

18

The United Kingdom: Public Debate and the Management of Petroleum Resources

Philip Wright and Juan Carlos Boué

Introduction

The UK's offshore oil and gas industry began life in the 1960s with gas from the southern North Sea basin. Oil then joined in with the celebrated big-field discoveries Forties and Brent in the early 1970s. Oil production peaked in 1999, gas in 2000. The most recent depletion data show that 83% of proven and probable oil reserves and 86% of gas reserves have already been produced. Nevertheless, there are still 204 offshore oilfields and 132 offshore gas fields in production, serviced by 5 onshore oil terminals, 5 associated gas terminals, 6 dry gas terminals and almost 10,000 miles of pipelines. Moreover, there is still considerable interest in the UK's continental shelf, with 30 oilfields and 2 gas fields under

P. Wright (✉)

Observatorio del Caribe Colombiano, Cartagena de Indias, Bolívar, Colombia

Oxford Institute for Energy Studies, Oxford, UK

J.C. Boué

Oxford Institute for Energy Studies, Oxford, UK

development. However, the focus of exploration and production efforts has shifted steadily northwards to incorporate the ‘Atlantic margins’, a challenging environment. Meanwhile, onshore, the possibility of exploiting large shale-gas deposits has drawn a great deal of interest, with the focus being on the Bowland Shale Formation in the north of England.

In order to evaluate the impact of public debate on the management of the UK’s petroleum resources, three broad categories of policy are identified: ownership and depletion policy, taxation and other fiscal revenues from upstream oil and industrial relations, health and safety and environmental policy. For each of these strategic aspects of resource management, key policy changes are identified as a testing ground for gauging the influence of stakeholders over the direction of change. However, just by identifying these categories, there is an inference that public debate about the management of petroleum resources requires specialized knowledge—which in turn seems likely to restrict participation and/or its scope. Moreover, the UK oil and gas industry is largely offshore, which immediately distances the industry and its management from political constituencies. Indeed, the title of an article by journalist Ian Jack (2013) is evocative in this respect: ‘North Sea oil fuelled the 1980s boom but it was, and still is, strangely invisible’. The contrast here is immediately with the publicity generated by the UK’s first incursions into onshore fracking for gas, an activity which, as we shall see, does disturb people’s immediate localities, provoking both parliamentary and extra-parliamentary debate.

Ownership and Depletion Policy

Ownership and depletion policy gives rise to the following policy issues related to how sovereignty is exercised over the resources: whether to have complete or partial nationalization of production operations (whether to have a national oil company and what should be the scope of its operations), whether to divest such assets once acquired (whether to privatize), whether to introduce legal instruments capable of implementing a depletion policy and whether to make use of these legal instruments in order to constitute a depletion policy.

It was the Petroleum (Production) Act of 1934 which originally established the UK state's ownership rights over oil and gas resources and an accompanying licensing system, subsequently modified to embrace offshore resources by the 1964 Continental Shelf Act. However, the key legislation related to ownership of production was the Petroleum and Submarine Pipelines Act of 1975, enacted during the Labour government of 1974–1979 in the same year that oil production began. This legislation was unambiguously driven by the Labour Party because it was envisaged in the Labour Party's manifesto when it called a second General Election in that year. If elected, a Labour government would:

Take majority participation in all future oil licences and negotiate to achieve majority state participation in existing licences. Set up a British National Oil Corporation to enable the Government to exercise participation rights; to play an active role in the future development, exploration and exploitation of offshore oil; and to engage in the refining and the distribution of oil. Its headquarters will be in Scotland. Impose a substantial extra tax on the oil companies' profits from the North Sea – and plug the loopholes in existing taxation. Take new powers to control the pace of depletion, pipelines, exploration and development – and to protect the environment; and nationalise the land needed for the oil platform construction sites. (Labour Party 1974)

The subsequent privatization, between 1979 and 1987, of British Petroleum and the upstream assets of both the British National Oil Corporation (its Britoil subsidiary) and the British Gas Corporation (as part of the privatization of BGC itself) was also driven by party-political ideology, this time that of the Conservative Party. These developments were part of a general move against state ownership of (generally profitable) assets which were capable of being managed by the private sector. Rutledge (2010, 3–10) documents the *ex ante* motives of these privatizations and concludes:

