contracts (£503m of spend before UK content) are not included.

- **Owner's Cost** (£354m of UK spend) may be NEP's own staff, land, consents or contingency rather than supplier contracts, so it is kept out of the £1.4bn figure.
- **£89m of the total uses an assumed UK content range, not NEP's** (Instrumentation, control and automation and Compression and mechanical equipment). On the ranges from NEP's data return alone the figures are £1.3bn and £1.7bn.
- **Emitter spend is not included.** No operator reported UK content. At the assumed 40–60% range it would add £2.1bn at the low end, but that rests on an assumption, not reported data.

Figure 1: projected pipeline construction employment, 2029–2034

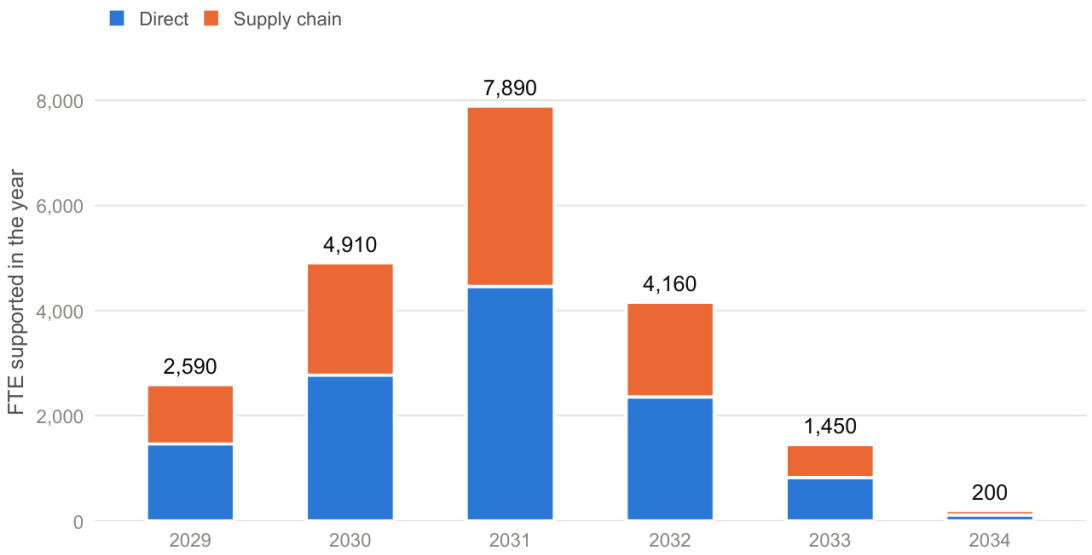


Figure 1: FTE supported per year by NEP pipeline construction, UK-wide, Type I. Pipeline only - there is no phasing for any emitter. Execute phase only: Feasibility, Pre-FEED and FEED spend of £503m (real 2024) is not modelled. That is £462m in 2025-2028, before this chart starts, and £41m of FEED in 2029-2030. Each work package keeps its own mix of categories in every year; supply-chain jobs are placed in the year of spend. Columns sum to 21,192 FTE-years.

Year	Capex, £m (real 2024)	UK spend, £m	FTE, direct	FTE, supply chain	FTE, total
2029	463.4	216.2	1,463	1,128	2,591
2030	873.2	412.9	2,773	2,133	4,906
2031	1,403.8	664.1	4,459	3,430	7,889
2032	732.3	356.4	2,356	1,803	4,159
2033	255.3	124.6	823	629	1,452
2034	33.6	17.5	112	84	196
Total	3,761.7	1,791.6	11,985	9,207	21,192

Capex includes £33m of "Other (please specify)", which has no industry mapping and so supports no modelled employment.

