House of Commons
Energy and Climate Change Committee

UK oil refining

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Volume I: Report, together with formal minutes, oral and written evidence

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The Energy and Climate Change Committee

The Energy and Climate Change Committee is appointed by the House of Commons to examine the expenditure, administration, and policy of the Department of Energy and Climate Change and associated public bodies.

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Dan Byles MP (Conservative, North Warwickshire)
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The following members were also members of the committee during the Parliament:

Gemma Doyle MP (Labour/Co-operative, West Dunbartonshire)
Tom Greatrex MP (Labour, Rutherglen and Hamilton West)
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Powers

The Committee is one of the departmental select committees, the powers of which are set out in House of Commons Standing Orders, principally in SO No 152. These are available via www.parliament.uk.

Publication

The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the internet at www.parliament.uk/ecc. A list of Reports of the Committee in the present Parliament is at the back of this volume. The Report of the Committee, the formal minutes relating to that report, oral evidence taken and some or all written evidence are available in a printed volume.

Committee staff

The current staff of the Committee are Sarah Hartwell-Naguib (Clerk), Liz Bolton (Second Clerk), Tom Leveridge (Committee Specialist), Dr Alfred Gathorne-Hardy (Committee Specialist), Luanne Middleton (Inquiry Manager), Shane Pathmanathan (Senior Committee Assistant), Jonathan Olivier Wright (Committee Assistant), Joe Strawson (Committee Support Assistant), and Nick Davies (Media Officer).

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1 Introduction

Background

1. Refined oil products are a significant source of energy in the UK. In 2012, they provided around a third of the primary energy used. The UK is extremely reliant on many of these products such as petrol, diesel and jet fuel – especially in the transport sector. The International Energy Agency, for example, forecasts that oil will be a major source of energy to 2030 and beyond, accounting for over 80% of the EU transport fuel. Refining also provides critical by-products or feedstocks for lubricants and for petrochemicals which are the basis for plastics, paints, adhesives, detergents, resins, solvents, synthetic fibres and rubber, and which support much of the UK’s heavy industries. Many of these industries are closely integrated with UK refineries. There are seven refineries in the UK (see figure 1), approximately 40 terminals and a network of pipelines for distribution. Distribution also occurs by ship, road and rail. UK operating refinery capacity is ~1.5 million barrels of crude oil per day (the fourth largest in the EU).

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2 Ev 46
4 Ev 64
Domestic refining versus importing

2. The majority of oil products are still refined in the UK. However, domestic production since the middle of the last decade has decreased while imports have increased (see figure 2).
The main markets for products from refining in the UK are:

i. Retail (forecourt service stations): ~28.5 million tonnes per year of petrol and diesel;

ii. Aviation: ~11 million tonnes per year jet kerosene;

iii. Commercial: ~16.7 million tonnes per year (commercial vehicles, heating fuels and marine);

iv. Speciality (bitumen, lubricants, LPG, solvents and petroleum coke etc.): ~5 million tonnes per year; and

v. Petrochemicals: ~2 million tonnes per year.\(^5\)

**An industry in decline**

3. On 10 May 2013 IHS Pervis and Gurtz published a report that had been commissioned by the UK Petroleum Industry Association (UKPIA): The role and future of the UK refining sector in the supply of petroleum products and its value to the UK economy.\(^6\) The report concluded that the UK refining industry makes a substantial contribution to the UK economy and plays a vital role in maintaining the UK’s fuel supplies. The industry, for

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\(^5\) DECC, Digest of UK Energy Statistics, 2012

\(^6\) IHS Purvin & Gertz, The role and future of the UK refining sector in the supply of petroleum products and its value to the UK economy, 10 May 2013 (http://www.ukpia.com/files/pdf/therolefutureoftheukrefiningsector.pdf)
example, supports a considerable number of jobs. The Minister of State for Energy, Rt Hon Michael Fallon, said there would be an impact if the industry was to close:

If the whole industry was to close, it would certainly have an impact. It is an important industry, it is a relatively large industry. According to the UKPIA, refineries support around 26,000 jobs directly and indirectly so if we lost all our refineries, yes, it would certainly have an impact.7

4. In written evidence to our inquiry DECC stated that, ‘the Government is committed to ensuring that the UK has a downstream oil supply chain that provides security of supply, is resilient to short term disruptions, and supports jobs and economic development.’8 But the industry is in decline. UK oil refining capacity has reduced from 18 refineries in the late 1970s to seven today. Two refineries have closed between 2009 and 2012, the loss of further UK refining capability may pose a risk to security of energy supply as a result of increasing dependence on imports. Any further refinery closures could also have knock-on effects on ancillary industries and the supply of other products within the UK and overseas. Unite the Union argued that environmental policies could, potentially cost thousands of jobs’.9

DECC’s review and our inquiry

5. On 20 May 2013, as part of a cross-Government review, DECC published a call for evidence on the role of the UK refining and fuel import sectors in the supply of refined oil products into the UK market.10 We decided to hold a short inquiry to gather evidence and make recommendations relevant to DECC’s review. In particular we examined the pressures on the industry and the implications for security of supply. DECC said that, ‘it would be very helpful if the Committee published evidence early and shared final (or at least interim) findings with DECC in time for these to be factored into the review, which will publish conclusions towards the end of this year.’11

6. We launched our inquiry on 18 April 2013 and received 15 submissions of evidence. We also held two evidence sessions. A full list of witnesses can be found at the end of this report. We are very grateful to all those who have contributed towards this inquiry. In this report we focus on those areas which we believe are most important to the future sustainability of the industry and therefore most pertinent to DECC’s call for evidence.

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7 Q 221
8 Ev 39
9 Ev 88
11 Ev 39
2 Pressures on the UK refining industry

Increasing global competition

7. The UK refining industry is influenced by global supply and demand. Some witnesses attributed the likelihood of further UK refinery closures to global factors that determine refining margins, including trends in supply and demand. Shell reported that, at a global level, demand for refined products was increasing:

At a global level demand for refined products is increasing fuelled by emerging markets where increased car ownership by a burgeoning middle class increases the demand for fuels.

They added:

Production increases are typically found in geographies where a refinery has a structural advantage either through a favourable tax system (e.g. Russia) or proximity to abundant crude supply sources.”

Increased global demand was being met by refineries in the Middle East and Asia and Shell suggested that there may now be a refining overcapacity. This was supported by KBC Advanced Technologies:

“New refinery construction has continued at a pace exceeding the rise in refined product demand. New capacity is largely being added in the Middle East and in Asia – India and China in particular. These additions are strategic in nature and will transform the global market for refined products.”

8. Although witnesses suggested there was a risk of markets being “flooded with products from some of these new refineries”, there was some optimism that there was a future for the UK refining industry. Mr Hunter, Supply Contracts and Negotiations Manager, Shell, stated:

“I still believe that well run, well invested in refiners within the UK can survive and will continue to be healthy, but there needs to be a shake-out, and there has been a bit of a shake-out over the last few years, in order for things to rebalance. The market will change. There will be fewer refiners in Europe over the next 10 years and that is a product of global changes in infrastructure supply and demand.”

9. Reducing profit margins had prompted Shell to exit a number of refineries throughout the world. Mr Hunter, Shell, commented:
“We exited the UK, and we have exited a number of refineries across the world over the last few years, because we want to reduce our overall exposure to the global refining margin. It is a strategic decision in terms of how we want to resize our downstream business to be more profitable and more competitive. That meant that we have stepped out and sold refineries in a multitude of different countries, and one of them was Stanlow in the UK.”.18

Mr George, Principal Consultant, KBC Advanced Process Technology Ltd, suggested that the exit of major oil companies from the refining sector was part of a ‘healthy churn’ and highlighted that new entrants to the market were not necessarily ‘weak entrants’:

They are entering with a new motivation. If Chevron moves out and Valero moves in, Valero are keen, independent refiners who have a vision and say, “We can do something with that Pembroke refinery”. If PetroChina want to come in and be refining in the UK, they have a motivation for doing that. If Essar come into Stanlow, they have a motivation for doing that. There is a new class of refiners in the UK but that doesn’t necessarily mean they are any weaker than the majors that are exiting.19

10. The global market is changing, with a rising demand for refined oil products, and an increasing supply from the Middle East and Asia. There is still a place for the UK industry, but it will need to be responsive to the implications of shifts in global, as well as domestic, supply and demand. DECC’s review should consider the longer term trends in fuel demand in domestic and export markets.

Mismatch between supply and demand

11. In the UK market, overall demand for petroleum products has been declining (see figure 3). Shell stated that demand was declining for a number of reasons including: ‘more efficient vehicles; the displacement of conventional fuels by, for example biofuels; and declining car sales.’20 Demand for different types of petroleum products has also changed: demand for diesel has been increasing while demand for petrol has been decreasing (see figure 3).
12. UK refineries are not optimised for current UK demand. The Downstream Fuel Association (DFA) suggested that UK oil refineries are optimised to produce the historic mix required rather than for current UK demands. This was supported by Phillips 66 who reported:

The balance of fuels used in the UK has changed since construction of the UK refineries, with consumption of petrol decreasing, and diesel increasing. This has resulted in a mis-match between supply and demand, with an excess of petrol and insufficient jet fuel and diesel. The shortfall is met by imports from Middle East, Russia, India and the USA.

Shell highlighted that the imbalance between supply and demand for oil products in Europe (and globally) impacted upon UK refinery profitability.

13. Importers and storage terminals have played an important role in supplying the UK market to meet increasing demand for products not supplied by UK refineries. The DFA stated:

Product importers have ensured short term resilience and long term UK energy robustness by supplying diesel and jet fuel according to demand. They have the logistical infrastructure and the ability to do so in an efficient, cost effective and
resilient manner. Importers source refined products and components for blending through global, sophisticated and deep markets which allocate resources efficiently.24

We discuss security of supply in more detail in chapter 3.

14. DECC’s written evidence suggested that the trend of rising demand for diesel is set to continue:

The preference for increasing consumption of diesel over petrol is expected to continue at least in the short to medium term, exacerbating the mismatch of UK supply and demand of refined product. Given current market conditions and trends the UK is likely to grow increasingly short of domestically refined middle distillates such as diesel and jet fuel.25

Diesel demands are anticipated to increase by approximately 1% per year and petrol demands to decrease by between 5% and 7% per year.26 DECC suggested that diesel consumption in volume terms is expected to plateau from 2020 onwards owing much to more fuel efficient vehicles whilst demand for jet fuel is likely to continue to steadily increase.27 Written evidence suggested that predicting the fuel mix beyond 2030 was difficult because of the development and penetration of future technologies which was uncertain.28 The Minister said:

Our refineries are petrol-facing, if you like, and not diesel-facing, and although they compete well at the moment in Europe, the long-term trend therefore puts them at a disadvantage. They are producing too much petrol, not enough high-value diesel or jet and they are less likely to compete with the refineries of the future and therefore the investment case for investing in them probably will get weaker. It is difficult to see in the long term how they are going to continue to compete in the same way that they are competing at the moment.29

15. The supply of petroleum products from UK refineries is likely to become less in tune with demand unless they invest in additional diesel production capability.30 The IHS Purvin and Gurtz report into the UK refining sector found that in order to remain competitive in the future, UK refineries would need to invest £1.5 to £2.3 billion over the next 20 years. The proportion of diesel produced by UK refineries could be increased by introducing hydrocracking technology.31 To fit hydrocrackers to existing refineries would cost approximately £1 billion per refinery,32 but with current refining margins the cost would be

24 Ev 51
25 Ev 39
26 Q 70
27 Ev 39
28 Ev 85
29 Q 184
30 IHS Purvin & Gertz, The role and future of the UK refining sector in the supply of petroleum products and its value to the UK economy, 10 May 2013 (http://www.ukpia.com/files/pdf/therolefutureoftheukrefiningsector.pdf)
31 A process which breaks heavier crude oil components into lighter components, including diesel and jet fuel.
32 Q 60
unlikely to be recovered. Andrew Gardiner, Grangemouth Refinery Commercial Manager of Petroineos told us:

If you have a hydrocracking unit, which takes wax and turns it into diesel-type products; rather than cat cracking, which takes wax and turns it into petrol-type products, the UK needs more hydrocracking capacity. I think a company announced about a month ago that it was going to build a hydrocracker in Europe, and its quoted cost for a small-sized hydrocracker was about $800 million. If you want a medium-sized one, which the UK needs for every refinery, you are talking probably a £1 billion-type level.

16. There is a mismatch between UK refinery supply of petroleum products and demand. The shortfall has so far been made up by the import industry. The trend of rising demand for diesel is likely to continue in the short to medium term. If UK refiners are to meet that demand they will have to invest in additional diesel production capability. It would not be necessary for every refinery to have a hydrocracker. DECC’s review should calculate what extra capacity is required and explore how the necessary investment could be financed.

17. DECC’s review and identification of necessary actions should address how Government can facilitate optimisation of the industry and its infrastructure to better suit UK demand and ensure a secure mix of domestic and imported supply. DECC should also take into account the potential implications of any rebalancing action for ancillary industries.

Legislative burdens

18. There are several pieces of UK and EU legislation that the UK oil refining industry must comply with. The key legislation is:

**EU**

- EU Emissions Trading System Phase III
- Fuel Quality Directive Article 7a, plus product quality/vapour pressure specifications
- Industrial Emissions Directive
- Renewable Energy Directive
- Energy Efficiency Directive

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33 Q 4
34 Q 60
35 http://ec.europa.eu/clima/policies/ets/index_en.htm
36 http://ec.europa.eu/environment/air/transport/fuel.htm
39 http://ec.europa.eu/energy/efficiency/eed/eed_en.htm
UK

- Environment Agency proposals on product containment policy
- Government proposals for Carbon Floor pricing
- CRC Energy Efficiency Scheme

DECC stated that the 'sector is heavily regulated notably for environmental protection and safety reasons, which has significantly increased costs compared with some global competitors.'

The UKPIA argued that the burden of legislation was the key issue that hampered the UK petroleum industry’s competitiveness, stating that: ‘the capital expenditure and costs related to legislation would largely eliminate the projected refining margin in UK refineries in the period to 2025’ (See figure 4).

Figure 4 – Estimated cost impact of legislative requirement on UK refineries vs. projected margin

Note chart does not include FQD7a, FQD Other Items and Energy Efficiency Directive costs as these are not yet defined

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41 http://www.hmrc.gov.uk/climate-change-levy/carbon-pf.htm
42 https://www.gov.uk/crc-energy-efficiency-scheme
43 Ev 39
44 IHS Purvin & Gertz, The role and future of the UK refining sector in the supply of petroleum products and its value to the UK economy, 10 May 2013 (http://www.ukpia.com/files/pdf/therolefutureoftheukrefiningsector.pdf)
19. The IHS Purvin and Gertz report estimates that, in addition to investment required to upgrade infrastructure and remain competitive, UK refineries will need to invest £5.5 billion of capital to meet UK and EU legislative measures in the period 2013-2020. Cost will also be incurred to operate new equipment, to purchase EU allowances and to pay for the UK’s target carbon floor price. This figure excludes the legislative impacts of the Fuels Quality Directive and Energy Efficiency Directive which as yet are not fully defined.  

20. Phillips 66 expressed concern that some legislation disadvantages UK refining by adding costs which other competitors do not have to bear: 

    UK legislation which is not applicable to refineries in other countries, is not based on sound science, and/or which favours one technology vs others disadvantages UK refining by adding cost which many competitors do not have to bear or do not bear to the same degree. 

    Oikos Storage called for “a level playing field to be maintained across all operators from a health, safety and environmental perspective.”

21. The Environment Agency issues environmental permits to oil refinery operations as required by EU and domestic legislation. It regulates refineries in England under the European Union Integrated Pollution Prevention and Control Directive (IPPCD), which is transposed into law in England by the Environmental Permitting (England and Wales) Regulations 2010 (EPR). In 2007 it conducted a review of overall environmental standards required of oil refineries and concluded, ‘the costs and benefits are reasonable’. In oral evidence Mr Mitchell said:

    I note in most of the evidence that you have received that the focus is entirely on the costs rather than the costs and the benefits. There are well established benefit figures for, for instance, reductions in sulphur dioxide emissions and when you put the costs against those benefits the cost benefit looks positive.

    Mr Mitchell conceded that there were likely to be increased costs in the future.