In spite of later attempts to portray the government's motivation as being concerned with 'improving the efficiency' of the energy industries the available evidence indicates that the primary objective of the first major energy privatisations was an intense concern to combat what the

Conservatives saw as a serious threat to the political stability of the country and to undermine what they would later refer to as ‘the enemy within’, by the creation in the UK of a ‘shareholder democracy’.¹

Depletion policy is a more complex issue, because it is not necessarily confined to controlling *current production* (it may also involve controlling access to potential new resources via licensing rounds and delaying field development consents) and because exercising depletion control requires judgements about inherently unknowable future values of the resource. Moreover, depletion controls, by placing restrictions on production, limit the rights of private sector operators to realize their investments in a way which gives the best returns to shareholders, and they also affect government tax revenues. In the context of the depletion control powers contained in the Petroleum and Submarine Pipelines Act (1975), and of the ‘Varley Assurances’ which had postponed the potential use of depletion control for fields discovered before the end of 1975 until at least the end of 1982 in order to reassure investors, there was therefore quite a fierce debate about depletion control, as documented by Kemp (2011, 626). This lasted from the mid-1970s, when the debate was initiated by the setting up of an inter-ministerial working group, until the early eighties when the combined weight of Energy Secretary Nigel Lawson, supported by Prime Minister Thatcher, effectively put an end to it. In between there were numerous reports and discussions, including a Parliamentary Energy Committee report which sheds some light on the nature of the public debate over whether to introduce depletion controls. The Committee is one of the parliamentary ‘checks’ on ministerial power and policy, and 16 witnesses gave evidence to it: four from the Ministry of Energy, one from the Treasury, one from the House of Lords (Lord Balogh, who was also an Oxford academic), two from state companies, four from private companies and four individuals from academia and a think-tank (including Peter Odell, Colin Robinson and John Kay) (House of Commons 1982). In other words, it was a very specialized debate among politicians, corporate interests and experts.

Nevertheless, there was some popular resonance. For example, the Labour MP for Battersea (not known for its oil production), Alf Dubs,

challenged the Energy Ministry over depletion policy in the context of the increase in unemployment during the first Thatcher government:

Mr Dubs: Is not the sad truth that at a time of world glut and falling prices it would be in this country's interest to conserve North Sea oil stocks, and the only reason the Government are not following this policy is the need for revenue to finance the dole queues?

Mr Gray: The hon. Gentleman is wrong. There is absolutely no case for delaying development when Britain's main activity must be to stimulate new developments to come on stream once production from the present fields begins to decline. (cited in Hansard 1983b)

The consequence of a lack of a depletion policy was that 58% of the UK's cumulative production of crude oil between 1975 and 2013 was produced in the 16 years of sustained low oil prices between 1986 and 2003 when the international oil price in real terms averaged USD 31 per barrel (DECC 2014; BP 2014). Meanwhile, concern about depletion translated into a concern about *maximizing recovery*, a project overseen by PILOT, the specialized government-industry taskforce (which has one trade union representative). Maximizing recovery was also the subject of a recent major enquiry, the *Wood Report* (Wood 2014). The most recent estimate of remaining oil reserves indicates that 83% of proven and probable UK continental shelf reserves had already been produced by the end of 2014 (DECC 2015).

Taxation and Fiscal Revenues

The fiscal revenues aspect of petroleum resource management, the petroleum fiscal regime, is also complex and probably even less amenable to informed public debate than issues of ownership and depletion—despite perhaps some public appreciation of the importance of oil revenues for public expenditure. Its specialized nature may result in its monopolization by vested interests, particularly in the absence of independent academic scrutiny. And this was how things appeared in 1975, as the UK government sought to capture rent from the country's first oil produc-

tion. Luckily, we have an account from the author of the Petroleum Revenue Tax—the Labour government’s chosen fiscal instrument to capture petroleum rents. Edmund Dell, the country’s Paymaster General in 1975, summarizes how the company interest made itself felt in the design and implementation of the new tax:

The introduction of Petroleum Revenue Tax (PRT) in 1975 and its character were influenced by the prevailing political and economic crisis in the UK. The widespread conviction that only North Sea oil stood between the UK government and default made the imposition of a new tax on the profits of oil companies engaged in the North Sea a sensitive exercise. That it was accomplished without a major confrontation was due both to intensive consultation with the oil companies and a readiness on the part of the government to moderate its demands. (Dell 1993, 1)

However, this apparent willingness to placate vested interests in relation to the initial construction of a fiscal regime was as nothing compared to the extreme views of the preceding Conservative government. In December 1972, the following exchange took place during House of Commons Committee hearings between MP Martin Maddan and Sir Robert Marshall, the Secretary of State for Trade and Industry (House of Commons 1973):

Maddan Q: does British government want ‘to see a limit on the speed of exploitation of the United Kingdom Continental Shelf’?

