The Centre for Energy Policy (CEP) was established in 2014 as part of the International Public Policy Institute at the University of Strathclyde in Glasgow. CEP is a multidisciplinary hub that facilitates research and policy engagement that brings together local, regional, national and global expertise to the creation, expansion and exchange of knowledge. Its aim is to be the body conducting research into all forms of energy, looking from a number of angles in order to be the independent “go-to body” for the Scottish Government on energy policy such as giving evidence and providing policy briefings. The Centre has a unique offering in energy policy in terms of the ‘wider view’, particularly in considering how energy policy, industry and use impact wider economy and in considering how and where value generated and where accrues to (sectors and regions). This has also allowed us to engage at UK national level, for example through societal value propositions around CCS with the Cost Reduction Task Force, and internationally, for example, providing expert input on the macroeconomic case for CCS. The Centre has an advisory board to input on direction and research focus from all parts of energy industry such as Renewables, Energy Providers, Oil and Gas as well as representatives from Government and the academic world.

In submitting to this consultation we have decided not to duplicate those aspects which many others will undoubtedly point out in their own submissions but to concentrate on several key points which may not emerge elsewhere. In this regard, we acknowledge the growing and significant evidence-base relating to the UK Oil and Gas industry on annual production levels, central estimates of remaining and undiscovered resources and total reserves resources, estimated and projected cost and risk of installations and decommissioning, and the demographics of the industry. However, to develop wider policy and public understanding of the value, role and contribution of the Oil and Gas industry to the wider UK and Scottish economies, it is necessary to understand and consider fundamental and factual aspects of the industry, supply chains and the role played in servicing a range of societal needs. In particular, there is a need to identify just where and how a broader concept of value is generated, where returns ultimately accrue, and generally how we are accounting for things. One of the core areas of CEP’s research is using the input-output accounts produced by national accountants to trace the composition of GDP across the economy to begin to trace and quantify value in key industries such as UK Oil and Gas industry. This is via development of a familiar and credible analytical tool (input-output multipliers).

**Question 1: What challenges does Scotland’s oil and gas industry face, and how can they be addressed?**

1 For example, see [https://strathprints.strath.ac.uk/53933/](https://strathprints.strath.ac.uk/53933/) on security of energy supply; [https://strathprints.strath.ac.uk/58187/](https://strathprints.strath.ac.uk/58187/) on shale gas; [https://strathprints.strath.ac.uk/60516/](https://strathprints.strath.ac.uk/60516/) on future of natural gas in the UK; [https://strathprints.strath.ac.uk/63554/](https://strathprints.strath.ac.uk/63554/) on CCS.

2 UK Oil and Gas dataset available at [https://www.ons.gov.uk/economy/environmentalaccounts/datasets/ukenvironmentalaccountsoilandgas](https://www.ons.gov.uk/economy/environmentalaccounts/datasets/ukenvironmentalaccountsoilandgas)


The biggest challenges facing Scotland’s oil and gas industry are not specific to Scotland. However, consider that total employment in Oil and Gas business in UK is estimated by trade body UK Oil and Gas as a range from 441,000 to 302,000 over the years 2013 to 2017 respectively. These are years which reflect the range in the highs and lows of the oil and gas business cycle. Taking the average of these years; 380,000, the same body quotes 38% of these jobs being in Scotland. Given that Scotland has approximately 8% of total UK population, this clearly demonstrates both the disproportionate value of oil and gas to the Scottish economy compared with the rest of the UK as well as the disproportionate exposure to the Scottish economy of any risk to maximum economic recovery of remaining oil and gas reserves.

A specific challenge facing the broader UK but with greater implication for Scotland as described above, is how we consider how this equates to wider measures of societal value through application of national accounting capability and ‘multiplier’ approaches. This should be straightforward, given UN System of National Accounts and Eurostat requirements to produce the required input-output accounting data in the format used for multiplier analysis. However, at UK level, there is a lack of regularity in appropriate accounting. Nonetheless, in recent years ONS has produced ‘employment multiplier’ information for UK industries (in response to requests from BIS at that time). CEP has drawn on this information, for example in a recent submission of evidence to the CCUS Cost Reduction Task Force where we focus on key multiplier evidence such as UK Oil and Gas supporting around 10 jobs across the wider economy for every direct job in the industry itself. The key message is that, while direct jobs are hard to create, the loss of one could have large negative indirect employment impacts across the economy. However, without access to the underlying input-output data it is difficult to say more about where (sectors/regions) these jobs may be located and what type of jobs they are.

In Scotland, on the other hand, the input-output data situation is much better, with accounts in the required format to conduct multiplier analysis produced on an annual basis (albeit with some time lag due the complexity of the data and framework). However, the problem in accounting for value delivered by the Oil and Gas Industry is that offshore extraction activity is not actually part of the Scottish economy in national accounting terms. Rather, extraction activity in the North Sea (and elsewhere around the UK coast) is considered as taking place in an extra-region context, The Continental Shelf. While incorporated in UK national input-output accounts, for Scotland (and other regions), CS is a producing region that imports goods and services from the on-shore regions and exports its out back to the mainland or overseas. The Scottish Government is currently engaged in attempting to extend input-output accounting to trace links and interactions with CS and this is to be welcomed.

We are happy to provide further information/example to the inquiry. At this stage the key point to make is that the general paucity of (publicly available) data for the UK, and early stage of experimentation only in economy-wide accounting of the role of Oil and Gas extraction activity in the North Sea for the Scottish economy, makes it very difficult to work out and quantify the current picture in terms of where value is generated and accrued. Going forward this will become even more of an issue given prospects around decommissioning, the role of the Oil and Gas Industry (and the skills/infrastructure base developed over the last 40 years) in potentially delivering CCS. In both cases, key questions are unanswered in terms of who does what, who pays, who benefits etc., and better information to inform comprehensive accounting is required. This will help us consider issues such as how Scotland can maximise its expertise, technology and infrastructure in the Oil and Gas Industry to secure both the industry’s future and the broader economic network it supports as reserves decline, and what support is needed from Government to maximise these opportunities.