22. The Environment Agency also forms part of the Competent Authority with the Health and Safety Executive to deliver the environmental aspects of the Control of Major Accident Hazards regime. In written evidence it said:

containment policy standards did not involve grossly disproportionate cost for the sector (refineries and distribution terminals).\textsuperscript{51}

In written evidence the UKPIA stated, however, that the Environment Agency’s assessment is misleading:

This is clearly misleading, since there is no doubt that the level of investment required to meet improved emissions abatement and UK Containment Policy requirements, along with other operational constraints imposed by challenging SO\textsubscript{2} emissions limits, have severely impacted refinery profitability and cash generation to fund configuration changes to meet changing demand.\textsuperscript{52}

23. Some witnesses suggested that the UK is ‘gold plating’ European Directives.\textsuperscript{53} The Minister told us: ‘I am concerned about the cumulative impact, not so much the gold-plating, the fact that there are so many regulatory proposals that will involve extra cost for our refineries.’\textsuperscript{54} Mr George, KBC Advanced Process Technology Ltd, told us “if there is not some kind of level playing field for European refiners they are going to face the brunt of economic forces that are coming from outside of Europe.”\textsuperscript{55} But he went on to say that “there is no reason to think that the regulatory burden in the UK or in north-west European or in Europe in general is the ultimate killer blow”.\textsuperscript{56} Mr Hunter, Shell, suggested:

The regulatory burden that comes from Europe is clearly an issue for the refiners in Europe, including that of the UK. The underlying demand decline in countries like the UK and Europe is also a problem for European and UK refiners. I think we all acknowledge that there is a problem there for the sector and that there needs to be some rationalisation.\textsuperscript{57}

24. In 2012, in response to concerns regarding the sustainability of the oil refining industry and the impact of legislation, a Refining Round Table was established. It has proposed refining industry ‘fitness checks’ designed to examine the cumulative effect of EU regulation and consider mitigation measures. However, Petroineos highlighted that terms of reference have yet to be produced for the fitness checks, and questioned the usefulness of the likely timescale:

"Regrettably, at the first Refining Forum meeting on April 12th 2013 no Terms of Reference for the Fitness Checks were produced. A verbal update by DG Enterprise not only stated that the Fitness Checks would be not be retrospective i.e. not examine legislation currently under discussion (which precludes consideration of Fuels Quality Directive Article 7a and the Refinery BREF linked to the Industrial Emissions Directive), but further that the Fitness Checks would not be concluded

\textsuperscript{51} Ev 76  
\textsuperscript{52} Ev 71  
\textsuperscript{53} Ev 46, Q 28  
\textsuperscript{54} Q 197  
\textsuperscript{55} Q 158 [Mr George]  
\textsuperscript{56} Qq 158-159  
\textsuperscript{57} Q158
until the end of 2014, by which time the crucial legislation under discussion will have been concluded.”

Mr Hunt, Director General of UKpia, was concerned that the Fitness Checks:

“would only examine existing regulation, i.e. what has already happened, so it would be a very nice exercise in how well we impose that regulation. It will not look at the key bits of regulation that are going through, which as I explained are article 7A of the Fuel Quality Directive and something called the Refinery BREF.”

25. The Minister accepted that the industry could not cope with new regulatory costs and agreed with concerns about the scope of the proposed fitness checks:

“One obvious thing Government must not do is to burden them with unnecessary new regulatory costs that increase the capital budget and will not be affordable. That is why we are looking extremely hard at some of the regulatory proposals that are floating around at the moment. In respect of the Commission’s intention to hold what they call a sector fitness check, for example, I am concerned that the particular remit is a little too narrow and excludes some of the new regulatory costs. [...] I have written this week to Commissioner Tajani to ask him to widen his check to encompass some of the other regulation that affects refineries, not least the Fuel Quality Directive and the Industrial Emissions Directive.”

A copy of this letter is printed as an Annex to this report.

26. DECC’s review must address how the legislative burdens on the industry can be rationalised, and should quantify the extent to which the UK refining industry faces higher legislative and regulatory burdens than its European and global competitors. DECC should also examine whether the burden is evenly spread across the domestic refining and importing parts of the industry.

27. We support the Minister’s appeal to the Commission to ensure that the scope of the EU Fitness Checks includes the cumulative impact of both existing and forthcoming EU legislation. The UK Government should press for the swiftest possible timetable for completion of the checks.

Infrastructure investment

28. As we have mentioned in paragraph 19 above, more than £5.5bn worth of investment will be required, to comply with UK, EU and global legislation. But UK refineries will also need to finance infrastructure investments to ensure the UK industry is better able to deliver an appropriate range of products to meet current levels of demand. We heard mixed evidence on whether this investment was available. Mr Gardner, Petroninios, told us that the refineries struggled to fund some strategic investments:

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58 Ev 46
59 Q 33
60 Q 186
“UK refiners have not been able to economically modify the big investments of their refineries to move out of petrol-making equipment into diesel-making equipment, because their spend is driven to staying in business, i.e. their stay-in-business spend on containment policy or things related to Buncefield and infrastructure, or spend on the sulphur dioxide reductions and things like that. The legislative spend is taking up any free cash and also putting refineries into debt.”

29. On the other hand, Mr Owens, CEO of Greenenergy International, described significant investment in terminals:

“investment is almost at an all-time high. If one walks around the terminals and looks at what is going into these terminals, it is quite impressive. They are not tanks. They are not just tanks. They are actually very high-tech. We have world-leading technology in how we do things and we transform parts of the infrastructure. For instance, if you look at Teesside, maybe three, four, five years ago it had a very fragile supply chain. Now it has one of the most robust and structured supply chains anywhere in the UK. The same is happening on the Thames. We are going through a window at the moment of fragility following the closure of the Coryton Refinery, but it has been covered ...through blending and other things London and the south-east will have very robust supply logistics with quite a significant surplus capacity compared with what the region could conceivably need.”

Mr Horton, Managing Director, Okios Storage, told us “We have spent £50 million in the last three years on upgrading the facilities at Okios. It is post-Buncefield-compliant....it is state-of-the-art. We can show most of Europe that what we have done is the best in class.”

30. We asked what could be done to facilitate the required investment. Witnesses did not ask for tax breaks: Mr Gardner, Petronios, said “my personal view and my company’s view-is that a tax incentive probably is not the answer”. But refineries may need to borrow money for infrastructure investment. Essar Oil has suggested that independent refiners typically struggle with a weaker balance sheet:

Whilst it can be argued that independent refiners are more committed to the long-term sustainability of the UK refining business, they typically struggle with a weaker balance sheet. As such, investments can only be financed via operating cash flow, and in periods of low margins, turnarounds or incremental legislative costs, via additional bank loans.

Christopher Fox suggested that, to secure the future of UK refining capacity, the Government consider providing 'soft loans' to refineries to, ‘invest in processing units.
needed to increase the proportion of diesel and Jet/Kerosene product [...]’ and ‘ [...]to allow for the upgrading of existing diesel production to Jet fuel’.66

31. There is considerable investment in the refining industry, although much of it is primarily directed at compliance with legislative and regulatory requirements. DECC should identify appropriate actions to incentivise investment. As part of this it should look at access to finance to ensure that the industry can also invest so that it can supply the optimal balance of products to meet market demands.

UK transportation duty

32. We were told that there was an inequality in the duties charged to domestic refiners as opposed to importers, when they were moving products around the UK. Mr Gardiner, Petronios, said that importers did not have to pay duty on their imports while UK refiners did, including when they transported their products by sea: “importers are allowed to bring product into the UK duty-suspended. Any UK refiner, if it has to move product around the shores of the UK, has to pay duty on it, and losses on shipping could equate to a $5 a tonne impact”.67 He went on to say:  

“If we are moving product from, say, Grangemouth into the Humber, that product passes out of Grangemouth. It becomes duty and VAT-able at the minute it passes out of Grangemouth on a ship. A ship typically has losses on it. By the time it turns up in the Humber there is less product there, but it is not only that the hydrocarbon is a loss for the company; there is also the duty on the company.”68

We raised this issue with the Minister. He stated:  

“that is a key part of our review, to look at the balance between refiners and importers as to how the duty is fairly distributed and whether there is a case for rebalancing the duty between the two. That is a very important part of the review and I think you have really put your finger on one aspect of where our refineries may be at quite a significant disadvantage.”69

33. If UK refineries are paying Duty for moving oil products around the UK, and Duty is suspended for importers bringing products into UK, there is a clear disadvantage for UK refineries. We recommend that DECC examine the case for rebalancing duties between refiners and importers. The matter appears to be straightforward. Developing a wider package of reforms should not delay the Department in acting on this issue straight away.

66 Ev 85
67 Q 29
68 Q 30
69 Q 205
3 Security of supply

34. DECC notes in its call for evidence that, there is currently a high reliance on oil products in the UK. It is anticipated that oil will be a major source of energy to 2030 and beyond, particularly to provide fuel for transport. The Minister told us that he sees "oil playing a very big part in our transport fuel market right into the 2030s." DECC has recently published figures outlining domestic production and import figures of different fuels into the UK market. In 2012 they were as follows:

Table 1: Existing downstream oil industry infrastructure and its contribution

<table>
<thead>
<tr>
<th></th>
<th>Production</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Spirit</td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td>Gas Diesel Oil</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Aviation Turbine Fuel</td>
<td>37%</td>
<td>63%</td>
</tr>
<tr>
<td>Fuel Oils</td>
<td>59%</td>
<td>41%</td>
</tr>
<tr>
<td>Petroleum Gases</td>
<td>75%</td>
<td>5%</td>
</tr>
<tr>
<td>Burning Oil</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>Other products</td>
<td>61%</td>
<td>39%</td>
</tr>
</tbody>
</table>

Source: DECC, Call for Evidence on the role of the UK refining and fuel import sectors in the supply of refined oil products into the UK market, 20 May 2013, page 10

Table 1 shows that the majority of petroleum products used in the UK are still produced in the UK. The table does not seem to concur with other evidence we have heard about the product mix produced in the UK. It would be helpful if DECC could provide further explanation of the figures in Table 1, including their source. Domestic production since the middle of the last decade has decreased while imports have increased.

35. Phillips 66 Limited argued that the high reliance on imports for some products presented a risk to the UK energy security:

The International Energy Authority model for Short Term Energy Security (MOSES) and the guidance issued by the IEA [suggests] that import dependence greater than or equal to 45% of market demand is high risk to a country’s energy security. The UK dependence on imports is currently at a level of 56% for jet kerosene, 48% for diesel and 44% for heating kerosene.

Mr Gardner, Petroninesos, was concerned about the implications of further refinery closures:


71 Ev 46

72 Q 181

73 European Petroleum Industry Association, Panorama of refining in Europe; JRC European Forum for science and industry Roundtable Scientific support to EU refining capacity, 1 October 2012, slide 11-12

74 Ev 42
“If refineries go and you have this longer supply chain and then you have resilience problems, you will have a third-party nation at some point potentially dictating what price they are going to give the UK fuel at. Now, at the moment, in the international market there is plenty of fuel around, the supply and demand balance, but for all the reasons we have talked about this morning, as refineries start to fall off the end that supply and demand balance will tighten.”  

36. Shell did not share these concerns: 

Recent refinery closures reflect the changing supply and demand balance, and do not indicate a concern for energy security. If there were further refinery closures in the UK this would affect the economics of those which remain as over capacity is reduced, making it less likely there would be multiple further closures. 

The DFA highlighted the role of importers in ensuring security of supply: 

Product importers have ensured short term resilience and long term UK energy robustness by supplying diesel and jet fuel according to demand. They have the logistical infrastructure and the ability to do so in an efficient, cost effective and resilient manner. Importers source refined products and components for blending through global, sophisticated and deep markets which allocate resources efficiently. 

It went on to say that disruptions in UK supply had been caused by domestic issues: 

The disruptions in the supply of liquid fuels that have affected the UK in the last 10 years have been overwhelmingly driven by domestic issues and would have become materially worse problems without the ability of importers to effectively respond in times of crisis. 

Oikos Storage Limited suggested that the, ‘current global economics of oil product supply favours the use of storage terminals in the UK over refineries, and it is difficult to see that situation changing in the near future’. It also stressed the importance of having a diversity of options. 

37. Overall there was agreement between our witnesses that a mix of domestically refined and imported products was essential for security of supply in the UK. Some witnesses were not convinced that short term energy security should be defined by figure for an ideal amount of domestic capacity and suggested the right mix of capacity would be best determined by the market. Mr Hunter, Shell, stated: 

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75 Q 54 [Mr Gardiner] 
76 Ev 73 
77 Ev 51 
78 As above. 
79 Ev 55 
80 As above. 
81 Q 21, Q 65, Q 146 
82 Q 145
The UK needs a healthy mix of refining and importing. That is what will provide resilience with respect to supply and jobs. Jobs come from both import infrastructure and companies as well as refiners, and the UK needs a healthy mix of both. One thing I would say is, I don’t think there is any kind of magic number in terms of how many refineries one needs or how many import terminals one needs. I think the market needs to decide that, given the underlying declining demand for light oil products in a country like the UK. But both play an important role in resilience and jobs.83

Mr Owens, Greenenergy International, suggested that energy security was best served by understanding the integrated nature of the refining and importing industries:

In terms of looking at supply security, we may be in an environment where it looks like there are two industries, but we are very integrated. The refinery industry in the UK is a big supplier to us. We are a big supplier to the refinery industry. We do a lot of common logistics and so on. It is really about a more integrated overview when one is looking towards the optimum structure for the industry’s investments and its long term health. It is not one or the other; it is both.84

38. The Minister said his aim was to make sure supply was resilient:

As well as getting the balance right between importers and refiners, what we really want to look at is the way in which the environmental regulation imposes costs on our refineries and how we can be sure in future that we have sufficient resilience. I don’t think it is simply a matter of what is the right capacity. It is, is the capacity we have resilient enough.85

DECC should take an approach to this sector that reflects the integrated nature of domestic refiners and importers, as well as associated ancillary industries. It might not be helpful to put an exact figure on the mix of domestic and imported products that is required to support energy security and resilience. However, giving some indication of the Government’s long term intentions may give industry the confidence to make the infrastructure investments necessary to deliver a product mix to meet demand.
4 Conclusion

39. The UK needs to maintain the health of its refining industry. A mix of domestically refined products and imports is an important ingredient of energy security and the UK refining industry is a welcome provider of jobs and tax revenue for the economy. We agree with witnesses who called for Government to set a long term framework for the industry to help secure its future. A clear Government message and policy can provide oil companies with the confidence and incentive to continue operating refineries in the UK, and to continue investing to maintain a viable UK refining industry in the future. Over time the fuel mix supplied by UK refineries adapt to respond to demand. This will require investment in infrastructure, on top of the significant investment the industry will be required to make to meet legislative and regulatory burdens.

40. As part of its review DECC should:

- Investigate whether the industry has sufficient access to finance to make strategic investments beyond legislative compliance requirements;
- Ensure regulations and taxes are not more onerous in the UK than elsewhere;
- Address elements of taxation and economic policy that impact UK refiners adversely compared with importers; and
- Continue urgent requests to the European Commission in regard to the scope and timing of EU Fitness Checks.

41. The scale of legislative and regulatory burdens on the industry may undermine long term sustainability. In some cases investment motivated by compliance with such burdens goes beyond doing the bare minimum and this may be beneficial. But while the regulation of the industry for environmental and health and safety reasons is clearly essential, Government has a responsibility to ensure that it is also rational, coordinated, and designed to minimise the cost implications for industry.