Marshall A: No.

Maddan Q: Does government not ‘want to do things which will make that exploitation slower’?

Marshall A: ‘(t)hat is right’.

Maddan Q: Does ‘charging, whether for concessions by auction or otherwise, and ... the imposition of royalties, have any effect on the speed with which organisations wish to exploit these resources’?

Marshall A: ‘in our judgment and in the judgment to the best of my knowledge of all the western countries with which we discuss these things, very much’.

Maddan Q: ‘if the United Kingdom Exchequer sought **not to gain a penny from these things** the exploitation would go ahead quicker?’.

Marshall A: ‘**absolutely yes**’.

This interchange, which brings together the issues of both depletion and taxation, could be described as an extreme version of the philosophy behind a ‘non-propritorial’ petroleum fiscal regime, as distinct from a ‘proprietary’ regime (Mömmer 2002, 224). The latter refers to regimes in which the state behaves like a landlord requiring rent for the use of a country’s hydrocarbon resources—just like a landlord who rents out an apartment to a tenant. The fiscal instrument symbolic of such a regime is the use of royalty to deliver the majority of government revenues from its oil sector. Under a ‘non-propritorial’ regime, in contrast, the state becomes concerned about the relationship between its taxation practices and the prospective production and profitability of the companies producing from its sovereign resources. The parallel in the world of property letting would be that of a landlord concerned about variations in the income of his/her tenant to the extent of varying rent in response to variations in the tenant’s economic circumstances. Such a governance regime would certainly surprise tenants of rented property, and it is also odd in the context of petroleum governance, for at least three reasons: (a) it appears to give precedence to the company interest, (b) it is curious that such largesse should be applied to an industry which experiences huge windfall profits at times of high oil prices and (c) it seems foolish to try to resist market forces with per barrel tax breaks which are insignificant in the context of major gyrations in oil prices.

And yet, echoes of Sir Robert Marshall’s non-propritorial sentiment became stronger as the 1980s progressed, such that the Labour Party’s 1970s efforts to secure petroleum rent for the nation almost appear to have been an aberration: the UK’s petroleum fiscal regime became increasingly non-propritorial as royalties were differentially applied (1983, 1989) and then abolished (2002), and PRT was reduced and abolished for some (1993). This left the UK’s petroleum fiscal regime increasingly dependent on a declining standard Corporation Tax (down from 52% in 1983 to 30% in 1999), and although a supplementary Corporation Tax

Charge was introduced in 2002, rising to 32% by 2011 before being cut back to 20% in the 2015 budget, this did not result in an increase in rent capture (Boué and Wright 2011).

This trend does not mean that there was no public debate, at least inside Parliament. At the very inception of the series of reductions in royalties, John Smith, a future leader of the Labour Party, and Shadow Energy Secretary at the time, delivered a House of Commons attack on this Conservative government policy (Hansard 1983a):

Mr John Smith (Monklands, East): During the debate on the Gracious Speech I made it clear, as the Secretary of State noted, that the Labour party opposes the proposals in the Bill. Nothing the Secretary of State has said today by way of explanation or apology moves me to amend that judgment in any way. The Government are saying that henceforth the nation is to abandon its right to receive a royalty for the exploitation of its oil resources for any of the new oil discoveries and developments that occur in the largest part of the North Sea. That is a major departure from the whole approach to the obtaining of a proper return for the nation from North Sea oil. It is my submission that it upsets significantly the balance between a proper return for the state and a reasonable encouragement of exploration and development that must be at the heart of any sensitive North Sea policy.

