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# Centrica Storage Rough Hydrogen Storage Conversion Impact Assessment

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# Introduction

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Converting the Centrica Storage Rough gas field assets for hydrogen storage will safeguard existing jobs and create additional jobs directly involved in the construction/manufacturing and operation of the facilities.

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It will also result in the creation of additional jobs in the supply chain (indirect jobs), and result in more jobs in other industries where the direct and indirect employees spend their income. There will be a positive impact on the GVA of the North East of England and the economy as a whole.

This report summarises the impact for a scenario where the Centrica Storage Rough field assets are converted to be used for hydrogen storage, with a gradual increase in processing capacity from 3.3 TWh in 2030 to 10 TWh in 2050. We compare the hydrogen conversion scenario with a scenario of decommissioning the operations of the gas field.

For the hydrogen conversion scenario, we consider the impact of both the construction and fabrication elements and the operational elements. The operational life is considered to be 30 years, starting in 2030, the commissioning of the first phase of storage.

The impact is considered for two geographic regional perspectives: The UK as a whole and The North of England (comprising Yorkshire and the Humber, North-East England and North-West England).

# Employment impact

**4,803** Jobs created during the project

**637** FTE jobs sustained for full life span of 37 years

Centrica Storage jobs are based in three locations: Centrica Storage offices (Hessle), Onshore terminal (Easington) and Offshore platforms (off Easington coast). In the decommissioning scenario all office and offshore jobs relating the Rough gas fields will cease by 2026. This will result in the loss of 242 direct full-time equivalent (FTE) jobs, compared to the 2022 as a baseline.

With the hydrogen storage conversion scenario, all the jobs will be safeguarded and additional jobs will be created for both construction/manufacturing and operations of the storage facilities. Table 1 gives a summary of all the direct, indirect and induced jobs that will be safeguarded or created as a result of this project.

**Table 1: All jobs resulting from the Centrica Storage Rough hydrogen storage project and operations**

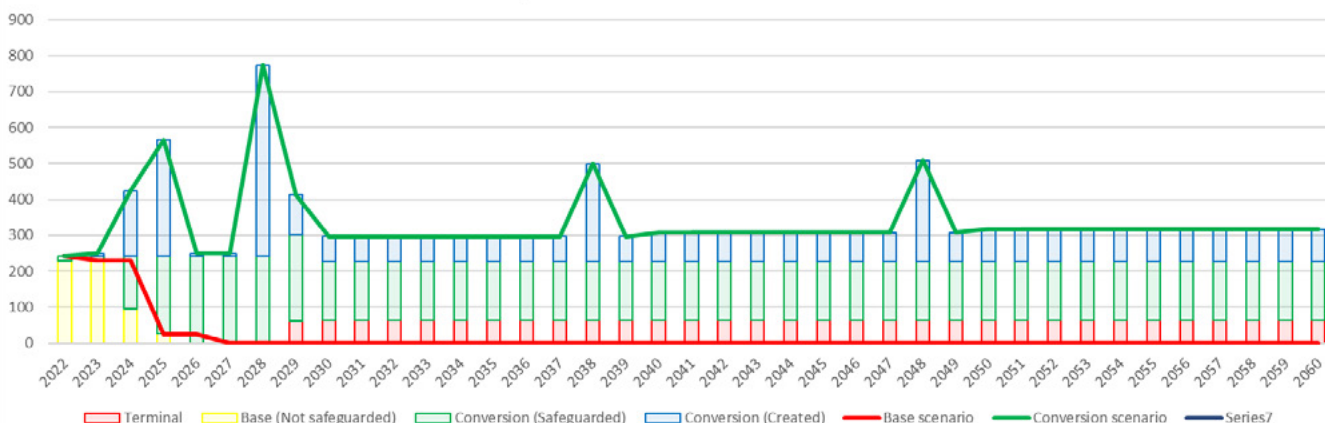
|                                     | Direct      | Indirect    | Induced    | TOTAL       |
|-------------------------------------|-------------|-------------|------------|-------------|
| <b>Operations</b>                   | 333         | 240         | 100        | 673         |
| <b>Construction and fabrication</b> | 1795        | 1796        | 539        | 4130        |
| <b>Total</b>                        | <b>2128</b> | <b>2036</b> | <b>639</b> | <b>4803</b> |

Over the life span of the project, from 2024 to 2060, a total of 4,803 jobs will be supported. This figure includes all jobs relating to the construction, manufacturing and operations of the facilities. It includes onshore and offshore direct jobs, indirect jobs in the supply chain and induced jobs supported by the income spend of the direct and indirect employees. Some of these jobs will exist for the full duration of the project (37 years) and some could exist for as short as 10 months for a specific construction or manufacturing task. At the peak of the conversion project in

2028, the 242 current direct jobs will be safeguarded and an additional direct 531 jobs will be created for the construction and manufacturing of the first phase of capacity for a total of 773 direct jobs.