42. DECC’s strategic objective should be to level the playing field between domestic refiners and importers, approaching these sectors as an integrated industry of two parts. It must also carefully consider the consequential impact of any structural changes on ancillary industries, which make a valuable contribution to the economy. We hope that this short report, and the evidence we are publishing alongside it, will be useful material for DECC in its review. We look forward to seeing the results of this review before the end of the year.
Conclusions and Recommendations

Pressures on the UK refining industry

1. The global market is changing, with a rising demand for refined oil products, and an increasing supply from the Middle East and Asia. There is still a place for the UK industry, but it will need to be responsive to the implications of shifts in global, as well as domestic, supply and demand. DECC's review should consider the longer term trends in fuel demand in domestic and export markets. (Paragraph 10)

2. There is a mismatch between UK refinery supply of petroleum products and demand. The shortfall has so far been made up by the import industry. The trend of rising demand for diesel is likely to continue in the short to medium term. If UK refiners are to meet that demand they will have to invest in additional diesel production capability. It would not be necessary for every refinery to have a hydrocracker. DECC's review should calculate what extra capacity is required and explore how the necessary investment could be financed. (Paragraph 16)

3. DECC's review and identification of necessary actions should address how Government can facilitate optimisation of the industry and its infrastructure to better suit UK demand and ensure a secure mix of domestic and imported supply. DECC should also take into account the potential implications of any rebalancing action for ancillary industries. (Paragraph 17)

4. DECC's review must address how the legislative burdens on the industry can be rationalised, and should quantify the extent to which the UK refining industry faces higher legislative and regulatory burdens than its European and global competitors. DECC should also examine whether the burden is evenly spread across the domestic refining and importing parts of the industry. (Paragraph 26)

5. We support the Minister's appeal to the Commission to ensure that the scope of the EU Fitness Checks includes the cumulative impact of both existing and forthcoming EU legislation. The UK Government should press for the swiftest possible timetable for completion of the checks. (Paragraph 27)

6. There is considerable investment in the refining industry, although much of it is primarily directed at compliance with legislative and regulatory requirements. DECC should identify appropriate actions to incentivise investment. As part of this it should look at access to finance to ensure that the industry can also invest so that it can supply the optimal balance of products to meet market demands. (Paragraph 31)

7. If UK refineries are paying Duty for moving oil products around the UK, and Duty is suspended for importers bring products into UK, there is a clear disadvantage for UK refineries. We recommend that DECC examine the case for rebalancing duties between refiners and importers. The matter appears to be straightforward. Developing a wider package of reforms through its strategy should not delay the Department in acting on this issue straight away. (Paragraph 33)
Security of supply

8. It would be helpful if DECC could provide further explanation of the figures in Table 1, including their source. (Paragraph 34)

9. DECC should take an approach to this sector that reflects the integrated nature of domestic refiners and importers, as well associated ancillary industries. It might not be helpful to put an exact figure on the mix of domestic and imported products that is required to support energy security and resilience. However, giving some indication of the Government’s long term intentions may give industry the confidence to make the infrastructure investments necessary to deliver a product mix to meet demand. (Paragraph 38)

10. The UK needs to maintain the health of its refining industry. A mix of domestically refined products and imports is an important ingredient of energy security and the UK refining industry is a welcome provider of jobs and tax revenue for the economy. We agree with witnesses who called for Government to set a long term framework for the industry to help secure its future.87 A clear Government message and policy can provide oil companies with the confidence and incentive to continue operating refineries in the UK, and to continue investing to maintain a viable UK refining industry in the future. Over time the fuel mix supplied by UK refineries adapt to respond to demand. This will require investment in infrastructure, on top of the significant investment the industry will be required to make to meet legislative and regulatory burdens. (Paragraph 39)

11. As part of its review DECC should:

- Investigate whether the industry has sufficient access to finance to make strategic investments beyond legislative compliance requirements;
- Ensure regulations and taxes are not more onerous in the UK than elsewhere;
- Address elements of taxation and economic policy that impact UK refiners adversely compared with importers; and
- Continue urgent requests to the European Commission in regard to the scope and timing of EU Fitness Checks. (Paragraph 40)

12. The scale of legislative and regulatory burdens on the industry may undermine long term sustainability. In some cases investment motivated by compliance with such burdens goes beyond doing the bare minimum and this may be beneficial. But while the regulation of the industry for environmental and health and safety reasons is clearly essential, Government has a responsibility to ensure that it is also rational, coordinated, and designed to minimise the cost implications for industry. (Paragraph 41)

13. DECC’s strategic objective should be to level the playing field between domestic refiners and importers, approaching these sectors as an integrated industry of two
parts. It must also carefully consider the consequential impact of any structural changes on ancillary industries, which make a valuable contribution to the economy. We hope that this short report, and the evidence we are publishing alongside it, will be useful material for DECC in its review. We look forward to seeing the results of this review before the end of the year. (Paragraph 42)
5 Annex

Letter to Commissioner Tanjani, Vice-President of the European Commission

June 2013

Planned fitness check of the petroleum refining sector

The UK refining sector faces significant challenges, in common with other European refineries, with increased international competition from the Middle East and Asia and, increasingly, the growth of the US Shale Oil and Gas sectors, which can provide structural advantages. Like European counterparts, most of the UK refineries were built in the 1960s and 1970s and so configured to meet high market demand for gasoline. As a consequence of shifting demand, the UK refinery output is out of balance with market demand, and the UK is increasingly reliant on imports of refined product to meet demand. Whilst investments are being made, these are largely aimed at tightening environmental, health and safety standards and product specifications.

In the last three years, two UK refineries have closed (Petroplus Teeside, and Petroplus Coryton) and over the same period all but one of the remaining seven have been either sold or put on the market. There is an on-going risk of further refinery closures in the UK, and a combination of factors can conspire to mean that even those considered to have clear competitive advantages in the market (such as the former Coryton refinery) are also at risk.

It is in this context therefore that the UK strongly welcomes the Commission’s decision to convene Member States, Industry and Union representatives through the EU Refining Forum, and proposals for a Fitness Check with the objective of “maintaining an EU presence in domestic refining though one that is able to adapt capacity levels to the economic realities of a mature market”. This is also a welcome opportunity to put into practice the recommendations of the Commission’s recently adopted Regulatory Fitness and Performance (‘REFIT’) programme. As REFIT makes clear, fitness checks need “to show how they fit into the overall objective of ensuring smart regulation and eliminating burdens, to involve all relevant levels of government and to facilitate wide stakeholder participation”.

I was disappointed to hear, however, that the Commission’s proposed approach and timetable for the petroleum refining fitness check means that decisions will be taken on implementing legislation before the fitness checks are completed. As a result, there is a risk that additional burden will be added to the sector without understanding the cumulative impact. I am therefore seeking your assurance that the Fitness Check will fulfil the following:

a) That these will take into account the cumulative impact of both existing and forthcoming EU legislation which affects the Refining Industry and consider mitigations
b) That before finalising new legislation such as the Fuel Quality Directive Article 7A and the IED Refining BREF, the Commission will use the Fitness Check to help inform decision making by Member States

c) That the methodology is clear, concise and publically available and that there are appropriate opportunities for the industry and Member States to comment on the outputs of the Fitness Checks in a meaningful way.

As you may be aware, the UK has recently launched a Call for Evidence to inform a review into the role of UK Refining and Import sectors in the supply of refined products into the UK market. The review will assess the contribution that both these sectors make to the economy, jobs and skills development and environmental protection, and the impact of policy and regulatory framework on competitiveness. Finally, it will identify action deemed as appropriate to incentivise investment and improve competitiveness to improve UK supply resilience.

I intend to use the outputs of this exercise to contribute to the Commission’s Fitness Checks. In the interim period, an independent report has recently been commissioned and published by the UK Petroleum Industry Association. This finds that the capital expenditure required over 2015 to 2020 to comply with EU, UK and global legislation is estimated at £5.5billion. This does not include estimates for the Fuel Quality Directive and Energy Efficiency Directive. The full report can be found at (http://www.ukpia.com/files/pdf/therolefutureoftheukrefiningsector.pdf).

I look forward to hearing from you with further detail on the Commission’s intended approach.

I am copying this letter to Commissioner Oettinger, Commissioner Potočnik, and Commissioner Kallas.

The Rt Hon Michael Fallon MP
Formal Minutes

Tuesday 16 July 2013

Members present:

Sir Robert Smith, in the Chair
Ian Lavery
Dr Phillip Lee
Mr Peter Lilley
Christopher Pincher
John Robertson
Dr Alan Whitehead

The following declarations of interest relating to the inquiry were made:

Sir Robert Smith declared interests, as listed in the Register of Members’ Interests, in the oil and gas industry, in particular a shareholding in Shell transport and Trading (oil integrated).

Draft Report (UK Oil Refining), proposed by the Chair, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 42 read and agreed to.

Annex agreed to.

Resolved, That the Report be the Third Report of the Committee to the House.

Ordered, That the Chair make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

Written evidence was ordered to be reported to the House for printing with the Report (in addition to that ordered to be reported for publishing on 4, 11 and 25 June, 2 and 9 July.

[Adjourned till Tuesday 10 September at 9.30 am]
Witnesses

Tuesday 11 June 2013

David Blakemore, Director General, Phillips 66, Andrew Gardner, Grangemouth Refinery Commercial Manager, Petroineos, Volker Bernd Schultz, CEO, Essar Oil, and Chris Hunt, Director General, UKPIA

Teresa Sayers, Chief Executive, Downstream Fuel Association, Andrew Owens, CEO, Greenergy International, and Colin Horton, Managing Director, Oikos Storage

Tuesday 25 June 2013


Roger Hunter, Supply Contracts and Negotiations Manager, Shell and Stephen George, Principal Consultant, KBC Process Technology Ltd

Rt Hon Michael Fallon MP, Minister of State for Energy, DECC and Sarah Rhodes, Head of Energy Resilience, DECC

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Oral evidence

Taken before the Energy and Climate Change Committee
on Wednesday 12 June 2013

Members present:

Sir Robert Smith (Chair)

Dan Byles
Barry Gardiner
Ian Lavery
Dr Phillip Lee
Mr Peter Lilley

Albert Owen
Christopher Pincher
John Robertson
Dr Alan Whitehead

Examination of Witnesses

Witnesses: David Blakemore, Director General, Phillips 66, Andrew Gardner, Grangemouth Refinery Commercial Manager, Petroineos, Volker Bernd Schultz, CEO, Essar Oil, and Chris Hunt, Director General, UKPIA, gave evidence.

Q1 Chair: Thank you very much for coming to give evidence to us. Please could you, just for the record, give your name and organisation, starting on the left?

David Blakemore: David Blakemore, Phillips 66 Limited.


Volker Bernd Schultz: Volker Schultz, Essar Oil (UK).

Chris Hunt: Chris Hunt, UKPIA.

Q2 Chair: Before we start I must remind the Committee of my entry in the Register of Members’ Interests to do with the oil and gas industry and, in particular, a shareholding of Shell. Perhaps we could start with your assessment of what you think the main causes are for the decline in UK oil refining.

Chris Hunt: I will start if I may. The main causes for refineries being reduced from 16 in 1970 down to the current seven, up until recently, have been competitive and economic rationalisation of refineries and competitive pressure and so on. It is only recently, with the demise of the Coryton Refinery in Essex, that the cause of that was financial issues in the Petroplus group. Thus far it has been very much a matter of economies and of competition, but going forward, as we have set out in our response to the Committee, the issue is very much the extreme pressure that is going to come from the entire legislative burden on the refining sector in addition to the normal competitive issues.

Can I make very clear to the Committee that you do need refineries somewhere? Crude oil in itself is not much use as a product for consumers, so refineries need to be somewhere, and I guess the basis of our argument is we think there should be refining in the UK as part of that. In our list of asks to Government and our work with the Department of Energy and Climate Change, we are not asking for subsidies. We are not asking for guarantees. We are merely asking that these fine refineries can enter the competitive boxing ring of global competition with both arms free to engage in a fair fight with their competitors and are not hamstrung by the gross amount of legislation we see before us.

Chair: Is that the view of the rest of the panel?

Andrew Gardner: Yes.

David Blakemore: Yes.

Volker Bernd Schultz: Yes. The fundamentals of demand/supply are the big driver, have been the big driver and will continue to be the big driver, such that we will probably still see some further refinery closures in Europe. That might be expected, but the danger is that additional environmental legislation will be put on European refiners that will not impact other refiners globally and will not improve the environment, and that those impacts will be very material, in which case more refineries will have to close and good refineries will have to close. I think that would be very detrimental not only to the environment but also to resilience of sourcing product for the consumers in the UK.

David Blakemore: I would like to build on what Chris Hunt has mentioned. It is a global business. The trade in oil and oil products is a global trade, and so the question is: how do UK and European refineries stand within that global picture? The general demand trend within UK and Europe, and indeed the US, has been a decreasing requirement for petroleum products driven by a number of factors, and the opposite is true in countries like China and India where there is a building demand for petroleum products. The question is how that balance is being met by refining around the world. Within Europe we have some advantages and disadvantages, but versus refineries in America and the Middle East we do have a higher cost base from energy, which is important to us, which is a disadvantage to UK and European refineries. The question is how to balance that with the cost of legislation and making sure that we are not overburdened by that while continuing to improve the standards of air quality, which are important to us all.

Andrew Gardner: I think I agree with all my fellow panelists. The only thing I would say is that I think there are two lenses through which we need to look at this. There is European legislation for the whole European refineries versus the rest of the global supply and demand picture, and then there is also UK
legislation that goes beyond European legislation and tightens the UK refineries even further.

Q3 Mr Lilley: I did not understand all that. Are you saying that the supply of refining capacity in the UK has fallen in line with demand? Our understanding was that it had fallen further than demand. Has that happened equally across Europe? If it has happened more in the UK than Europe, what does that tell us about the situation in the UK versus Europe?

Chris Hunt: The issue you raise is quite right. If you look at the capacity of UK refining versus the overall demand in simple terms, it is more than adequate.

Mr Lilley: In the UK?

Chris Hunt: In the UK—

Mr Lilley: Still more than adequate?

Chris Hunt:—and likely across Europe. But when you break down the components, because of the change in the product mix between petrol and diesel, which is one of the biggest drivers, then we make too much petrol in our UK and European refineries and not enough diesel and aviation fuel. Hence the supply position for those two particular key areas is well below 100%, essentially. I think it is about 56% and 48% from memory. If we lose more refineries, then that critical situation will get worse.

We looked at what would be the correct level of refining for the UK, and, when you look at it, there is no clear answer. There is no guaranteed answer. However, we did find in a model published by the international energy agency called MOSIES, which looks at supply and demand, that they pitch that if your dependency on imports is above 46%, then it is something you should take very seriously. Currently we are getting near that or at that. If we lose further refineries, we will be beyond that.

The simple answer is that the capacity in itself is okay. However, it is making too much petrol and not enough diesel and aviation fuel. We are importing that from Russia and the Middle East, and that gives us concerns. I think it should give us concerns as a nation on those two products.

Q4 Mr Lilley: That can’t be rectified by introducing new cracking capacity or whatever in the refineries? Do we have too much cracking capacity? I don’t know. [Interrupt.] Sorry, is that bad?

Barry Gardiner: Don’t worry, Peter. If you had bothered to read your brief, you would have known, but it doesn’t matter. Go on, keep going. You are doing a grand job.

Mr Lilley: They have the answers, not the brief.

Barry Gardiner: You get on with it. You crack on.

Mr Lilley: Thank you very much.

Chris Hunt: I would defer to my colleagues, but the dramatic increase in demand in diesel versus petrol has been fiscally driven and driven by policies across Europe, particularly on vehicle manufacturing, tail-pipe emissions and so on. In the UK specifically, we had a crossing point where diesel was dominant over petrol. Around 2006 the lines crossed. To make any inroads on correcting that, you can do a certain amount in a refinery. You can’t take a barrel of oil and just say, “I am going to make completely petrol or completely diesel from that barrel”. There are limitations with processes as to what you can do, but to do any sort of step modification to refineries in the UK you need hydrocracking technology, and that is probably around £1 billion per refinery. Economically that is not really justified, but I will defer to m’learned colleagues who are refiners themselves.

Volker Bernd Schultz: Yes, if I can just build on that. For a refinery like Stanlow, which is the UK’s second-largest refinery, it would be over £1 billion, and the returns would be below the cost of capital. It would have a considerable impact on our diesel and jet make and it would reduce gasoline probably below 20% and diesel about 40%, but with the current margins we would not be able to remunerate that amount of spend, and then there is the additional uncertainty of environmental legislation impact.

I would like to come back to your previous question on importing diesel and jet and the robustness of that. We will always need imports. I think in the UK we will require imports from different regions. The concern in the long run is that the incremental supply of diesel and jet to the UK will be from the Middle East and from Russia. From a robustness perspective, if everything goes well we can import, but if there are supply disruptions I would have a big concern about meeting the product demands of the UK. I think it needs a healthy mix of refineries that have a choice of running crude—and there is a lot of crude around from many countries—and refining that.

Refiners also have a choice of importing, just like the importers have, but to have a good mix is important because if there were an issue in the Primorsk Harbour or the pipeline leading to it, or an issue in the Straits of Hormuz regarding products from the Middle East, if we did not have sufficient cover in the UK and Europe, I think there could be considerable disruptions.

Q5 Barry Gardiner: Let us just try to quantify what this threat is. The IHS Purvin & Gertz report earlier this year said, “Although long-term net refining margins are projected to average around $2.6 per barrel of oil, this masks the huge potential cash impact of additional required capital and operating expenditure.” That is the period 2013 to 2030, and they are talking about £11.4 billion to meet UK and EU legislative measures. They talk about a further up to £2.3 billion for the change in product demand. When we are talking specifically about the change in demand profile from petrol to diesel and jet and so on, we are talking about £2.3 billion.

Why is it that your industry has failed to see the impact of the legislative changes and to respond accordingly? Any other industry is keeping abreast of what is going on at a legislative level. They are looking at what the trends are coming down the road and they will be making their capital investments based on the returns that they know they can make given that regulatory structure. Mr Hunt, you said, “We just don’t want our hands tied behind our backs”, but what I would say to you is: why haven’t you had your eyes in front of your head?

Chris Hunt: It is a valid point, but if you look—

Barry Gardiner: What, you mean you have not actually been looking forward and scanning the
horizon and making the appropriate capital investment at the right time?

**Chris Hunt:** We have been very cognisant of legislation as it has been coming through and scanning the horizon. However, it comes back to the simple case that we are in a high-volume, low-margin business with high energy costs and high legislative costs. As businesses, you have to see whether there is enough return in the business, and look forward to the legislative burdens you are going to face to make the necessary investment to counter that. Clearly what we have been saying through many years of lobbying on behalf of the industry, and as evidenced in the IHS Purvin & Gertz report, is that this level of legislative burden is unsustainable in terms of the returns you are going to get. It says in the report that average returns on capital employed could sink to as low as 2.2%, and that clearly is not going to get you to the start line for a £1 billion investment to improve your levels of diesel.

**Q6 Barry Gardiner:** Tell me what it is that is meaning that refineries in this country are not going to be able to cope with EU legislation but that refineries in Belgium or Holland or France are going to be able to cope better; or are they all going to be on a level playing field?

**Chris Hunt:** They are all going to be on a level playing field. The latest figures we have from an organisation called CONCAWE, which is a refining technical body—looking at all the future policies across Europe that are known, the effect that that will have necessary investment to counter that. Clearly what we have been saying through many years of lobbying on behalf of the industry, and as evidenced in the IHS Purvin & Gertz report, is that this level of legislative burden is unsustainable in terms of the returns you are going to get. It says in the report that average returns on capital employed could sink to as low as 2.2%, and that clearly is not going to get you to the start line for a £1 billion investment to improve your levels of diesel.