However, the outcome indicates that the company lobby was more successful in fashioning public debate than the Labour Party. That the UK's tax authority was completely won over to the company perspective was reflected in the 1993 decision to exempt new fields from PRT (which was also reduced to 50% at the time) and is corroborated by the government's official historian of the UK continental shelf, Alex Kemp (2012, 1047):

A different problem was that any economic rents from new fields would be taxed at a very low rate. The Inland Revenue became increasingly attracted to this option, stressing the advantages of improving the cash flows from existing investments which would please the industry, and improving the upside potential for the industry with respect to future discoveries.

Did academics influence this drive towards weakening the UK's petroleum fiscal regime? In one sense this may be difficult to judge because the

apparent influence of some academics may simply be because they are, wittingly or unwittingly, uncontroversial in the context of the dominant company interest. This in turn gives rise to the vexed issue of the extent to which academics can be independently influential if they are directly linked to the company lobby. A case in point is that of Kemp who, as well as being official historian of the UK continental shelf, was the Schlumberger Professor of Petroleum Economics at the University of Aberdeen (Schlumberger being a major oil services company) and also took on commissions from the company lobbying organization, the UK Offshore Operators Association, later to become Oil and Gas UK (see, e.g. UKOA 2004, 6). Of course, companies will argue that their sponsorship involves no restrictions on academic freedom, but it still seems unlikely that they will queue up to sponsor academics who are critical of their privileges. This problem has also arisen in the context of industry sponsorship of other academic disciplines, particularly by the pharmaceutical industry.

Although the purity of academic influence may be clouded in such ways, it is still useful to consider the impact of the considerable academic noise which surrounded the landmark 1993 reductions Petroleum Revenue Tax. To do so we are fortunate to be able to draw on Nakhle's (2008, 57–63) summary of the lively debate between 22 academics around this issue, as well as around the abolition of royalties and the suitability of Corporation Tax as an instrument for capturing petroleum rents. This includes the famous comment by Robert Mabro (former Director of the Oxford Institute for Energy Studies), in a 1994 letter to the *Financial Times*, in which he compared abolishing royalties to the government giving away rent-free buildings to businesses and only charging them corporation tax on their profits. Nevertheless, this debate can reasonably be described as an exercise in academic impotence, because none of the 22 academics advocated both the abolition of royalties *and* the dismantling of PRT, which was the policy turn which governments chose to make. Indeed, Kemp's text confirms that inside the corridors of power, the arguments of academics were swamped by a powerful and well-organized company lobby (Kemp 2012, chap. 6).

Finally, let us devote some attention to the role of Scotland in the public debate about the taxation aspect of petroleum management in the UK. 'It's Scotland's Oil' was the slogan which led to early successes for the

Scottish National Party (SNP) in the 1970s, and since that time, the prospect of owning most of the UK's oil and gas resources has underpinned ambitions for an independent Scotland. In practice, however, the large number of Scottish jobs dependent on oil and gas production has tempered this aspiration: higher taxation of upstream oil and gas which might help fund independence might also threaten jobs. Almost 30 years ago, Charles Kennedy MP was putting jobs before tax revenues in the context of the fall in oil prices which occurred in 1986:

Mr Charles Kennedy MP also wrote to Mr Lawson itemising in detail the dire shortage of orders for the construction yards in his Highland constituency, and requested tax reliefs, particularly the breaching of the PRT field ring fence for development costs. (Kemp 2012, 935)

Moreover, while the recent campaign for Scottish independence again raised the profile of oil tax income as a source of finance for an independent Scotland, concern about jobs again held sway. In the run-up to the independence referendum in September 2014, the Scottish government pledged not to increase taxes on the oil industry (Scottish Government 2013, 18). Subsequently, the dramatic fall in oil prices since mid-2014 saw the Scottish government pleading for tax breaks to counter job losses, a perspective which has tended to turn the Scottish lobby into an adjunct of the company lobby, even invoking the explicit support of Malcolm Webb, Chief Executive of UK Oil and Gas (*Daily Mail* 2015).

Health and Safety, Industrial Relations and the Environment

Kemp (2012, 1533) records that 380 workers perished in offshore accidents between 1965 and 2000, and a further 1172 sustained serious injuries. However, this substantial toll has sparked public interest only in the context of major accidents, particularly the explosion on the Piper Alpha platform in 1988, which killed 169 of the 229 people on board in 22 minutes. Public debate has been reactive to disasters, in the case of Piper Alpha taking the form of a public enquiry chaired by Lord Cullen, which produced 106 rec-

ommendations for improving the safety of offshore operations (Cullen 1990). Similarly, a number of accidents involving the Super Puma helicopter during the transfer of workers offshore, culminating in the August 2013 crash which killed four people on the approach to Sumburgh Airport in the Shetland Islands, triggered a public debate and a House of Commons Committee Enquiry (House of Commons 2014). However, whether this form of public debate will prove effective in preventing such accidents in the future remains to be seen—for this accident was not prevented by the lessons learnt from the Chinook crash in 1986, which killed 45 workers in an approach to the very same airport (Woolfson et al. 2013, 105).