## Direct Jobs: Base and Conversion Scenarios

Figure 1: Comparison of direct jobs for the base and conversion scenarios



On average, over the 37 years life span (2024 to 2060) of the project, 284 direct jobs will be sustained, with an additional 268 indirect jobs and 85 induced jobs (a total of 637 jobs). 86% of these jobs will be based in the North of England.

## Jobs in the UK

Table1: Jobs **safeguarded and created** for the UK as a whole

| Type of job   | FTE Years                    |              |              | Average jobs per year |
|---------------|------------------------------|--------------|--------------|-----------------------|
|               | Construction and fabrication | Operations   | Total        | 37 Years              |
| Direct jobs   | 1528                         | 9009         | 10537        | 284                   |
| Indirect jobs | 1796                         | 8155         | 9951         | 268                   |
| Induced jobs  | 458                          | 2703         | 3161         | 85                    |
| <b>Total</b>  | <b>3783</b>                  | <b>19867</b> | <b>23649</b> | <b>637</b>            |

For the operational elements, 92% of the overall jobs are estimated to be in the region. For the construction and fabrication phases we expect that the jobs will be more spread across regions, with only 57% of jobs in the North (compare Tables 1 and 2).

## Jobs in the North

Table2: Jobs safeguarded and created in the North (Yorkshire and the Humber, North East England, North West England)

| Type of job   | FTE Years                    |               |               | Average jobs per year |
|---------------|------------------------------|---------------|---------------|-----------------------|
|               | Construction and fabrication | Operations    | Total         | 37 Years              |
| Direct jobs   | 752                          | 8289          | 9,041         | 243                   |
| Indirect jobs | 884                          | 7502          | 8,386         | 226                   |
| Induced jobs  | 520                          | 2,487         | 3,007         | 81                    |
| <b>Total</b>  | <b>2,157</b>                 | <b>18,277</b> | <b>20,434</b> | <b>550</b>            |

## Salaries & GVA impact

**£929m** salaries paid in the UK

**£1,539m** Up to £1,539 million in GVA to the economy

For salaries we only consider the net salaries of employees. This exclude tax and National Insurance contributions. We are using net salaries as a proxy for disposable income, that generates the multiplier effects in the economy. Table 3 provides a breakdown of the expected net salary impact of the conversion scenario for the UK. Table 4 breaks this down to the impact only on the North of England, thereby demonstrating the impact on the levelling up agenda.

The direct impact salaries were calculated, using expected salary information provided by Centrica Storage. The indirect and induced impacts were calculated using multipliers that are industry and region specific.

## Net salaries impact for the UK (£million)

Table 3: Net salaries impact for the UK as a whole

| Net salaries type                | Construction and fabrication | Operations   | Total        |
|----------------------------------|------------------------------|--------------|--------------|
| Direct                           | 45                           | 362          | 407          |
| Indirect                         | 52                           | 348          | 400          |
| Induced                          | 13                           | 109          | 122          |
| <b>Total</b>                     | <b>110</b>                   | <b>819</b>   | <b>929</b>   |
| <b>Average annual salary (£)</b> | <b>29200</b>                 | <b>41210</b> | <b>39289</b> |

The government position relating to salary impact (as defined in the so-called “Green Book”) is that salary impacts should be discounted by 3.5% per year to account for the “social time preference” to have earlier impact. In certain cases, this can be reduced to 1.5% discounting, e.g. where projects have a positive environmental impact.