**Q7 Barry Gardiner:** Let me just explore this scenario a little bit further with you, because if what you are saying is that across Europe all refineries are going to increased costs and lower rates of return, why are they not going to be able to put that on to the cost of their product? Why will that not then translate through to the consumer?

**Andrew Gardner:** Because the product will come from either the Middle East, the Far East or America, where there are structural differences in legislation but also differences in the economics of refining.

**Q8 Barry Gardiner:** What you are saying is that the transport costs from the Middle East or America are outweighed by the legislative burden in the EU, such that we will end up getting product shipped in—

**Andrew Gardner:** There are two parts to that. I think that is correct at the margins. I don’t want to say that is the full cost, but the Middle East will have structural advantages in terms of feedstock, as well as America because of its locked-in crude supply. Normally the price of Texas crude and Brent crude is very similar; $1 or $2 difference. There was a period this year where there was $15 difference because it was locked in in America because of the excess of shale.

**Q9 Barry Gardiner:** Looking forward, what is your prediction for the structural differential? Projecting the impacts of the European legislation in full and looking forward at what is likely to happen in those other markets, what do you project as that differential—the average going forward from 2030?

**Andrew Gardner:** The only way I have analysed it is, as in your earlier question, freight costs versus the structural advantage of hydrocarbon, crude and legislation. I think something like three times the freight cost was the structural advantage. It was exactly as you say. People in the Middle East could manufacture and move it into Europe and the UK and still have a $4 or $5 advantage versus us, including the freight costs.

**David Blakemore:** If I may just add to that, in the written submission to your questions there were many mentions of the new Middle East refineries being built; very large, very efficient refineries with some structural advantages around feedstock. I would just like to build on that. A very recent development has been in the US on the back of the shale gas and shale oil production phenomena. The shale gas has substantially reduced the cost of natural gas in the US. I think it is public information that US natural gas prices are well below half of Europe’s. That is a structural issue, and, for a refiner that does use a lot of energy in its production process, that is a large advantage. It is a structural advantage.

I think there have been public statements on 2012. This is not looking forward, but if an average UK refinery had that natural gas price advantage, it would be worth something like £40 million a year to a UK refinery. That is a structural advantage, and I think Mr Gardner mentioned that on top of that there is a structural advantage appearing, with the shale oil prices being discounted. What that means is that there will be global trade-flows. That is the market, and we have to accept the market. As Chris Hunt said, we are not asking for subsidies or shelter from the market. On the question of why we haven’t invested in the UK to adjust to the changing supply/demand balance on gasoline and on diesel and jet, you can either invest in the UK to address that at £1 billion-plus per investment—that is not an investment you make lightly—or you have choices to invest in other parts of the world and trade around that imbalance rather than trying to address it from a production perspective within the UK.

**Q10 Barry Gardiner:** Let’s try to be clear and separate these two out. I think what you are telling me—please correct me if I am wrong—is that the demand profile change would require up to £2.3 billion-worth of investment, but that is investment that is not worth making in plant that you think is going to be uncompetitive anyway because of wider regulatory regimes. Is that correct?

**David Blakemore:** I certainly would not want to portray a picture that every refinery in the UK and every refinery in Europe is uncompetitive. There is a range of competitiveness within the refineries depending on the historic investment that has been made and the scale, but, even if you have a competitive refinery within the UK or Europe, you...
have an option: do you want to invest in the UK or Europe in those substantial amounts of money, or, with a finite amount of capital for each company, does that company decide to invest elsewhere?

**Q11 Barry Gardiner:** It begs the question of whether our regulatory structure is ahead of those other regulatory structures and whether they are likely to catch up. That may go some way to talking about the future that one sees in the market, which has been topical and was on the *Today* programme earlier today—it was about two thirds of all known reserves having to stay in the ground if we are to meet our target of avoiding dangerous climate change and the stranded assets that may then accrue to the industry as a result. What do you think will be required in the future mix of petrol products for the balance of petrol and diesel in the UK? How is that going to change? What is going to be that future mix?

**Volker Bernd Schultz:** I think you will find that refineries will keep on investing some money into de-bottlenecking units so that you incrementally increase the diesel and jet production and reduce the gasoline. We are not just spending quite a bit on that. We are re-lifing our refinery as we speak for the next 25 years and spending a lot of money. But to incrementally reduce gasoline and increase diesel and jet, the marginal environment would need to be very different before we could take the risk of spending £1 billion. The bit I would also like to stress is that, if you look at the European refineries, probably two thirds of them are highly competitive even in this international context. If there is a level playing field, they will be competitive and the weakest will close and shut as demand patterns change. That will be a very natural thing.

**Q12 Barry Gardiner:** Which laws do you want us to do away with?

**Volker Bernd Schultz:** If there is environmental legislation that is one-sided and very material, so that a large chunk of the European refineries cannot meet their cash requirements any more going forward, refineries that should be more competitive could not carry on operating, and therefore refineries that are much poorer elsewhere in the world will take up the slack. From an environmental perspective, at least in my view, that does not seem like the right thing to do. If there is something that we can drive globally to improve the environmental position, I would absolutely welcome that.

**Q13 Barry Gardiner:** Given that Christopher Fox suggested that the fuel demands for road transport are uncertain beyond 2030 because of technological innovation and alternative fuels—in fact DECC is suggesting that 65% of the transport fleet will need to be electrified by 2050 to meet carbon reduction targets—how have you factored in those uncertainties in planning the future profile of UK oil refining?

**Volker Bernd Schultz:** From an Essar Oil (UK) perspective, we are currently planning for the next 25 years. We are investing for 25 years. That is the typical duration before you have to do major re-lifing. By 2030, by all accounts, we believe that probably 80% of the transport fuels will still require oil as the basis. From that perspective, we are doing all the right things to ensure that UK refineries will be competitive and will be doing well.

**Q14 Barry Gardiner:** Do you think we are going to go from 20% to 65% in 20 years, between 2030 and 2050, to reach the DECC profile of 65% of the transport fleet being electrified?

**Mr Lilley:** Nobody believes DECC.

**Barry Gardiner:** That is what I am asking. You don’t, Peter. We know that.

**David Blakemore:** Maybe I can make a comment. Typically, when you make a large investment, whether it is £1 billion or something—I don’t want to say “smaller”, but our industry is very capital-intensive—you take a 15 to 20-year view. That is not to say you do not look beyond 2030. I think we are adjusting our business.

I can talk about our refinery in the UK, which we have had since 1969. We are very proud of it. That is where I started my career. That refinery not only supplies the UK, but we market product almost all around the world. We take some crude to the US. We take some petroleum products to China. We take to India some specialist products that are non-conventional petroleum products. A UK refinery is not necessarily looked at by my company solely through a lens of UK demand. We are obviously very cognisant of that because that is our home market, but we do look to other areas of the world that are forecast to continue to grow their demand through either economic growth or population drive. But it is a business; we have to obviously have an eye on the future.

**Barry Gardiner:** I will leave it at that for now and come back to it later.

**Q15 Dan Byles:** I would like to tease out a bit more the issue of security of supply. It has been referred to by a few of you already. Notwithstanding the changes in the future, at the moment a third of primary energy in the UK is still oil-based products. Over 75% of transport is oil-based products, and the majority of that is still produced in the UK, but we have heard slightly conflicting evidence as to where the security of supply might lie. The Downstream Fuel Association have told us that UK refiners’ reliance on sweet North Sea oil represents a risk to security of supply because of the diminishing supply of North Sea oil, whereas Phillips 66 have suggested that it is a high reliance on imports that represents a risk to supply. Those seem like slightly incompatible statements. I would like for you to give us a feel for where you think the balance lies between domestic and imported in order to maximise our security of supply and security of product.

**David Blakemore:** If I could just make a comment, two or three years ago there was a concern about diminishing supplies of sweet crude. At the end of the day, even in a scenario of diminishing supplies, this is a global market. Diminishing supplies does not mean that supplies to UK and European refiners who rely on sweet crude is in threat; it just means that supply and demand will adjust the price. Very recently, on the back of the explosion in production of US shale...
oil, they are backing away from their requirement to import light sweet crude. West African producers who have historically looked to the US for their market are now looking elsewhere. That is, for us, an advantage in the UK and Europe.

Q16 Dan Byles: So we will have a more diverse number of sources of light sweet crude. 
David Blakemore: Versus maybe three years ago, but even if you take a scenario where there is a declining supply—I must say US shale oil is generally on the sweet side—the market will adjust. It does not mean refiners will wake up and not have anything to process.
Andrew Gardner: My refinery in Grangemouth is on the end of the North Sea pipeline, and there were periods of time when it used to take 100% of its crude supply from the pipeline. With the economics that David talks about now and with minimal investment—it is a structural advantage getting your crude by pipe because the freight is a lot cheaper than by ship—we are now taking significantly more volumes by ship.
Dan Byles: What sort of percentage is the mix?
Andrew Gardner: We are now 60/40.
Dan Byles: 60 North Sea, 40 ship?
Andrew Gardner: No, lower North Sea; as David says, the economics and the supply and demand balance—that very North Sea reliance versus other parts of the world—are part of a daily refiner’s business. They will look at 300 crudes a week and which ones to buy, and as that economics changes or the supply and demand of crude changes you will move. We have moved, historically through the 1980s, from being 100% North Sea to now being 40%, and I believe that will diminish as the quality, price and availability of North Sea crudes diminish.

Q17 Dan Byles: Regardless of whether we refine in the UK, we are going to be importing. The question is—
Dan Byles:—whether we are importing in order to refine or whether we are importing the refined products.
Andrew Gardner: Yes.

Q18 Dan Byles: Purely in terms of security of supply, do you see one of those as being more attractive or more secure than the other?
Andrew Gardner: Absolutely. Crude oil is a product that is not the nicest of products, hence why you have £2 billion refineries to turn it into clean products with no sulphur, with no metals, with no impurities. The risk of contamination of crude oil, or messing up crude oil coming in, versus 10 different product streams is absolutely fundamental. You have a scale of crude oil resilience versus multiple-product resilience at much higher specification and much higher requirements. Imports are a key part of this, and I think none of us are saying that imports are the issue. It is about whatever that level is, where they come from and the environmental impact of getting them here, but one thing you have to remember is that imports can arrive in the UK off spec and you need a refiner to bring them back on spec, to take sulphur out or do those sorts of things. On the question you asked, I think crude oil is far more robust and secure than the other products.

Q19 Dan Byles: In terms of security of supply, your view is that importing crude oil and refining it ourselves is the more secure process.
Andrew Gardner: Yes.
Volker Bernd Schultz: The enormity of crude available in the world is there are so many countries, so many qualities. We buy crude from West Africa, from offshore Canada, from the North Sea, from the Mediterranean. It is all there. Once you go down to the product route and you want 10ppm, i.e. basically no sulphur in the product, as we want for environmental reasons in the UK and Europe, then the choices you have to buy that gets much slimmer. The analysis shows that going forward, probably all incremental product will come from Russia or the Middle East. In that sense you are then tied into very limited sources, and if there are any outages then on the refining side in those areas, or geopolitical or weather issues, then we would be at risk in getting those products in.

Q20 Dan Byles: Just how secure are our domestic sources? The Downstream Fuel Association has also told us, “The disruptions in the supply of liquid fuels that have affected the UK in the last 10 years have been overwhelmingly driven by domestic issues and would have become materially worse problems without the ability of importers to effectively respond in times of crisis”.
Volker Bernd Schultz: I think the Downstream Fuel Association is correct that supply issues on the crude side typically don’t cause the big issues. If there are refining reliability problems or hurricanes in the US, that is when you get the most problems. I think they are right. The advantage, of course, we have if we have refining in the UK is that we have a choice. We can import or we can run crude. I think the Downstream Fuel Association also talks about the fact that we had an outage early in the year, and, we imported during that phase. It was far more difficult, but you just get logistics and all that going, and our customers, including from the Downstream Fuel Association, were very supportive. We managed that via imports, but it is far more difficult getting the imports going with lots of small parcels and different qualities than getting big parcels in of crude and refining it.

Q21 Dan Byles: But how much of a problem are domestic disruptions? It was not hurricanes in the US they were referring to. They said that UK domestic issues have disrupted the domestic supply of liquid fuels in the UK.
Volker Bernd Schultz: I don’t think there were major problems in terms of outage. We managed to keep the refinery wet by imports, and refineries will always have the choice to import and to refine.
Dan Byles: Maintaining that flexibility.
Volker Bernd Schultz: You need that flexibility, and the UK needs refiners that can do both and importers.
We need a healthy mix. There is the danger that if one side of legislation artificially results in additional refiners closing down, such that you have to import so much more, that you are absolutely at the mercy of the import markets only. That is when I would argue resilience becomes an issue.

Q22 Dan Byles: How much of an issue do we think the changing ownership and fragmenting supply chain is? DECC has raised that as an issue, arguing that supply chain security has decreased because there are more links in the supply chain due to fragmentation of ownership. Do you think that is a genuine issue, or do you think that is a red herring?

Chris Hunt: I think from an overall perspective it is a change. We have seen over the years the fully integrated, end-to-end oil companies somewhat retreating from refining in the market—in some cases completely—but it brings a different business model, and some would argue that the fragmentation, if you look beyond the refinery into the retail and commercial areas, might in some ways be a healthy thing. There are far more players; far more people with different models. I do not necessarily think that is the issue.

You do now have, of course, the fact that there is a different business model among many of the refiners in the UK from the integrated oil major that looks at the geopolitical side of life and has very deep pockets. Some of the players now—obviously they can speak for themselves—have a far more immediate response to their shareholders than maybe the majors have had in the past, but that changes things. I don’t necessarily think that is detrimental at all. In many instances it has been something of a bonus that the chain of command is somewhat smaller and responses are somewhat more rapid.

Volker Bernd Schultz: If I can possibly talk for Essar Oil (UK), we understand our refinery, and that is our business. That is what we focus on. The advantage that we have as an independent refiner is our entire focus is on Stanlow. So everything we do is about, “How can I make Stanlow even safer, even more reliable and even more profitable?” That is what we do. That is our business model, and that is it. The concern that you raise about the fragmented value chain—one bit we are watching closely where that might become a concern—is regarding the monopoly structure of the infrastructure. If we sell our product into England, we have to use a single pipeline. We are not an owner of that pipeline, so we are trying commercially to ensure we have fair access. If that doesn’t work, then we will figure out a way. There you have an example of where the changed value chain might have an impact. We will see how that develops.

The last point that Chris Hunt alluded to was that if there are major investments to be done, as a small independent company, our balance sheet can’t be as robust. We will be going out into the debt market, and we have to put together a business case and say, “We believe in this business. We are going to invest. We are committed for the next 25 years and more. Please provide some funds.” That is a slight difference to the integrated who might have might have money they can just—

Dan Byles: On balance sheet.

Volker Bernd Schultz: For us the balance sheet will be tighter, and so we need to have projects where banks will also support us and believe in us; that what we are doing will show the returns.

Q23 John Robertson: I want to talk about the legislative impacts. Phillips 66, Mr Blakemore: you told us that UK legislation that is not applicable to refineries in other countries, is not based on sound science, and/or favours one technology versus others, disadvantages UK refining. Could you expand on that, please?

David Blakemore: Yes. Operating within the European Union, most of the legislation that impacts our industry is EU legislation. I think it is well targeted and it has been, along with the industry, helping the industry to improve its sustainability, decrease its emissions and so on, of which we are very supportive. Where the UK steps ahead of EU legislation, that can be to the financial detriment of UK refineries. One example, which was also in the written submission of my colleague Andrew Gardner, was that the UK went ahead of EU legislation on sulphur dioxide emissions and, indeed, not only went ahead of it but, at least on the latest discussions that are going on in the EU, will be ahead of the next set of EU legislation. That caused my refinery in Humberside to have to build a new unit that cost north of £30 million. That is not to say—

Q24 John Robertson: Sorry. Why was this rule put in place for you? What was the reason behind it?

David Blakemore: It is difficult for me to say why the UK put in that legislation. They obviously wanted themselves to go ahead of the emissions reduction legislation that was agreed within the EU. I want to make it very clear that we are absolutely for reducing the impact of our business on the environment, but there has to be a balance between the cost and the benefit of that. With a finite amount of money to invest in the refinery, sometimes that is best spent on legislation and improving air quality. But, what we would ask of the UK Government, maybe looking forward, is to be more cognisant of those types of issues. We are quite happy on a level playing field with the rest of the European refining industry, but where the UK steps ahead it can have an impact.

Q25 John Robertson: You mentioned the words “unsound science”, and talked about it favouring other technologies. Which ones were you talking about, and what is your back-up for that from the science point of view?

David Blakemore: Sound science comes in many respects. It comes in a cost-benefit analysis. With science on its own, you can say, “Well, it is technologically possible to reduce some emissions, therefore, you should do that.” I think the UK and EU accept that that is a balance between the cost-benefit of—

John Robertson: So it wasn’t the science, it was cost.