The main reason why health and safety offshore has evaded the public spotlight is because its offshore nature has served to weaken industrial relations and union bargaining power. Right from the outset during the 1970s, the importation of the American model of industrial relations made for an environment which was highly antagonistic towards unionization (Woolfson et al. 2013, 480), and, despite progress in claiming workers' rights, notably in the formation of the Offshore Energy Branch of the RMT (National Union of Rail, Maritime and Transport Workers), reactions to the 2013 helicopter disaster confirm that fear of speaking out is still damaging offshore health and safety (Guardian 2013a). The words of popular songwriter Nancy Nicolson, from the time when she wrote an angry lament for the Piper Alpha dead, are unfortunately still relevant: 'The money-wells in the North Sea are owned by immensely rich companies and fed by workers' lives. The men off-shore have to watch their tongues or lose their jobs. We can be their voices' (*Education Scotland* 2015).

The environmental issues related to UK oil and gas production are global warming, marine pollution, the implications of decommissioning and, most recently, the environmental consequences of onshore 'fracking' for shale gas. However, the issue of global warming is not specific to the UK continental shelf—it is part of a wider national and international debate about the production and consumption of fossil fuels. Marine pollution, on the other hand, is a perennial UK continental shelf issue, with public debate tending to be reactive to specific events—as has been the case with health and safety, except that insidious environmental damage does not usually have the publicity profile of a major accident. Perhaps the most famous example has been the 1995 Greenpeace campaign to

stop Shell from sinking its abandoned oil-storage buoy, Brent Spar, which, while successful, was ultimately flawed in terms of fomenting public debate because the Greenpeace estimates of the amount of oil still left in the buoy were wildly exaggerated, an error for which the NGO was obliged to apologize publicly (*Independent* 1995). Since then, and despite Greenpeace's campaign to defend the North Sea, it has been business as usual for this environment: in 1 month of 2013, for example, there were 55 recorded instances of oil or chemical leaks from offshore platforms, including one from Piper Alpha (*Guardian* 2013b). There has been publicity, but unfortunately little in the way of effective public debate.

Offshore, attention is now turning to decommissioning which the Royal Academy of Engineering (2013) estimates will require the safe disposal, over the next 30 years, of 8 installations with large concrete substructures, 31 installations with large steel jackets, 223 other steel jackets, 280 subsea production systems, 21 floating production systems, over 3,000 pipelines and around 5,000 wells. To convey the scale of this task, the Royal Academy draws on the experience of Norway's decommissioning of eight platforms from the Ekofisk oilfield which 'is equivalent to three times the weight of all the cabs in London or 54 London Eyes' (Royal Academy of Engineering 2013, 3). Let us hope that the quality and effectiveness of the public debate around this exercise rises to the scale of the challenge and its environmental implications.

A sharp contrast with the level and extent of public debate about offshore health, safety and environmental issues has been the expected shale-gas revolution. Shale gas proved immediately controversial, firstly because the prospective reserves are onshore and secondly because early fracking efforts triggered two small earthquakes in the county of Lancashire in April and May 2011, which led to a moratorium on fracking until 2012, following public protest. Nevertheless, and in the context of increasing natural gas import dependency, the political debate at the level of Parliamentary enquiries and think-tank reports has been generally enthusiastic, led by the former Prime Minister's declaration, 'We're going all out for shale' (*Guardian* 2014).² Symbolic of the expert enthusiasm was the dismissal of the earthquake problem by University of Strathclyde's Professor Shipton, 'The magnitude 2.3 event in Blackpool is like a lorry going past your house. In fact, the British Geological Survey can't mea-

sure below magnitude two in towns because of the traffic' (ENDS 2013, 12). However, such views have not resonated with the public, as protesters have taken to the streets in Lancashire (*Guardian* 2015), and websites such as frack-off.org.uk, an 'Extreme Energy Action Network', have come into being to inform and orchestrate resistance to an activity which also threatens water quality and brings into sharp relief the continuing determination to exploit fossil fuels at the expense of the environment.