Figure 2: where the employment sits

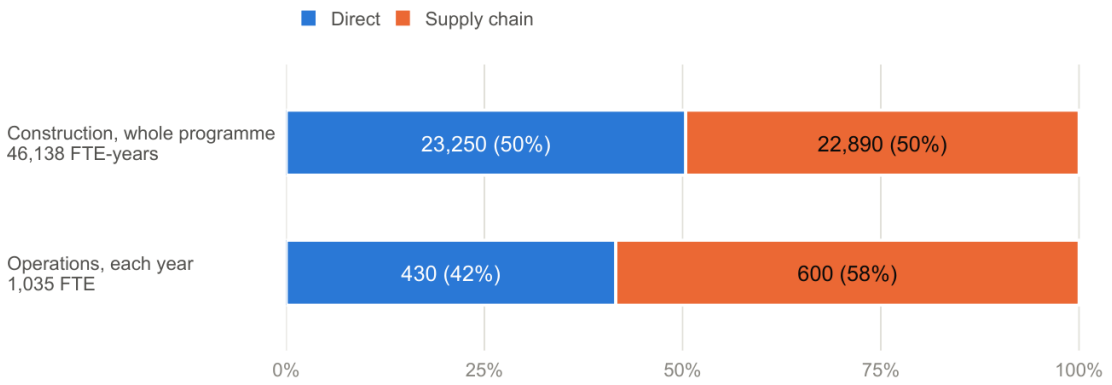


Figure 2: How employment splits between the firms paid directly and their supply chains. Each bar shows percentages of its own total: construction is measured in FTE-years over the whole build and operations in FTE per year, so the two cannot share a scale. Construction covers the pipeline's Execute phase and the three connected projects. Operations count only costs caused by the capture project: the running cost of an existing power station that adds carbon capture is excluded. Counting it, operations would support about 1,800 FTE a year, 72% of them in the supply chain. Treat the operations split as a rough guide. The model treats one emitter like an average electricity company, whose costs are mostly bought-in power and gas, but the figures exclude fuel, so the model probably puts too many of those jobs in the supply chain.

Scope	Direct	Supply chain	Total	Supply-chain share
Construction, whole programme (FTE-years)	23,249	22,889	46,138	50%
Operations, each year (FTE)	430	605	1,035	58%

Appendix: what this document checks before it will build

Every number above is read from the model's output files at the moment this document is built. None is typed in, and none is carried over from a previous version. The checks below run first, and any one of them failing stops the build rather than printing a number that might be wrong — so the fact that this page exists means all 34 of them passed on the run shown.

They are reconciliations, not validation of the model itself: they confirm that the figures quoted here are the figures the model produced, that the totals and the detail rows agree, and that Figure 1 adds back to the model's own pipeline totals. They say nothing about whether the model's assumptions are right. For that, read the caveats under each statement.

#	Checked, and true of the figures in this document
1	found outputs/nep_total_economic_impact.csv
2	found outputs/nep_uk_content_sensitivity.csv
3	found outputs/nep_economic_impact_results.csv
4	found outputs/nep_pipeline_capex_phasing.csv
5	found data/nep_data_input.xlsx
6	every output row carries the same capacity scope
7	pipeline and confirmed-emitter capacities read from the scope label
8	the headline uses the LOW end of every UK content range (statement 5's wording relies on it)
9	operating life and discount rate read from the NPV row label
10	capex detail rows add up to the grand capex total (GVA and FTE-years)
11	pipeline + emitter capex subtotals equal the grand capex total
12	opex detail rows add up to the grand opex per-year total (GVA and FTE)
13	every modelled row has a direct employment figure (ONS suppresses some industries)
14	the sensitivity file's headline case reproduces the headline table
15	Emitters capex note still says it includes the CCGT
16	the model ran on the project-specific opex basis this document describes
17	every row with excluded opex carries the figure it was narrowed to
18	pipeline UK spend: category rows add up to the sensitivity file's figure
19	every pipeline category is either NEP-reported or ASSUMED UK content
20	pipeline category file agrees with the pipeline capex subtotal
21	Pipeline Data sheet year header is 2022-2034 where expected
22	each work package's yearly phasing shares sum to 100%
23	Supply Chain sheet package columns are CS006, CS007, Onshore Pipeline
24	each package's category spend (Supply Chain sheet) equals its phased real-2024 total (Pipeline Data sheet)
25	each pipeline category has a single UK content share
26	every modelled pipeline category is on the Supply Chain sheet
27	no package spend falls outside the Execute years
28	Figure 1 adds up to the model's pipeline FTE-years (total and direct)
29	Figure 1 adds up to the model's pipeline GVA and UK spend
30	re-inflating Figure 1's real-2024 spend with NEP's CPIH row reproduces the model's Execute phasing, year by year
31	pre-Execute spend by year adds up to the Feasibility, Pre-FEED and FEED totals
32	every UK content range is labelled either NEP-reported or assumed
33	each emitter or opex block uses a single UK content range

#	Checked, and true of the figures in this document
34	assumed UK content ranges are the ones whose basis the text describes (40-60% capex, 80-100% opex)