David Blakemore: No, I don’t think so. We would argue that the balance between the benefit and the cost in this particular instance was wrong. Maybe another
example is the legislation that is following the Buncefield incident. We all in industry should learn from those incidents and we should all adapt our processes and our equipment to make sure that does not happen again. We are very supportive of the new direction and legislation that is coming out of the Buncefield incident. What we would argue is that it is being crafted in a way that is too prescriptive. Rather than setting a target for the reducing risk and allowing each business to risk-assess how best to reduce that risk, it is being rather prescriptive in saying, “You must install this type of equipment”, which is not necessarily the most cost-effective way of reducing the risk.

**John Robertson:** But is it the most safety-effective way?

**David Blakemore:** I would argue it is maybe a way that makes it easiest to see whether it has been implemented. I would say it is not necessarily a safer way of doing it.

**Q26 John Robertson:** The Petroleum Industry Association has suggested, “The capital expenditure and legislation related to legislation would largely eliminate the projected refining margin in UK refineries in the period to 2025”. What specific pieces of legislation might cause this and why?

**Chris Hunt:** There are myriad bits of legislation from EU regulatory policy: the Industrial Emissions Directive, EU ETS carbon trading, the Renewable Energies Directive—there is a whole list in the IHS Purvin & Gertz study, which also gives the capital cost, operational cost and cost in dollars per barrel and the extent to which it is felt that it can or cannot be recovered from cost pass-through. That is the basis of our submission, which says that that largely eliminates, or could eliminate, the projected long-term margin available as assessed by IHS Purvin & Gertz.

**Q27 John Robertson:** I want to go back to what you said at the very beginning, I think to the first question that was asked of you. You said did not need any financial help. Are you saying now that you need extra financial help to top up for this legislation?

**Chris Hunt:** No, we are talking about this on a couple of fronts—this goes back also to a question posed by Mr Gardiner on what bits of environmental regulation we would like to see removed. We are not asking to remove any. What we are asking for, within the bounds of the regulation that is being considered, is that a proportionate response is looked for in the UK Government’s response to it and the European-level response to it. For example, there is recognition now, I am pleased to say, both by the Department of Environment and Climate Change and also at the European level, of the very severe challenges that refining faces across Europe. Therefore, it was decided that a European refining forum would be established. This came about principally through the effect of the Petroplus administration when five refineries across Europe effectively closed.

Part of the main remit of that refining forum established by the Commission was to look at something called fitness checks, which are an assessment of the effect of current and intended legislation and regulation on a sector. There has been one done for aluminium, and there will be one done for refining. Our problem is with two key bits of EU regulation going through at the moment—something called article 7A of the Fuel Quality Directive and something under the Industrial Emissions Directive called Refinery Best Available Technique reference documents, or BREF documents. If a proportionate view is taken on both of those, an achievable view, it can have a significant impact on the refining industry across Europe. That can happen if the policy is enacted in a way that does not crucify the industry.

**Q28 John Robertson:** Okay. Maybe I could bring in Mr Gardner here. Petroineos has suggested that the UK gold-plates EU legislation. Do you agree with that?

**Andrew Gardner:** I think in certain circumstances, yes. Like we talked about before on the 15-minute sulphur dioxide air quality measure, the EU originally had on the statute for 2018. It might be going back within the EU, and that is law in the UK. Like Phillips 66, we have spent more than £30 million in Scotland in the last two years putting a new unit in to meet that legislation; £30 million that will not go towards growth-type projects, and what I mean by “growth” is addressing the petrol-diesel type issue.

**Q29 John Robertson:** My problem is that I understand where you are coming from, but we have to consider your workforce and the general population’s safety as paramount in all cases. If we do things on the gold-plated side, are we not perhaps erring on the side of the safety of the workforce and the general public rather than worrying about what kind of profits you are making?

**Andrew Gardner:** But in the future there may not be a workforce there, because the companies that own the refinery will invest in other parts of the world. I think another point that does not touch on workforce or safety is that importers are allowed to bring product into the UK duty-suspended. Any UK refiner, if it has to move product around the shores of the UK, has to pay duty on it, and losses on shipping could equate to a $5 a tonne impact.

**Q30 John Robertson:** What kind of duty are we talking about? Are you talking about taking product from one part of Britain to another part of Britain?

**Andrew Gardner:** Yes. If we are moving product from, say, Grangemouth into the Humber, that product passes out of Grangemouth. It becomes duty and VAT-able at the minute it passes out of Grangemouth on a ship. A ship typically has losses on it. By the time it turns up in the Humber there is less product there, but it is not only that the hydrocarbon is a loss for the company; there is also the duty on the company.

**Q31 John Robertson:** Sorry, just so I get this right—the VAT I can understand in a certain way, but if you are coming from Grangemouth to another refinery, does that mean that that refinery is buying your product?
Andrew Gardner: Yes, or it could be an import terminal. It could be an import terminal. It does not necessarily have to be refinery to refinery.

Q32 John Robertson: So, I understand the VAT, but what kind of duty is it?

Andrew Gardner: It is the current duty rates in the UK that is on all petrol, diesel, gas oil—

John Robertson: Okay, that everybody pays.

Andrew Gardner: Yes. But if you are a European refiner you do not have duty on any losses. So you bring it into the UK, and you have a competitive advantage.

Q33 John Robertson: Going back to the fitness check I think you were talking about, according to my note here it is designed to examine the cumulative effect of EU regulation and to consider mitigation measures. Do you have any concerns about these fitness checks—I think you have—and about how they have been set up, and if so, what would you do?

Chris Hunt: Our concern about the fitness check was this. As I explained, it was designed to look at current and proposed legislative impacts on the refining industry, and, as I have said, there has already been one for the aluminium sector. We had a meeting of the refining forum in April where we were hoping that the scope of the fitness checks would be fully discussed and agreed and off we go. It was then revealed that the fitness checks in themselves would only examine existing regulation, i.e. what has already happened, so it would be a very nice exercise in how well we impose that regulation. It will not look at the key bits of regulation that are going through, which as I explained are article 7A of the Fuel Quality Directive and something called the Refinery BREF.

John Robertson: Which is new legislation; it is not in place.

Chris Hunt: It is existing regulation. The Industrial Emissions Directive was transposed into UK in 2011. What it awaits is what is called the Refinery Best Available Technique reference documents, BREF documents, which says what you should do, and the key part that the UK and refining across Europe has been pushing for is something called a “bubble concept”. Within a refinery there are many points of emission, and what you can apply is an overall emission limit value to the refinery, but within that bubble the refinery can work out how it is going to achieve that. It can use its best techniques and its most economical way of doing that, rather than imposing on each of those points in a refinery the optimum bit of kit.

John Robertson: I get the bubble, but the points might be a bit more difficult. I don’t have any questions for you, Mr Schultz. I am sorry, but if you want to come in—

Volker Bernd Schultz: Just on the fitness checks, at a high level. I would always hope the idea would be that before legislation is enacted we understand the impact on the local communities, on the environment and on business. That is the real idea of the fitness checks, such that if legislation is passed, it fits the bill and is well crafted to deliver what it is supposed to do. The fear is that if fitness checks are not done ahead of time, then legislation is not the most effective in delivering what the very good intent initially was.

Q34 John Robertson: The trouble is that Governments have found over the years that if we do not introduce legislation, things do not get done. It is about feeding into your wish to have a say in what is being done. I am sure the Government will have listened to the points you have made.

David Blakemore: Just picking up on that point, you rightly mentioned safety. Safety is paramount in our business, and I can speak for my own company—we often go ahead of local legislation on safety issues. We don’t wait for a Government to legislate on safety issues. If we see something in another part of the world, whether that is in Malaysia or the US, and we think that is the right thing to do for safety, we will go ahead of legislation. I think where I was trying to get to was that legislation such as the carbon floor price does not impact the safety of the workforce, but it does impact the business within the UK. That is just to differentiate—

John Robertson: I never doubted your company one little bit.

David Blakemore: Okay; thank you.

Q35 Albert Owen: Before I come on to the role of Government, can I just have some clarification on earlier answers you gave both Mr Lilley and Mr Gardner with regards to the differential between petrol and diesel? As I see it now, my constituents and the customers across the United Kingdom are paying more for diesel today than they are for petrol, and that is a considerable matter. At one time it was the other way round, wasn’t it? You said in 2006 there was a crossover, but there was a tax incentive for producing diesel and people switching their cars from petrol to diesel. That is no longer the case because of the economics. I know you are aware of this, but I am just outlining it. Also, on top of that, the large lorries are paying more, so goods are costing more and consumers are paying more for their goods. What is the real problem there? As a consequence of it not being refined in this country, it is being transported in. It is costing us more, and so the consumer is paying more for it. What is the answer?

Andrew Gardner: Refine more, make more diesel inland.

Albert Owen: Say that again, sorry?

Andrew Gardner: Make more diesel in UK refineries. The problem is that the ability to convert your refinery to make more diesel is highly expensive and you need a window within the—

Albert Owen: But it was economical to do it before 2006, because the—

Andrew Gardner: But we did not have the legislative burden. The increase in the legislative burden is ten, fifteen, twentyfold—all for the right reasons, but it just so happens that this part of society is all happening in the same time.

Q36 Albert Owen: The regulation applies equally to petrol and diesel, though.

Andrew Gardner: It does, absolutely it does, but the UK refiners have not been able to economically
modify the big investments of their refineries to move out of petrol-making equipment into diesel-making equipment, because their spend is driven to staying in business, i.e. their stay-in-business spend on containment policy or things related to Buncefield and infrastructure, or spend on the sulphur dioxide reductions and things like that. The legislative spend is taking up any free cash and also putting refineries into debt.

Q37 Albert Owen: As a consequence of that, my constituents and constituents across the country, particularly in peripheral areas that use more diesel—you can see the breakdown because they do more mileage—are paying more as a consequence of this.

Andrew Gardner: In theory. There are lots of dynamics. Sometimes the diesel wholesale price is cheaper than petrol, but—

Albert Owen: That is the reality of the situation when you go on to forecourts.

Andrew Gardner:—in general, yes. In general, the supply and demand balance is that in the UK there is lots of petrol and not enough diesel or, if you look at the import statistics, there is a lot more diesel and jet fuel getting imported than petrol.

Q38 Albert Owen: Okay. You are aware that the Government are having a consultation on refineries now. What specifically can Government do to make diesel more competitive and make refineries distil more so that we get less reliance on imports? Is tax incentive needed? Is it about doing away with the gold-plating that we talked about, which is quite interesting? You have some things more that are coming in as well: the emissions performance, and you talked about the carbon floor. Are all these a disincentive for your businesses in the United Kingdom?

Andrew Gardner: I think the answer to that—my personal view and my company’s view—is that a tax incentive probably is not the answer, but it may be different for my colleagues here. I think the gold-plating is one problem, so we should put the UK on a level playing field with Europe, but I also think the main thing we are asking for, as Mr Hunt said, is support us on European legislation and getting this fitness check done, i.e. understanding the impact both at a UK level and a European level on the bow wave of legislation that is about to come. It is about Government support for getting a fitness check to understand what the impact of future legislation is. That is what we are asking for.

Chris Hunt: On your point about petrol and diesel, I think we are unique across Europe currently in that the duty rates and taxation on petrol and diesel are equal, and therefore, there is a perceived advantage that is played off in other areas like VED and other Government fiscal measures on the selection of your vehicle. There was—still is—discussion at European level on an energy tax directive that effectively would try to look at taxation based upon energy content or CO₂ content, which would push the cost of diesel up rather than down because diesel is more energy-intensive. Our ask is to at least take off the shackles so that refiners in the UK and across Europe can look very seriously at addressing some of these issues of supply-demand balance. What we are asking of our Government is clearly on these EU fitness checks. They have to look at the key challenges that we are going to face from EU regulation going forward, not to say, “Well, we’re merely going to look back at the past and see how well we did”, but to look particularly at FQD article 7A and Refinery BREF, which are coming up, and examine them. The fitness checks at the moment are not due to be completed until the end of 2014, by which time this FQD 7A and Refinery BREF would have been done and the refiners would have been having to deal with that massive cost.

We are asking that our Government get in there and lobby hard for those fitness checks to be completed, and that they look at the regulation that is facing us, and do it a darn sight quicker than the end of 2014. That is on an EU front. On a UK front I think there has to be a very serious look at stuff like the carbon floor price and so on, and how that affects us, and also things like business rates. If the massive investment that is going on into refineries is all about environmental issues, there should be fiscal measures to help and maybe reduce some of that impact. But the key ask is a serious look at all of this regulation that faces us and what we can do about bringing about the sensible result from the European regulation—not its repeal, but a sensible resolution of European regulation so that these folks can get on with their business and, as I say, step into the ring with both arms free and have a decent fight on the competitive front.

Volker Bernd Schultz: The closer we can get to that level playing field—we will never get it perfectly, I understand that—the better it will be and the more refiners there will be. It will be a competitive market, but we will be able to manage that. The problem is if there is one-sided legislation, be it UK or European refiners versus rest-of-world refiners or UK refiners versus importers—it does not matter. There may be more legislation on the environment, and more that can be done to improve the environment across the globe and not only in a region—we need both—but the semblance of a level playing field is the most important bit. If we can’t do that for any reason, then we would have to talk about other implications such as resilience or incentives, but if we can achieve a level playing field, we will be—

Q39 Albert Owen: Have you put this to Government directly before? Is there a need for a consultation, or have they already had the message clearly from you collectively?

Chris Hunt: I think they have the message clearly from us. In the consultation that DECC is undertaking it is clearly enshrined within that. I guess our plea is that we don’t end up with endless consultation and reviews and no action. At the end of this consultation there has to be a refining strategy for the UK that deals with concrete actions.

David Blakemore: I fully agree. We have tried to get the message across, and in parts of government the message has been heard and received. Where I see the
issue as being within government, whether it is UK or EU, is that government is organised by Department. There is energy, there is transport, there is climate change, and it is about trying to get them to work together across the boundaries to see the whole picture and not just the picture that they see within their remit. I think if that could be worked on as well, that would make the legislation more effective at a holistic level.

Q40 Albert Owen: Just on that point, do you have difficulties with the two Departments in the United Kingdom of getting a coherent response from Government?
David Blakemore: Maybe I would look to Chris to answer that.
Volker Bernd Schultz: Generally, I personally think the rigour and openness of Government in this recent stage of the refining study has been excellent. I have only been a part of Essar Oil (UK) the last 18 months or so, but during that phrase the openness and even us sitting here together now is sending the right signals to our company that the Government take this seriously and are looking for the right solutions. Will there be improvements between agencies? Yes, and we will always interact with them. There is no specific request from Essar Oil (UK) on that front, but overall we are pleased and thankful that we have been invited to have the opportunity to have that conversation with you here.

Q41 Albert Owen: There is one final point that I have to make. Many of the multinational companies have refinery businesses all over the world, and they can move around pretty quick as the economics change. What help can Government give to independent UK-based refinery companies to enter the fray? Let us look positively to the future when we are going to have an expanded refinery business.

Chris Hunt: We are always positive. If we weren’t positive, I think we would have disappeared long ago. We are always positive, and I think our ask is enshrined within our study concluded by IHS Purvin & Gertz and it is in the messages that we give Government now. We want our UK Government to take a far more active role in trying to get some sense into EU-level regulation in particular. Not that we want it repealed—let me emphasise that—but we need sensible outcomes to these regulations.

Q42 Dr Lee: Just to clarify, putting aside any national legislation, is there a common market in refined products in the European Union?

Chris Hunt: You mean do we share products? Yes—Dr Lee: Is there a common market? I am getting the impression that because we choose to interpret EU legislation in a particular way, we are having to pay more for our refined products. I am asking: as a consequence, is there a common market in refined products?

Chris Hunt: There is. Your question has two answers. I am not a lawyer, so I am not saying that there are two answers deliberately. In terms of the fuel quality, it is by and large common except when you get to the point of biofuels and levels of biofuel subsidy.

Q43 Dr Lee: What about cost? You are telling me that we are having to import diesel because the cost of refining in this country seems to be greater than on the continent; is that right?

Chris Hunt: No.

Volker Bernd Schultz: Europe as a totality is an importer of diesel. This issue we have is not a UK issue.

Q44 Dr Lee: There is no difference between us and other European countries in our interpretation of EU legislation around refined product?

Volker Bernd Schultz: There are certain things like the carbon floor pricing or the rates—Dr Lee: But that is national.

Volker Bernd Schultz: That is national.

Q45 Dr Lee: My question is: is this about the age-old problem of the British playing it straight and some of our colleagues in Europe not so straight in terms of interpretation of EU legislation?

David Blakemore: If you are asking whether there are barriers to product flow, I think generally the answer would be that it is a free market; product can flow. One UK law that springs to mind, which is not necessarily a different approach from the EU, is that if I want to move product made and refined in the UK from Humberside, my refinery, down to London by ship, I have to pay the duty on that product as I load it on to the ship. We are all aware of the high levels of duty that the UK Government put on product, but I have to pay that when it goes on the ship and that is working capital as it flows down to London and sits in tank.

I have another choice. I can export that product and I can import product from elsewhere, either from Europe or the US, and I can do that without paying excise duty up to the point it goes on the truck in London. That is a very large penalty for moving UK-refined product by ship within the UK. That is, I would say, rather a large barrier.