Conclusions

While there certainly has been debate about various aspects of the management of the UK's oil and gas resources over the four decades since oil production took off, it has not been a very public or accessible one, and its main thrust has been dominated by the company lobby (with the Scottish lobby in the wings), mostly untempered by any coherent alternative independent perspective from the side of government (although there have been times when the ideological thrust of political parties has been influential). An important background feature is that the sector has not been as dominant in the UK's economy as it has been for some other oil-producing countries. This, plus the industry's offshore nature and the lack of a state oil company, have contributed to its relatively low profile. Such a conclusion is corroborated by the fact that once the character of resource exploitation changes, with the industry moving onshore and deploying a controversial technology, as was the case with the UK's first forays into shale-gas fracking, civil society and public debate are immediately activated.

If the hypothesis of this book is that the absence of a wide and informed public debate, untinged by vested interests, will have negative consequences, such a hypothesis could certainly be postulated for the UK. This chapter has shown that the debate about the country's petroleum fiscal regime has been remote and tinged by vested interests, characteristics which may be associated with the recognized weakness of the UK's petroleum fiscal regime compared with those of neighbouring countries, including very minor producers. Figure 18.1 shows that, since the early 1990s, the proportion of the value of oil and gas sales represented by the UK's

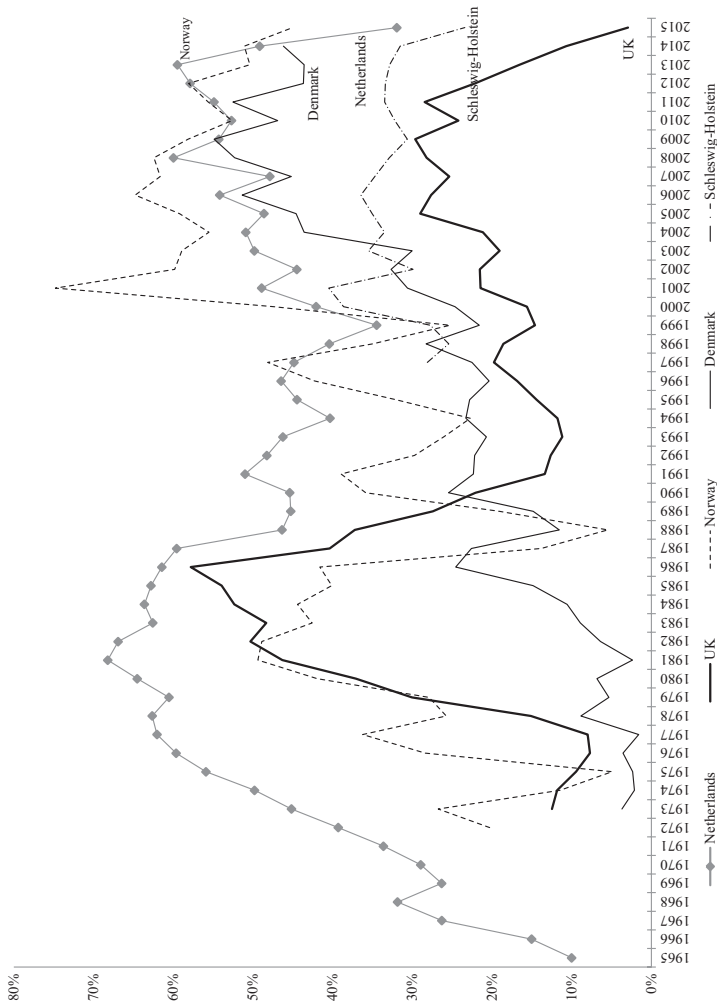


Fig. 18.1 Effective tax rates for hydrocarbons production around the North Sea, 1965–2015. Sources: authors’ calculations, based on the oil and gas sector (upstream) sales revenue data and the tax and royalty income data published by the governments of Denmark (Danish Energy Agency), the Netherlands (Natural Resources and Geothermal Energy in the Netherlands; National Accounts), Norway (Norwegian Petroleum Directorate) and the UK (National Statistics). For Germany, the Schleswig-Holstein data were drawn from the annual accounts of Wirtschaftsverband Erdöl und Erdgasgewinnung e.V. (WEG) and BASF A.G.

fiscal revenues from upstream oil and gas (the Effective Fiscal Take Ratio) has been below that of Denmark, Germany, the Netherlands and Norway.