If we apply a 3.5% discount, the salaries impact will be reduced to **£304 million**. If we discount by 1.5% (as we believe is appropriate), this will result in a **£388 million** impact

## Net salaries impact for The North of England (£ million)

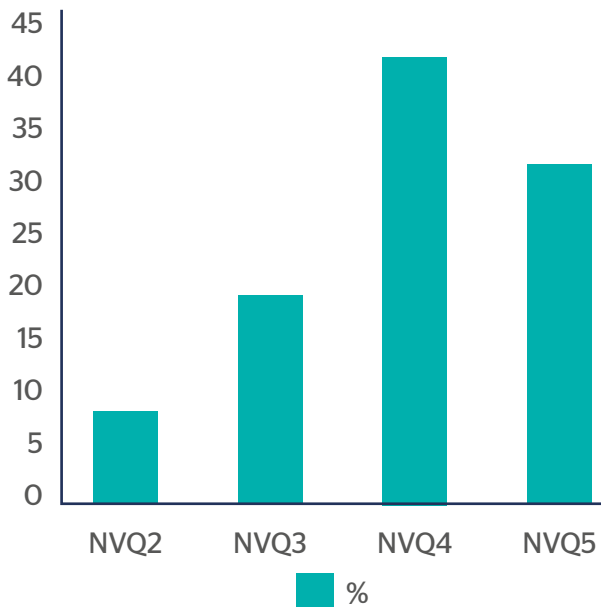
Table 4: Net salaries for The North of England

| Net salaries type                | Construction and fabrication | Operations   | Total        |
|----------------------------------|------------------------------|--------------|--------------|
| Direct                           | 24                           | 307          | 331          |
| Indirect                         | 29                           | 296          | 325          |
| Induced                          | 7                            | 92           | 99           |
| <b>Total</b>                     | <b>60</b>                    | <b>695</b>   | <b>755</b>   |
| <b>Average annual salary (£)</b> | <b>27819</b>                 | <b>38026</b> | <b>36948</b> |

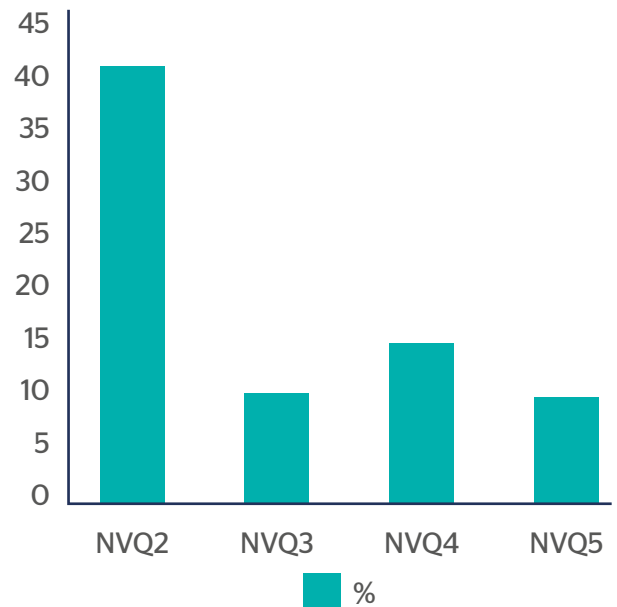
The skill levels required for the operational phases of the hydrogen storage conversion are generally quite high (43% NVQ5) compared to the construction and fabrication phases. This results in a very high level of average salary for the operational jobs (£46,195).

## Operational Qualification Levels

Figure 2: Skill levels required for the conversion scenario



## Construction Qualification Levels



Gross value added (GVA) measures the contribution made to an economy (The UK; The North of England) by the project. The operational phase of the conversion scenario is estimated to have an impact on national GVA in the range of £442 million to £680 million. Including the construction and fabrication phases,

the estimated total GVA impact will be in the range £573 million to £811 million. If we assume that the GVA impact on the North will be in the same ratio to the national GVA as the salaries impact, we can determine that the GVA impact on the North will be between £445 million and £647 million.

## GVA impact (£ million)

Table 5: Gross Value Added (GVA)

|           |             | Construction and fabrication | Operations | Total |
|-----------|-------------|------------------------------|------------|-------|
| UK        | Lower bound |                              | 914        | 1103  |
|           | Upper bound | 189                          | 1350       | 1539  |
| The North | Lower bound |                              | 776        | 879   |
|           | Upper bound | 103                          | 1146       | 1249  |

The majority of the impact (80%) is expected to be in the North of England, and as such will contribute to levelling up of the North-South economic imbalance.



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