Q46 Dr Lee: Sure, but my question is about whether there is an additional cost for refining in this country because of the way in which we choose to interpret EU legislation in this area.

Volker Bernd Schultz: Not in product quality.

Q47 Dr Lee: Not in terms of cost. There is no reason for why it would be cheaper to refine elsewhere in Europe and then import as opposed to refining here.

Andrew Gardner: It is more the legislative capital that you have to make. It is a burden that you have to pay in a capital sense, not in a per-tonne sense.

Q48 Barry Gardiner: Could I just follow up? I have been looking at the Purvin & Gertz bar charts on what the expected flows are over the next few years. I do not know if you have those to hand, but here are some of the things that strike me. Some of the largest parts of that are the CRC, the energy efficiency carbon reduction commitment that the Government imposed—about £1 billion a year on business—and the carbon floor price. Equally, on the European ETS you seem to be banking on regulatory failure on the
part of the authorities, because the amount that the ET5 is shown to change over the next seven years is minimal. Yet at the moment it is way, way down below what anybody would expect it to have been, and you are not showing any increase on that. Also, on the IMO MARPOL, surely the International Maritime Organisation obligations will apply across the board internationally, won’t they, not just to the UK and Europe? Why is that shown as one of the largest elements in this when you are looking at comparators across the rest of the world?

Andrew Gardner: I think on the IMO, at the moment, if you take the English Channel to the top of the North Sea as a special region and the Mediterranean as a special region, there is legislation coming in that will tighten up the specification within those regions. That means that most refiners will not be able, without significant investment, to sell the fuel oil into that market that they do just now. In the early stages of that legislation it is particular to these European regions rather than world regions. Other world regions are going to come on to it, so there is talk about the shores of Canada and America and the Caribbean having it as well, these European regions are an early mover.

Q53 Barry Gardiner: No. I understand Mr Gardiner’s point. It is not a level playing field, in a sense. It is a very specific—

Volker Bernd Schultz: Because there are local regions in there.

Barry Gardiner: Absolutely, it is localised, yes. No, I understand that, but equally it is something that could be transmissible through to the shipping companies.

Q54 Ian Lavery: Following on from the questions from Mr Owen and Mr Gardiner, I just want to touch on energy prices, particularly energy prices relating to consumers. If there was a reduction of oil refining capacity in the UK, would there be a huge impact on energy prices paid by consumers?

Chris Hunt: From a UK PIA perspective, projections and prognosis on final prices to consumers is somewhere we just do not go, for fairly straightforward reasons of competition law and so on. We would not comment on that.

Ian Lavery: Will anybody comment on that?

Volker Bernd Schultz: I can comment on publicly available information about our company and how that fits together. From that perspective I can. If I just take a high-level view of the price of petrol or diesel, of course the biggest cost then will be excise duty, and that is roughly 80p. Then you have the impact of the crude price, which will probably be over 40—42p, 45p, depending on the crude price, which is then driven via OPEC and the cartel. Then you have the costs needed for retailing and delivery of the product, and the various analyses that I can look on it will say it is about 5p. Then the remainder will be on the refining side.

If I look at our costs that we have publicly mentioned, the cost that we have to take crude and make it into product is about 3p per litre. That is the cost that it takes for us to produce it. Then if you look at our cash margin, since we took on Stanlow we have ranged from minus 4.4p per litre to 1.9p per litre and are still averaging negative.

In the scheme of things, the refining impact on the product price is not very material versus all the other bits. The bit where it will become more difficult is if there is a massive shortage and you get a resilience issue and you cannot get the supply in. That is a different matter from how the price will adjust to that. But the refining per se is not the big driver of the cost. Even though the 3p per litre cost is big for a consumer, in the scheme of things of the 140p or so it is a minor part.

Ian Lavery: Would anybody else like to comment on that question?

Andrew Gardner: Just clarifying that point, I think the issue will be resilience. If refineries go and you...
have this longer supply chain and then you have resilience problems, you will have a third-party nation at some point potentially dictating what price they are going to give the UK fuel at. Now, at the moment, in the international market there is plenty of fuel around, the supply and demand balance, but for all the reasons we have talked about this morning, as refineries start to fall off the end that supply and demand balance will tighten. I think where you get to a resilience point of view is where people are willing to pay an extra 1p a litre, 2p a litre, 20p a litre, 40p a litre just to get fuel. Although that 40p is a big burden on the UK public, they will still want to drive their cars, so the UK will go and bid that from third-party countries. I think it clearly is about resilience. If we get to 70% or 80% imports, I think that when the market gets tight could be you could get bubbles of resilience problems—maybe like what happened with natural gas a few years ago—where the price spikes hugely at one time. That could see its way through to the forecourts.

**Q55 Ian Lavery:** What factors influence prices of products supplied by refineries versus products supplied by importers?

**Andrew Gardner:** I think they are pretty similar, actually. I think they are all governed by supply and demand economics.

**Chris Hunt:** I think it comes back to our opening point that importers will import products that refineries make. You need refineries somewhere, so it kind of all washes and works through, but it depends where in the world you are sourcing the product from and so on. You can’t not have refineries. The question is where you want them to be. Our argument is that it is a good thing to have refining in the UK as part of the balance with the importers of product supply and supply robustness in this country.

**David Blakemore:** Once you get to the product end I would not necessarily differentiate between a refiner and an importer. My company does both. When we have refineries down for planned maintenance we will import product. We sometimes import product into other UK markets. I think on the product side it is a very liquid market, and I would not differentiate between the product produced by a domestic UK refiner and the product that is imported. The price will be set by the market, but as far as resilience is concerned there are obviously very different factors.

**Q56 Ian Lavery:** Would you agree with the assertion from the Downstream Fuel Association, which has suggested that a stronger reliance on imports would smooth price changes?

**Chris Hunt:** I find it very difficult to understand the logic there. If you have a series of seven very big, very efficient UK refineries that can both manufacture finished products from crude oil and import—bear in mind that these refineries are responsible for 85% of all the product that is used in the UK—I just think that answer defies logic, to be honest.

**Q57 Ian Lavery:** Do you think that is right?

**Volker Bernd Schultz:** I do not understand that.

**Q58 Ian Lavery:** You do not understand the evidence that the DFA have given in relation to that?

**Volker Bernd Schultz:** On that product I don’t, no.

**Q59 Ian Lavery:** Why do you not understand that?

**Volker Bernd Schultz:** It is the same argument as Chris Hunt made. The refineries still have a big impact on the pricing. We do both. We import and we refine, so I would need to understand the argument. It is not obvious to me.

**Q60 Ian Lavery:** Finally, what are the cost implications of upgrading infrastructure to accommodate a more appropriate fuel mix, and how might that impact, again, energy prices paid by consumers? I think you discussed that very briefly with Mr Gardiner before. I just wonder if you could elaborate on that, perhaps.

**Andrew Gardner:** If you have a hydrotreating unit, which takes wax and turns it into diesel-type products; rather than cat cracking, which takes wax and turns it into petrol-type products, the UK needs more hydrotreating capacity. I think a company announced about a month ago that it was going to build a hydrotreater in Europe, and its quoted cost for a small-sized hydrotreater was about $800 million. If you want a medium-sized one, which the UK needs for every refinery, you are talking probably a £1 billion-type level.

**Ian Lavery:** Huge.

**Andrew Gardner:** Huge.

**Q61 Barry Gardiner:** Given the investment requirements that you have just outlined and the potential lower rates of return, do you consider that your share value currently reflects those risks, or have shareholders already discounted them against your share price?

**David Blakemore:** I think you would have to ask the shareholders.

**Q62 Barry Gardiner:** I am sure as a company director you would have an opinion as to whether they have been adequately reflected or whether your companies are currently overvalued.

**David Blakemore:** I am a director of a small part of a big company, so again I cannot answer that question. I think it is a view shareholders need to take.

**Q63 Chair:** Very well, thank you very much for your evidence. It has been most helpful. If there is anything that occurs to you that you did not say that you thought you should have said, if you could write to us afterwards, that would be great.

**David Blakemore:** Thank you very much.
Examination of Witnesses


Q64 Chair: Thanks very much for agreeing to give evidence. Maybe for the record you could introduce yourselves, starting on the left.

Colin Horton: I am Colin Horton, Managing Director of Oikos Storage Ltd.


Andrew Owens: I am Andrew Owens, the Chief Executive and founder of Greenergy, and we are also a member of the Downstream Fuel Association.

Q65 Chair: In DECC’s call for evidence, it suggested that UK import capability plays an important role in maintaining resilient product supplies to the UK and supports jobs and contributes to economic development. Do you agree with DECC’s assessment? What do you think the future prospects are for the import industry?

Andrew Owens: I think that the importers do play an important role. I would like to clarify one thing, however. We are an importer predominantly of diesel, but we are not an importer of petrol, where the industry tends to be super-efficient, low-cost manufacturers of petrol, and a lot of our raw material is actually sourced from UK refineries. I checked the data before I came here, and for the three months up to 14 May, 36% of all our petrol raw materials were bought domestically within the UK, which is our own purchasing equivalent to 14% of the UK market or approximately one whole refinery. The discussion between importer and refinery is not quite true. It is two different kinds of manufacturing. We buy semi-refined raw materials from around the world, including the UK, and bring them up to final grade.

Now, if we look at economics or supply security or investment, which are all different things, I think we get different stories depending on where we are looking in the UK. We also get different stories refinery by refinery. One of the areas we focused on in our submission was that we should not consider refining as a lump, in that within the UK there are some very efficient and good refineries—I think we saw representatives of them—and there are also refineries that one has to wonder about. The blank statement that UK refineries are big and efficient is not true. Some UK refineries are, in fact, very small and inefficient. It is actually about taking a balanced approach between remanufacturing, which is what I would say we do on gasoline, importation—and I do not think anybody is going to make a case that we would ever be able to make the diesel requirements domestically; it is such a big ask from where the industry is—and refining.

In terms of looking at supply security, we may be in an environment where it looks like there are two industries, but we are very integrated. The refinery industry in the UK is a big supplier to us. We are a big supplier to the refinery industry. We do a lot of common logistics and so on. It is really about a more integrated overview when one is looking towards the optimum structure for the industry’s investments and its long-term health. It is not one or the other; it is both.

Chair: Do you have some views?

Teresa Sayers: Yes. I would like to add that the growth of the import sector is a reflection of the need for the UK to have availability of the products that it uses. I am talking here about the shortage of diesel and jet kerosene. That is principally why you have seen a growth of the importers, which until recently represented 35%, which has increased slightly since the closure of Coryton.

I think also the other added advantage is that we have diversified where we get our products, and also we have the flexibility to respond to short-term outages, which we illustrated in our response, in the UK.

Colin Horton: Oikos believes that it needs to be an integrated approach. I think we need refiners and I think we need storage terminals. On the point made about diesel, there is a structural deficiency in Europe, not just the UK. That is going to come from farther and farther afield; the US, Arabian Gulf, maybe the Far East.

Q66 Chair: If we were to increase the import sector, what kind of additional investment and infrastructure would be required?

Teresa Sayers: If I can just say so, I think the growing reliance on importers should not necessarily in itself be a cause for concern if it corresponds with investment in the infrastructure, which I do believe that we are clearly seeing as the demand grows for that.

Q67 Chair: Do you need incentives to invest in the infrastructure?

Andrew Owens: No, I think the investment is almost at an all-time high. If one walks around the terminals and looks at what is going into these terminals, it is quite impressive. They are not tanks. They are not just tanks. They are actually very high-tech. We have world-leading technology in how we do things and we transform parts of the infrastructure. For instance, if you look at Teesside, maybe three, four, five years ago it had a very fragile supply chain. Now it has one of the most robust and structured supply chains anywhere in the UK. That is going to come from the Thames. We are going through a window at the moment of fragility following the closure of the Coryton Refinery, but it has been covered for. There have not been stock outages, and the reliability has been extremely high over the last year. But come the reopening of the Thames facility, which is now called Thames Oil Port rather than Coryton Refinery, as a manufacturing facility, through blending and other things London and the south-east will have very robust supply logistics with quite a significant surplus capacity compared with what the region could conceivably need.

Colin Horton: We have spent £50 million in the last three years on upgrading the facilities at Oikos. It is post-Buncefield-compliant. As Andrew said, it is
state-of-the-art. We can show most of Europe what we have done is the best in class.

Q68 Chair: Do you have any preference between importing or domestic refinery?

Colin Horton: Obviously, as a storage facility we quite like imports, but as a UK citizen I think there is a strong argument for a balanced approach. We do see this movement of bigger cargoes of diesel coming from further afield, and these cargoes are now at the 80,000-tonne level being mooted, even up to 120,000 tonnes in one case. You have to have the infrastructure to handle that. Refineries do have that, but strangely enough they tend not to have the appropriate storage for such big cargoes. They are orientated towards tanks for crude, but when you have a product tanker coming in they do not have the arrangements that we have. We can take a cargo of 80,000 tonnes in 36 hours.

Q69 Chair: You say state-of-the-art, high-tech terminals. Do you provide other services such as blending?

Colin Horton: Yes, we do. As other terminals do, we provide blending for biofuels and blending for gasoline components. As Andrew referred to, gasoline is much more of a blended product than diesel. Diesel is by first intent generally.

Q70 Dan Byles: This is very interesting. You said a balanced approach was needed. I think everyone would agree with that. What we are trying to tease out is where that balance lies. We are aware that imports are rising. We are aware that there is pressure on our refining capacity. I think as a Committee we want to know how worried we should be and how far can we go before we start to have a problem. There are state-of-the-art facilities; but what is the capacity of those facilities? In terms of the infrastructure capacity for imports, if we were to see increased demand for imports, could the capacity grow quickly enough to meet it?

Colin Horton: Given that in the last three years we have refurbished and rebuilt 150,000 cubes, with generally 10 or 12 throughputs a year, that gives a million-plus cubes of throughput. If you pushed the facility, you could do more. Where I think it is probably more questionable is the inland infrastructure. The previous speaker spoke about the UKOP pipeline system, and Essar referred to this pipeline system that is owned by the four shareholders, to which no one else can get access. Our view is that we can get it ashore and we can maybe reload it to ship, and we can reload it to truck, but getting it into the inland areas is the area where we have concerns.

Andrew Owens: I think the answer is the regional answer. For instance, in the south-east the lion’s share of product comes through terminals. I am not using the word “imported”, because I think there is no reason that certain products need to be imported, particularly the gasoline components. In the south-east it is a multiple of demand. The north-east would be another area; the south-west would be another area.

In other parts of the country, it would not be conceivable to look at terminating as an alternative to refinery. You have quite a big east/west divide in the UK. On the east and south coast it is relatively easy to move ships at the drop of a hat with any component of cargo or any combination of products that is wanted, because of the proximity of Rotterdam and the big break bulk markets. On the west coast it is much harder because the big ships do not fit in or do not want to go there; they are not part of a traded market. When one is looking at the supply chain, almost every location has very specific pros and cons, benefits and weaknesses, and therefore it is much more of a regional look than a national look.

There is one other point I would like to make. When we are looking at this, we need to be looking at diesel and gasoline differently. Quite simply, diesel demand does continue to grow. It is jumpy, and one never quite knows where to start from and where to finish from, but we are looking at the order of 1% a year—maybe a little bit more—growth in diesel. Gasoline petrol is declining. It is jumpy, and it is difficult to know where to start and where to finish when one is doing a percentage, but we are talking in the range of 5% and possibly as high as 7%. This is a very—

Q71 Dan Byles: Per year?

Andrew Owens: Per year.

Dan Byles: That is a very significant reduction.

Andrew Owens: It is very significant indeed.

Q72 Dan Byles: Is that principally due to more fuel efficient vehicles?

Andrew Owens: Yes, it is principally due to technology within the vehicles, which is quite something nowadays. It is not uncommon now for a large car to be quite heavy, safe and fast and powerful and still be able to do 70 miles to the gallon. That is quite something if you own that car, but not if you have to supply the fuel to it.

Dan Byles: Or if you are a Chancellor looking for a tax take, yes.

Andrew Owens: The market is shrinking quite significantly, but it is shrinking in the wrong place. UK refineries built in the ’50s, ’60s and ’70s are very geared to petrol because that was the foreseen fuel at the time.

Q73 Dan Byles: So the very nature of the changing market means that basically, in terms of refineries, we have the wrong assets.

Andrew Owens: Exactly.

Dan Byles: So we are inevitably going to see reduced dependence on our domestic refinery capacity and more import.

Andrew Owens: Exactly. We are having a kind of—

Dan Byles: Is this basically the market at work?

Andrew Owens: It is a Kodak digital camera moment. Basically, what was not explained, I think, in the previous evidence was that the demand for the core product is going away. The traditional way to manage that through the ’80s and ’90s and the early 2000s was to export the surpluses to America or even West Africa. Well, West Africa nowadays is covered from the new Asian refineries, and America is probably
going to become an exporter of gasoline quite soon. Both the production advances in America and the demand reductions through technology, which apply there as well, are quite substantial. We need to start off from asking where is the market for the output of the products.

Q74 Dan Byles: Are you happy that the market signals alone will be enough to bring forward the required infrastructure to cope with these changes? You referred to problems with the inland infrastructure, for example. Can Government just leave their hands off, and will this just sort itself out?