Of even greater public concern, in 2015–2016 the UK's tax revenues on upstream oil and gas slumped to just GBP 43 million without provoking any kind of public debate, even though these revenues from 1.6 million barrels of oil and gas production per day (OGA 2016a, b) were actually less than the GBP 46 million in royalties received by the German state of Schleswig-Holstein from just 25 thousand barrels per day of production (WEG 2016, 14).

Notes

1. During the 1984–1985 miners' strike, Mrs. Thatcher famously branded the miners and their supporters as the 'enemy within'.
2. Most of the documented concerns about shale gas are conveniently brought together in a briefing document by the UK Parliament's library research staff (House of Commons 2015). Just a couple of important items appear to be missing: Chatham House's contribution (Stevens 2013, 10) and an ENDS Report (ENDS 2013).

References

- Boué, J.C., and P.W. Wright. 2011. A Requiem for the UK's Petroleum Fiscal Regime. In *UK Energy Policy and Market Fundamentalism*, ed. I.D. Rutledge and P.W. Wright, 39–86. Oxford: Oxford Institute for Energy Studies/Oxford University Press.
- BP. 2014. Statistical Review of World Energy. <http://www.bp.com/en/global/corporate/about-bp/energy-economics/statistical-review-of-world-energy.html>. Accessed on 5 January 2016.
- Cullen, W.D. 1990. *The Public Inquiry into the Piper Alpha Disaster*. London: Her Majesty's Stationery Office.
- Daily Mail. 2015. Now Scotland Wants Tax Breaks to Bail Out Struggling Oil Industry... Just Four Months after Salmond Said North Sea Would Bankroll His Independence Dream. <http://www.dailymail.co.uk/news/article-2913015/Now-Scotland-wants-tax-breaks-bail-struggling-oil-industry->

- just-four-months-Salmond-said-North-Sea-bankroll-independence-dreame.html. Accessed on 5 January 2016.
- DECC. 2014. Oil Production Since 1890. <https://www.gov.uk/government/statistical-data-sets/crude-oil-and-petroleum-production-imports-and-exports-1890-to-2011>. Accessed on 5 January 2016.
- . 2015. UK Oil Reserves and Estimated Ultimate Recovery 2015. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/441082/UK_Oil_Reserves_and_EUR_2015.pdf. Accessed on 5 January 2016.
- Dell, E. 1993. The Origins of Petroleum Revenue Tax. *Contemporary British History* 7: 215–252.
- Education Scotland. 2015. Nancy Nicolson Wrote These Words for the Cover of Her Lament. http://www.educationscotland.gov.uk/scotlandsongs/secondary/genericcontent_tcm4572917.asp. Accessed on 5 January 2016.
- ENDS. 2013. UK Shale Gas and the Environments. <http://www.ends.co.uk/50/ends-special-report-uk-shale-gas-and-the-environment>. Accessed on 5 January 2016.
- Guardian. 2013a. North Sea Oil Culture Needs to Change, Says Union Leader after Helicopter Crash. *Guardian*. <http://www.theguardian.com/business/2013/aug/30/north-sea-oil-culture-helicopter-crash-bob-crow>. Accessed on 5 January 2016.
- . 2013b. North Sea Leaks ‘Reality Check’ for British Oil Industry, Says Greenpeace. *Guardian*. <http://www.theguardian.com/environment/2013/jul/07/british-oil-industry-north-sea-leaks-greenpeace>. Accessed on 1 May 2016.
- . 2014. Fracking in the UK: “We’re Going All Out for Shale”, Admits Cameron. *Guardian*. <http://www.theguardian.com/environment/2014/jan/13/shale-gas-fracking-cameron-all-out>. Accessed on 5 January 2016.
- . 2015. Hundreds Protest against Proposed Fracking Site in Lancashire. *Guardian*. <http://www.theguardian.com/environment/2015/jun/23/hundreds-protest-against-proposed-fracking-site-lancashire-cuadrilla>. Accessed on 5 January 2016.
- Hansard. 1983a. *HC Deb 9 May 1983*. Vol. 42, cc6i6-7. London: House of Commons.
- . 1983b. *HC Deb 4 July 1983*. Vol. 45, cc20-103. London: House of Commons.
- House of Commons. 1973. *First Report from the Committee of Public Accounts, Together with the Proceedings of the Minutes of Evidence, Part of the Minutes of*