Andrew Owens: Commodities are a bit nutty in that they tend to be too high, too low. They are not rational, because they make movements related to all sorts of forces that we can’t understand. But over the long run they tend to be rational. It is always interesting when one looks back over two, three, four or five years; one tends to understand why things were there, but when you are there at that period it all seems completely chaotic and noisy.

Q75 Dan Byles: I am not quite sure how that answers the question. Will the market signals be sufficient to bring forward the required infrastructure to meet this changing demand pattern?

Andrew Owens: Yes, but I would say that there are some risk areas—one has to look at it regionally—where perhaps the gap between a market signal coming in and an action might be too close for comfort.

I think there are other areas to consider. I guess the legislation around the RTFO, which stands for the renewable transport fuels obligation, or the CSO, which stands for the compulsory stock obligation, is extremely off-putting to investment. We are a quite significant investor in the UK. In fact, last year we invested as much as we had invested in, I think, the preceding 18 or 19 years. It was a big year last year. We are one of the partners in the Thames Oil Port ex-Coryton Refinery regeneration. I think it is fair to say that a lot of people in the market probably would not look at coming into the market now, because some of the regulatory rules are a bit difficult. If you are not already up to your neck in it, it is quite difficult to see why you would wade in, but once you are in the marketplace the price signals tend to take you where you need to go.

Q76 Dan Byles: Do we need to worry about this whole security of supply issue? Are we more vulnerable with increased imports over domestic supply?

Andrew Owens: I believe there is a vulnerability in supply security in the UK but not for any of the reasons that have been discussed. I think that we do not hold enough products ultimately. Andrew Owens: Commodities are a bit nutty in that they tend to be too high, too low. They are not rational, because they make movements related to all sorts of forces that we can’t understand. But over the long run they tend to be rational. It is always interesting when one looks back over two, three, four or five years; one tends to understand why things were there, but when you are there at that period it all seems completely chaotic and noisy.

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Andrew Owens: I believe there is a vulnerability in supply security in the UK but not for any of the reasons that have been discussed. I think that we do not hold enough products ultimately.

Dan Byles: For storage?

Andrew Owens: Yes. Everybody has an agenda. I have an agenda; I run a company, and I have to sell things. We have tried to be relatively neutral within the context of still having to run companies. I think the concerns are less infrastructural or legislative. I think if you asked the refiners to list all the legislation that they wanted and then you gave it to them, it would not make any difference. That is my view, because I think the scale of the matter of technological obsolescence and absence of market—

Dan Byles: Some of them are shaking their heads behind you.

Andrew Owens: I know, but I am giving my opinion. It is clear that we have a different opinion. The scale of the gap between the market obsolescence—the change in the market, the decline in fuel—and the wall of competitive pressures from outside the EU, whether it be super-giant refineries in Asia or the fracking gas and low cost in America, is simply of a different order to anything that the legislative burden brings.

Now, that is not to say that the legislative burden is not a burden, and, in fact, I will argue that the legislative burden has been a much bigger burden for us. If you would like proof of the pudding, I would welcome you to visit our terminals and see the investments that have taken place over the last 10 years purely on the grounds of legislation. Then hopefully you would be welcomed to the refineries to see the legislation and the investment that has not taken place. I have bought two refineries in the last two years, closed down, so I am very intimate with the internal condition of those refineries. That is an open welcome at any time.

I think we have to look at the underlying economics, and statements are made that are not correct. UK refineries are not big. They are not efficient. They are medium or small and mostly inefficient with a high cost base. If you benchmark against the leading refiners around the world, that is where they stand. I am not against refining. My background is refining. There is nothing I would like in the business more than to own a refinery, and I have looked at buying refineries on several occasions, but I have not found one that one can make work. Now, some will work and you have representatives of the good refineries in this room, but in the case of the ones that I have looked at, which have gone bust, there is a reason that they were in difficulty and it was not just financial issues within their group. There was structurally something wrong with them. We must not lump them all together.

Q77 Dan Byles: Thank you very much. I do not want to go too much more into this because we are running very late, but for the Downstream Fuel Association, I quoted you earlier. You have told us that UK refiners’ reliance on sweet North Sea oil represented a risk to UK security of supply, as that stuff has run out. Do you just want to talk a little bit about that, very briefly, and why you think that?

Teresa Sayers: Yes, because, as was mentioned earlier, there is a reliance on that particular type of crude for the UK configuration in refineries. Albeit that there may be additional availability coming online, as we have described, it still represents a relatively small percentage of overall crude production. I think we should not lose sight of the fact that just as we import finished products and blending components here into the UK, we also are very reliant on the importation of crude.
Q78 Dan Byles: Because we are geared to what we used to get out of the North Sea, we arguably have the wrong assets now if we are looking forward. Is that basically what you are saying?

Teresa Sayers: We are at a disadvantage, absolutely. Andrew Owens: It is an economic issue as much as an availability issue. Sweet crude tends to be more expensive than sour crudes, and they tend to spike when there are issues with crude supply. In the olden days when refineries were vertically integrated, if we had an issue with crude and crude prices spiked and product prices did not, making the refinery uneconomic, the upstream arm of the business would benefit from that, so it was possible to consider that the refinery would still run. In the modern times now when the refinery is a merchant, why would a private business run when the crude oil costs more than the product? That is why it is important to have a balanced approach. It is not about infrastructure, it is about business. If you have a privately owned industry, which is what we have, and if you have a merchant refining industry, then so long as the supply interruption is around products, that is good because there will be margin to run the refinery, but if the supply interruption is around crude, irrespective of the availability of the crude the refineries will become economic as the crude will cost more than the product. Then the question has to be asked: why would the owners of the refinery want to run in that environment? That is why a blend of both is a good way forward. It protects against product-related issues and it protects against crude-related issues, which can also exist.

Q79 Barry Gardiner: Ms Sayers, what is the future mix going to look like? Your organisation has told us that currently it is out of sync and out of balance. Teresa Sayers: Sorry, is that the future mix of product demand and, indeed, capacity?

Barry Gardiner: Well, yes, and indeed capacity.

Teresa Sayers: Well, in terms of product demand, dieselisation of the car park is continuing, and the future demands will be largely dependent on technologies and how they develop in respect of future products. In respect of what the market should look like, we believe that the market will reach its own equilibrium and that it is best left to the market to settle itself out. Undoubtedly, I think there may be one or two refineries who may not make it in the longer term, but that will improve the situation for the remainder because, as we have said in our submission, not all refineries are the same and they should not be considered the same.

Q80 Barry Gardiner: Okay. You heard what the earlier witnesses said about their lack of confidence in their ability to compete against other markets that may wish to supply product into the UK. Do you think those concerns are valid? Do you think that refineries in the UK are generally going to be undermined by Middle Eastern and American supplies?

Teresa Sayers: I think the competitiveness of UK refining—a lot has been discussed this morning about legislation and the effects of that, but there are lots of other factors that have an enormous effect on how competitive they are. We have talked about their reliance on particular types of crude. We know that UK refining is quite old in terms of its technology. They are competing in a global world against mega-refineries that are extremely efficient. Also, there are labour costs and the location of refineries to consider. There are a whole number of contributing factors, so undoubtedly they do face a challenging future.

Andrew Owens: It is a world market, and when people make forecasts about the future they tend to look like they know what the future is, but people do not know what the future is. The viability of the refineries will depend on how profitable refining is globally. If we find great demand and growth in parts of the world that is greater than the speed at which refineries can be produced, and the whole global refinery environment is profitable, one would imagine that a high proportion of the refineries would be viable. If, on the other hand, there is over-capacity of refining on a global scale, and certainly over-capacity on the domestic scale, so that it is the most economic and competitive operators that get the first bite of the cherry, then, no, we are not going to see the least efficient refineries in the UK be able to compete. In terms of market share, our view is that the market share of refineries in the UK on gasoline will increase with time. We certainly plan that our operations from the gasoline perspective will decline. Diesel is different, for the reasons that we have discussed before. What cannot be ignored is the demand for the product within the market, so on that perspective, with gasoline going down, I would propose that it would be very difficult for all the refineries to participate in the UK market if there was no external market for them.

Colin Horton: I think the cost of upgrading to produce more diesel is a real burden for north-west European refiners, not just the UK refiners. I cannot see anything that is going to stop that. Maybe one or two of the bigger major oil companies may invest, as one of the previous speakers talked about, but I just see the diesel coming in from further afield in bigger ships. I do not see any way that that is going to change.

Q81 Barry Gardiner: You said, in a neat side-step to my question, that you felt the market would adjust appropriately to the mix. What I had asked you, of course was what that mix was going to be. Now, I take it that Mr Owens partially answered that by saying anybody who thinks they know the future probably has it wrong. Let me ask you, then, about the importance of the regulatory signals that Government can give. Again, you will have heard the interchange that I had with the previous witnesses about DECC’s projections of electric vehicles, for example, needing to make up 65% of vehicles, yet we heard that the plans that the refineries have only go to the extent having, I think, 20% of in the next 30 years. They are banking on 80% still being on fuel that is not electric. Do you think it is important, then, that Government should begin to set medium as well as long-term targets? A 2050 target that says we have to have 65% at that stage should perhaps be
complemented by a 2030 target that says that we need electrification of vehicles to be at that stage, so that the markets can begin to take account of that and see how they are going to phase their own investment plans and their own supply chains.

**Teresa Sayers:** Any targets need to have the technologies alongside them. Those technologies need to be sufficiently advanced to be able to make any targets achievable. In any legislation, what any market player would ask for is certainty about the horizon of that legislation. What we sometimes struggle with is the lack of certainty and the lack of length of horizon. I think with the sufficient lead-in time and the technology that can be advanced sufficiently to meet those targets, we should be able to adapt.

**Q82 Barry Gardiner:** Well, again, you are just going by my question a little there, aren’t you, Ms Sayers? I accept exactly what you say; of course, there has to be the technological capacity to do this, but you will also know that regulatory signals can incentivise investment in creating that technical capacity.

**Teresa Sayers:** Yes.

**Barry Gardiner:** What I am specifically asking you is, do you believe that in addition to 2050 targets for the electrification of vehicles, it would be helpful to the industry to see where the Government are aiming that we should be in the medium as well as in the long-term time scale?

**Andrew Owens:** For companies making investments, the core regime, the core target, is three to eight years. When a regulatory environment or an incentive or any kind of behavioural signal is given out, it can take 18 months-plus of memo writing to understand it. Then it can take 18 months, if one decides one likes the look of the memos, to build, let contracts and make investments. It is quite unusual that something will come on stream in less than three years, three to four years. Then one wants a five-year run at the asset, so the core point of visibility is three to eight years. What the regulations are, or the targets are in 15 to 20 years I do not think is going to really influence anybody. It is that core first decade is the absolute determination of structure.

**Q83 Barry Gardiner:** You say it will not influence if it is beyond that eight-year period, but if it is about a shift of technology in order to incentivise that technology, perhaps it may do so, because of course it takes time for that technology to get past its demonstrator phases and all the other aspects of its life to get to full commercial operation, doesn’t it?

**Andrew Owens:** Well, I agree with that, but I was talking about building a tank or a jetty, so from our perspective it is a—

**Barry Gardiner:** No, I understand, you were specifically about your own industry, yes.

**Andrew Owens:** Yes.

**Q84 John Robertson:** What are the key pieces of legislation for the importing and storage sectors?

**Colin Horton:** There are the local planning requirements, there is the hazardous substance consent, there is the LAPPC, there is—

**Q85 John Robertson:** What is that? Just assume I do not know anything.

**Colin Horton:** Sorry, local authority pollution prevention control with regard to gasoline components. There are the post-Buncefield recommendations. There is the legislation relating to jetty operations that the MMO and the PLA impose on us, and so it goes on. I just think of the headline ones, frankly.

**Q86 John Robertson:** This is probably a silly question, but do any of these regulations apply negatively on your business?

**Colin Horton:** I think yes is the answer. I will give you two examples. One is that we were liable to the Port of London Authority for operations on the jetties. The introduction of another organisation called the MMO has now resulted in us having to get two licences for the same piece of work. Another example is that the HSE insisted on our redevelopment to put a particular piece of kit in. We argued very strongly that this kit did not need to go in. We had put the very latest, highest standard of safety overflow devices on the tanks, but they insisted we put an overflow on those tanks. Less than a year later, they are now giving guidance out that you do not necessarily need to put the overflows on these tanks. Now, I suspect Greenenergy and us incurred—certainly we inquired—over £250,000 just on that piece of kit that they have now identified that they do not think they need.

**Andrew Owens:** I think people want to behave well. I have not really come across too many people who do not want to behave well and do the right thing. It is not a business that wants to do harm. I think sometimes the regulatory environment can lead to the wrong thing happening, but there is no mechanism to counter that. Sometimes, the funding that has to go into that is, of course, drawing funding away from doing things that would be better to do. There is a kind of absolutism in some agencies that is not always—

**Q87 John Robertson:** Legislation can be amended. Is there any particular legislation you think is in urgent need?

**Colin Horton:** I personally think that it is the hazardous substances consent licences that we have to apply for through the local authorities, the local council. Now, it is frankly beyond their technical abilities. I am not denigrating them. I am just saying that they are confronted with a licence application that, frankly, they do not have a clue about, and they would be the first to admit it. I just think that there needs to be a better way. Whether it should be the HSE that guide these things through or another agency I do not know, but the local authority does not seem to be the most able of organisations to deal with it. What happens is that a planning application from us that should take maybe four or five months ends up taking over a year.

**Andrew Owens:** Yes, I totally agree with that. The legislation that has the biggest impact is the RTFO legislation, which is the renewable transport fuels obligation, and the CSO legislation because it is
partial in the way it falls down and very unpredictable. The other area, I think—

Q88 John Robertson: How would you change it, or how would you like to change it?
Andrew Owens: I think year-end flexibility is important, because what happens today with the way the targets are set is that if you are short, the penalties are splendid. If you are long, your efforts are worthless. It is very min/max in what one has to achieve. I will give you an example. Just last month we had a “reject” on a large proportion of our certificates because there was a mismatch of one litre over a whole run. Now, we do 13.5 billion litres a year, and it was one litre. It was a rounding error—we rounded up but the rules said you had to round down. Because of that, all sorts of stuff was let loose in the company: worry, concern, worry, concern. Why should there be so much stress in organisations? Why should an organisation be operating under fear, because we fear the RTFO and the CSO, when a litre should an organisation be operating under fear, should there be so much stress in organisations? Why in the company: worry, concern, worry, concern. Why down. Because of that, all sorts of stuff was let loose year, and it was one litre. It was a rounding error—

Q89 John Robertson: How much do you think that would cost the company?
Andrew Owens: The risk on that one litre—it was resolved, by the way—would have been in the order of £5 million. It was an expensive litre. We would have resolved it in the end, because one always does, but why? This is a regulatory environment that is quite difficult.

On the other regulations, I think, well, it is life. What I would ask for in that area is non-partial application. If you look at, for instance, our terminals, they have post-Buncefield tertiary containment, and they have concrete this, that, the other. If you come down to the Thames Oil Port, it has piles of clay or piles of chalk. It is very clear that we have been put under a regulatory “must-do” environment that is not applied to the refineries. We own tankage terminals ourselves and Colin runs a tankage terminal as well, and I would like to hear what you think about that.

Colin Horton: I completely agree. We see that the regulatory environment we are working in is tougher than that imposed on the refinery sector. It is a bigger spend. They have tankage that is 40 to 50 years old. They can’t necessarily do some of the things that we are doing on new builds but they seem to be getting a lighter touch than our dealings with the regulatory authorities.

John Robertson: Let us move on. We have evidence from just—

Q90 Chair: Can I just ask, is there a different authority that deals with you if you are a refinery from if you are—

Colin Horton: No, they are the same agencies.
Andrew Owens: Even the same person.

Colin Horton: Again, the overflow is a classic example. This added dimension that we had to put on. The refineries simply had not had to do it, even in the period—now, whether they built any tanks in that short period I do not know, but certainly I suspect that no overflows have been installed on any of their tankage while this sort of wind was prevailing.

Q91 John Robertson: I am always conscious of the safety aspect of all this. Do you feel, then, that you should be allowed to work under the same conditions as them, or that they should have to come up to the standards that you have?

Colin Horton: The post-Buncefield recommendations were very sound, very sound, and we and Greenergy have applied them, and they make the environment a lot safer. I think all we are asking for is the same set of regulations be applied evenly and fairly across the piece.

Q92 John Robertson: Okay. Evidence from Christopher Fox suggests that the volume of storage of petroleum products would need to increase if more oil fuels were imported. Do you agree with that?

Colin Horton: I will answer that. It is a combination of additional tankage and, as Andrew said earlier, the regional changes—I think on the Thames we are probably in balance or thereabouts, where I think other regions may have to have some more tankage if they are going to increase. With lot of these facilities, when they are built to the standards of Plymouth and Oikos we can put more through the assets. We simply can sweat the assets. There is a considerable amount of slack in the system.

Q93 John Robertson: Okay, that seems fair. What impact, in terms of security of supply and environment implications, would longer storage periods have?