- Evidence of Session 1971–72 and Appendices Thereto*. Session 1972–73. North Sea Oil and Gas. London: Her Majesty's Stationery Office.
- . 1982. *Third Report from the Select Committee on Energy*. Session 1981–82. North Sea Oil Depletion Policy. London: Her Majesty's Stationery Office
- . 2014. *Second Report from the Transport Committee*. Session 2014–15. Offshore Helicopter Safety (HC289).
- . 2015. *Shale Gas and Fracking*. House of Commons Library, SN/SC/6073: 34.
- Independent. 1995. Greenpeace's Brent Spar Apology. *Independent*. <http://www.independent.co.uk/news/greenpeaces-brent-spar-apology-1599647.html>. Accessed on 5 January 2016.
- Jack, I. 2013. North Sea Oil Fuelled the 1980s Boom But It Was, and Still Is, Strangely Invisible. *Guardian*. <http://www.theguardian.com/commentis-free/2013/apr/19/north-sea-oil-80s-boom>. Accessed on 5 January 2016.
- Kemp, A. 2011. *The Official History of North Sea Oil and Gas Vol. 1: The Growing Dominance of the State*. Abingdon: Routledge.
- . 2012. *The Official History of North Sea Oil and Gas Vol. 2: Moderating the State's Role*. Abingdon: Routledge.
- Labour Party. 1974. Election Manifesto. <http://www.politicsresources.net/area/uk/man/lab74oct.htm>. Accessed on 27 February 2017.
- Mommer, B. 2002. *Global Oil and the Nation State*. Oxford: Oxford University Press/Oxford Institute for Energy Studies.
- Nakhle, C. 2008. *Petroleum Taxation: Sharing the Oil Wealth: A Study of Petroleum Taxation Yesterday, Today and Tomorrow*. Abingdon: Routledge.
- OGA. 2016a. Government Revenues from UK Oil and Gas Production. <https://www.ogauthority.co.uk/exploration-production/taxation/government-revenues-from-uk-oil-and-gas-production/>. Accessed on 14 December 2016.
- . 2016b. Historic UK Oil and Gas Production and Reserves 2016. <https://www.gov.uk/guidance/oil-and-gas-uk-field-data#uk-production-data>. Accessed on 14 December 2016.
- Royal Academy of Engineering. 2013. Decommissioning in the North Sea. <http://www.raeng.org.uk/publications/reports/decommissioning-in-the-north-sea>. Accessed on 14 December 2016.
- Rutledge, I.D. 2010. UK Energy Policy and Market Fundamentalism: A Historical Overview. In *UK Energy Policy and Market Fundamentalism*, ed. I.D. Rutledge and P.W. Wright, 1–38. Oxford: Oxford Institute for Energy Studies/Oxford University Press.

- Scottish Government. 2013. Scotland's Future: Your Guide to an Independent Scotland. <http://www.berria.eus/dokumentuak/dokumentua1219.pdf>. Accessed on 14 December 2016.
- Stevens, Paul. 2013. Shale Gas in the United Kingdom. <https://www.chatham-house.org/publications/papers/view/196314>. Accessed on 14 December 2016.
- UKOA. 2004. Maximising Britain's Oil and Gas Resource: Economic Report 2004. <http://oilandgasuk.co.uk/wp-content/uploads/2015/05/EC013.pdf>. Accessed on 5 January 2016.
- WEG. 2016. Statistischer Bericht 2015: Die E&P-Industrie in Zahlen. <http://docplayer.org/39288924-Die-e-p-industrie-in-zahlen.html>. Accessed on 27 February 2017.
- Wood, I. 2014. UKCS Maximising Recovery Review: Final Report. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/471452/UKCS_Maximising_Recovery_Review_FINAL_72pp_locked.pdf. Accessed on 5 January 2016.
- Woolfson, C., J. Foster, and M. Beck. 2013. *Paying for the Piper: Capital and Labour in Britain's Offshore Oil Industry*. Abingdon: Routledge.