Colin Horton: Longer storage periods?
John Robertson: In theory, if you build bigger tanks you will store it for longer; therefore, would it have a knock-on effect?
Andrew Owens: Supply security day-to-day matters and resilience come from flexibility that tends to be smaller. The more vessels that are on the water at any particular time, the more the supply chain can respond to different signals of demand or activity or incident within the UK. We have to differentiate between what is a robust supply chain under normal disruptions that one could imagine and what is a robust supply chain under severe global emergency, which is a different thing.

Q94 John Robertson: We have heard over the years in this Select Committee that the UK’s storage is poor and we do not store up as much as other countries do. This is obviously a knock-on effect from that. Should we be storing a lot more, and if so, again, we have this knock-on security problem, do we not?

Andrew Owens: We have a situation to date with the CSO regulations, which are a burden on the consumer to no benefit that create a feeling of security that is not there. Nothing compares to having a million tonnes of product stored somewhere for strategic reasons, except for having 2 million tonnes of product. Fundamentally, storing onshore product for strategic purposes builds security. Now, no private business is going to do that.

Q95 John Robertson: Can I ask a question? This “product” you keep talking about—and you made a statement earlier on that we do not hold enough
products—is this what you make from the crude? I am not quite sure what you mean by “product”.

Andrew Owens: Petrol and diesel.

Teresa Sayers: Petrol and diesel, yes.

Colin Horton: And jet.

John Robertson: Okay.

Colin Horton: Andrew and I were intimately involved on the Sunday that Buncefield exploded, and I can tell you that the following weeks were very, very tight. Andrew’s point about the smaller ships meant that it was like a stacking effect when planes come in. We could divert the ships to other terminals and other locations. You can’t get away from the fact that you need strategic stock in the UK, whether it be crude or whether it be product. You need to hold product.

Q96 Chair: In DECC’s call for evidence, do you think there is any aspect that is missing from what they have called for?

Andrew Owens: I do not think they said enough about market and cost of living.

Q97 Chair: Markets and cost of living: do you want to expand on that?

Andrew Owens: Well, for the reasons that everybody else has given, it is difficult for private companies to talk about prices, but I would have thought civil servants could research what effect investments have on the underlying cost of living and fuel costs in the UK. They are quite substantial. When terminals are modernised and expanded and made more efficient, the consumer tends to benefit from that. It is tough to go into much more detail than that, really.

Q98 Chair: Any other suggestions? Are there any
go into much more detail than that, really.

Andrew Owens: I think free access is a positive. I do not think they said enough about market and cost of living.

Andrew Owens: I tried to answer that before without answering it. I think it is difficult, but it is clear that where modern investments have been made, consumers in those areas have benefited.

Colin Horton: I am not close enough to have an opinion, I am afraid. I do not understand it.

Teresa Sayers: DECC is currently consulting in respect of a CSO entity for the UK and we would urge the Committee to support that on behalf of the industry.

Q100 Barry Gardiner: How might an increase in imported petroleum products in the UK impact on the energy prices that our consumers are going to be paying?

Andrew Owens: I think there is any aspect that is missing from what they have called for?

Andrew Owens: I do not think they said enough about market and cost of living.

Andrew Owens: I think free access is a positive. I do not think it is as important in the UK as it might be in other countries, because most of the population live close to a port. The viability of ports is important and one longer-term risk, perhaps, is that some oil ports could research what effect investments have on the underlying cost of living and fuel costs in the UK. They are quite substantial. When terminals are modernised and expanded and made more efficient, the consumer tends to benefit from that. It is tough to go into much more detail than that, really.

Q101 Barry Gardiner: Mr Owens, give me yours again in less cloud. Well, let me ask you this. What factors influence the prices of products that are supplied by refineries versus products supplied by importers?

Andrew Owens: A fungible, competitive, modern, low-cost market. “Importers” sounds too simple. They are not really importers. They are technology companies. There is quite a lot of technology involved in both the administration but also in the supply chain, right through to the service station. Like any new entrant into a traditional market—you could look at easyJet or Ryanair—it transforms the business. I think of ourselves as being an easyJet or a Ryanair. I think it is a disruptive, productive, security-enhancing business model and that business model leads to the same benefits that most revamped business models lead to in most industries.

Note from Volker Bernd Schultz: “Government should ensure that guaranteed, transparent and competitive access is available to critical infrastructure such as national and regional pipelines and inland egress terminals. A potential monopoly position on such strategically vital national infrastructure should not be allowed to exist.”
Q102 Barry Gardiner: Okay, let me ask you this. Is it more or less technically difficult, and therefore more or less expensive, to transport crude or differentiated product?
Andrew Owens: It is the same in a big vessel. The transportation cost is not a major part of the cost.
Colin Horton: There are dedicated ships for crude, which we are handling perfectly well. Equally, with the clean products that we are talking about—the gasoline and diesel and components—there are dedicated ships in the traffic. I do not see a difference between them.

Q103 Barry Gardiner: No difference in the transportation cost?
Colin Horton: In the transportation costs?
Barry Gardiner: That is what I asked.
Colin Horton: Sorry, obviously with a VLCC of crude moving 200,000 tonnes, I suspect that the freight rate is quite low. With the dedicated product carriers, the cost is higher but the importers and the traders are looking to moving in bigger parcels, thereby bringing the freight cost down.
Andrew Owens: Exactly. It depends on the size of the ship. On a similar-sized ship to similar-sized ship basis, the gap is not as significant as one might think, but if it is a large ship, you have to ask where the ship is coming from. A large ship is not going to be coming from Rotterdam or Scandinavia. A large ship is going to be coming a long way, and it is probably coming from an area where the underlying refining is that much more competitive.

Q104 Barry Gardiner: But you also have differential costs of the technology on board the ships and, therefore, differential costs of the cost of the ships and, therefore, differential on the freight that they will charge in order to return their cost of capital.
Andrew Owens: Yes, you have all of those things, but the bigger issue is the running cost of the terminal.

Q105 Barry Gardiner: Okay. If the UK were to rely more on imports and terminals, would changes in infrastructure be required and, if they would be required, what would be the cost implications for downstream consumers of those changes in infrastructure—new-built capacity, perhaps?
Andrew Owens: Well, I think the UK consumer will rely less on that, because as I mentioned to you, my view is that more of the domestic gasoline will come from domestic refineries as the market shrinks. There is nothing to stop a UK refiner being competitive in components for gasoline compared with a French refiner or a Scandinavian refiner. They do not do it, so that is a commercial barrier, not a structural barrier. As time comes on and as the market becomes more independent and less vertically integrated, one would imagine that it would become more and more merchant. As it becomes more and more merchant, more of the UK raw materials should stay in the UK. The diesel is a different thing. The diesel will be what the diesel will be. It is rather difficult to imagine that investments can take place that can turn the diesel production situation around in the UK.

Q106 Barry Gardiner: Ms Sayers, I was going to ask you about the evidence that your association had given that suggested that a stronger reliance on importers will smooth price changes, but that would not be appropriate because you do not talk about price, do you, you just told me?
Teresa Sayers: No, we do not.
Barry Gardiner: Why did you—
Andrew Owens: I think you can read the paragraph, because I do not think it says that.
Teresa Sayers: I did not quite say that. What I think I said—well, what I know I said and what was quoted—is that what we believe in is that a robust infrastructure with importers can act as a catalyst for efficiency gains on a global scale and drive down prices. That is what we said.

Q107 Barry Gardiner: The future of your industry and any necessary changes that you may have to take to cope with the difference in overall supplier capacity by the refineries you can only see—the three of you as you sit here—being beneficial to prices to UK consumers.
Andrew Owens: If we talk about the supply of fuel against imaginable problems and normal business as usual, that is correct. If we want to talk about supply security against major global international events, that is not something that private companies will deliver, and that is a policy matter.
Chair: Thank you very much for your evidence. It has been most helpful. As I said to the last set of witnesses, if there is anything you think needs expanding upon that occurs to you later, if you could write to us that would be most welcome. Thanks again.
Tuesday 25 June 2013

Members present:

Sir Robert Smith (Chair)

Barry Gardiner
Ian Lavery
Mr Peter Lilley
Dr Phillip Lee

Albert Owen
John Robertson
Dr Alan Whitehead

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Examination of Witnesses


Q108 Chair: Thank you for coming to give evidence to the Committee's inquiry. Please introduce yourselves for the record.


Neil Davies: My name is Neil Davies. I am Head of Site-based Regulation at the Environment Agency.

Q109 Chair: I should enter on to the record my entries in the Register of Members’ Interests relevant to this inquiry, in particular a shareholding in Shell.

In your written evidence you say, “Where costs are significant, such as at refineries, we have spent several years working with operators to ensure risks, costs and benefits are properly assessed so only essential investment is required”. Are the costs associated with IED and COMAH similar for both importers and refineries or do they hit one or the other sector more?

Ed Mitchell: They are different in that COMAH applies to both refineries and storage facilities. Refineries are a listed activity under the UK implementation of IED, which is the Environmental Permitting Regulations. Depending on what activity you are carrying out, different bits of law apply.

Q110 Chair: When it comes to safety, is there a different scale of risk with refineries to importers?

Ed Mitchell: I think that is more a matter for the Health and Safety Executive. We deal with the environmental risks, primarily.

Q111 Chair: On the environmental risk, would you see one or other of them being more of a challenge?

Ed Mitchell: The storage facilities that you get at a refinery are very similar on the whole to the storage facilities you get at a storage facility. Obviously the refinery has the additional component of the refining activity, so the risks are slightly different. The risks associated with risks around spillage or leakage or rupture of tanks are the same on both but you have significant emissions of, for instance, sulphur dioxide from a refinery that you would not have from just a storage facility.

Q112 Chair: In one of our sessions Greenergy said, “It is very clear that we have been put under a regulatory ‘must do’ environment that is not applied to refineries”. Similarly Okios said they had spent £250,000 on overflows for their tanks despite installing the very highest standard of safety overflow devices on their tanks and they say that refineries were not subject to the same stringent requirements. Do you recognise that?

Ed Mitchell: No, to be honest. The Okios comment I think is about a Health and Safety Executive requirement about overfilling of tanks. We apply environmental legislation based on the risks to the environment equally, but we also take into account the financial circumstances and so on that the companies are in and that the sector is in. I think the comments from Greenergy were in relation to Coryton. It would be interesting to ask the previous owners of Coryton about the investment programme that they undertook or did not undertake prior to it being sold on to Greenergy. The way that we regulate is that we agree the environmental outcomes, based on the legislation, with the companies and we agree a transition plan to delivering those environmental outcomes, usually over a period of four to six years, and then we monitor the companies to make sure that they are delivering those environmental improvement programmes. So at any one time you can find a particular facility that has slightly different requirements than another, but it is just as they are working their way through their improvement programme.

Q113 Chair: How would you respond to the idea of whether the regulatory regime is risk-based or prescriptive?

Ed Mitchell: It is primarily risk-based, but different bits of legislation are slightly different. If you take the England implementation of the Industrial Emissions Directive, that directive requires us to have regard to something called Best Available Techniques. That is a sort of fundamental principle that means you have to apply those techniques to each site. They are set out at a European level in something called a Best Available Techniques reference document. The last one of those was produced in 2006 or 2007 and there is a new one coming out next year. So that determines what the Best Available Techniques are for a particular production process right across Europe and we then implement that through issuing a permit with the requirements to meet those Best Available Techniques. There is a degree of variation around that, based on the risk of the individual site, but the basic requirements are set at a European level.
COMAH stands for Control of Major Accident Hazards and is about the prevention of a Buncefield-type incident around the storage facilities. There was something we agreed with industry back in 2005 called the containment policy, which gave companies a 20-year time horizon for upgrading storage tanks to modern standards. The timing within that 20 years is very much based on risk, with the higher risk upgrades happening earlier in that process and the lower risk upgrades happening later.

Q 114 Chair: Do you think there is any rationalisation that could be done of the legislation that confronts the industry?

Ed Mitchell: The legislation that we implement is almost all integrated into a single set of rules called the Environmental Permitting Regulations, COMAH, because it is operated jointly between ourselves, the Health and Safety Executive in England and the Health and Safety Executive and our equivalents in Scotland and Wales, sits outside of the Environmental Permitting Regulations and is on a slightly different basis. In the Environmental Permitting Regulations require a permit, but COMAH does not work on a permit basis. I think we have done as much consolidation as we could, or the Government has, on the environmental side into the Environmental Permitting Regulations. I can’t easily see how you could go that step further and integrate COMAH into it because it is not permit-based.

Q 115 Dr Whitehead: In your evidence you state that the European Commission is expected to publish next year its revised conclusions on Best Available Techniques, BAT, for the refineries sector and you then say that this will drive the standards within the Industrial Emissions Directive that the refineries will be required to meet beyond 2016. Could you provide any insight on what the potential implications are for the UK refining sector?

Ed Mitchell: I will give you a very brief overview and then I will hand over to Neil for a bit more detail. What happens is when these standards are agreed through the BAT reference document across Europe we then have four years to incorporate those standards in the permits of the refineries and for the refineries to make the necessary changes, subject to a provision that you can apply for an extension to that timescale, but the ability to have an extension is significantly tightened up under IED compared with its predecessor IPPC. That is the generality and then I think we have some information on the areas it is most likely to hit.

Neil Davies: The main focus for investment for the refineries across Europe coming out of that document will be more around controlling some of the acid gases, like sulphur dioxide and nitrogen oxides, and there will be some investment needed on control of discharges to water as well. Those are the three main areas we are looking at, on behalf of the U.K., a meeting with the rest of the other member states and the Commission to discuss and negotiate what these standards are going to be and we take a refinery representative with us as well to make sure that we have a balanced discussion. The latest version of that certainly focuses on those three areas. The things they will be looking to do is improve some of their technology associated with the combustion plant that they have on site as well as looking at maybe putting some sulphur dioxide controls on some of their refining work as well. What we are trying to do is identify what the costs would look like for the refineries across England in order to try to take a view about the appropriateness of those for the UK and England.

Q 116 Dr Whitehead: Is that implementation fairly flexible?

Neil Davies: The process that the commission has set out for implementation in the Industrial Emissions Directive is that once they produce the Best Available Techniques reference document then member states or companies are given four years to upgrade to these standards. We anticipate that that document for the refining sector will be adopted next year some time so that will give them until about 2018 to meet those standards. If companies are going to find that timescale challenging they can work with the regulators in each member state to apply for what they call a derogation, so can they extend the timescale in which they implement those new standards. That is a conversation we would have to have with the refining sector once we are clear on exactly what the standards will be and that reference document is adopted.

Ed Mitchell: When we went round this cycle in 2007, the last time we did a wholesale review of permits, we agreed improvement programmes with the refineries that ran from 2008 to 2016, clearly more than the four years. The underpinning European legislation does tighten up the ability to offer those derogations and to be flexible, but there is a degree of flexibility still within the legislation.

Q 117 Dr Whitehead: You said in your evidence that you think the costs overall for sulphur dioxide reduction are reasonable compared with other industries.

Ed Mitchell: I note in most of the evidence that you have received that the focus is entirely on the costs rather than the costs and the benefits. There are well established benefit figures for, for instance, reductions in sulphur dioxide emissions and when you put the costs against those benefits the cost benefit looks positive. That is some of the maths that we have to work through on an individual basis as we review these permits following the issuance of the European reference document.

Q 118 Dr Whitehead: I suspect some of the emphasis on costs related to the fact that, among other things, witnesses in the first oral session said that refinery profitability is still averaging negative. Have you identified improvements to that 0.2% of gross margins? If there are no margins presumably there are still reasonable costs and benefits, or would you like to qualify what you have to say in the light of that?

Ed Mitchell: Those were the figures that applied when we did the last wholesale review in 2007, so the analysis we did in 2007 was that the total cost of the improvements was of the order of 0.2% of gross
margin. Clearly the economics change all the time and we have not yet done that work because we do not know what the new standards are going to be. We are in the middle of the negotiations, which are then agreed across Europe. Once we have those new standards we can start to do a similar sort of assessment going forward.

Q119 Dr Whitehead: You are going to have further costs on the Industrial Emissions Directive post-2016 I would imagine.

Ed Mitchell: Yes.

Q120 Dr Whitehead: What might they look like? What are the implications of that?

Ed Mitchell: As I say, we have not done that analysis yet because it all depends on the standards that are agreed across Europe as being the Best Available Techniques. You get a very big range of possible numbers because of that uncertainty so, depending on where those standards are set, some refineries may or may not have to invest in significant new plant and equipment. It is quite difficult to work out exactly what the costs are likely to be until you have certainty about what those figures are. We have done a broad analysis. Neil, do you recall the figures?

Neil Davies: We, and I think industry, have quoted a range of potentially up to £900 million. We don’t think that is wrong but what that does assume is that every refinery will have to install every piece of abatement kit on their site. We don’t think that will necessarily be the case and if we look at where the performance of the refineries is currently against what the possible standards will be, we think the costs will be a third to half that. We are some way off that, but if they don’t fit all of that kit they do have to go through this application for derogation that we would look at, based on whether or not it looks justified.

Ed Mitchell: Of course, we get our cost information from industry. We don’t make it up, so I think on the cost basis for the various different estimates the only difference is what you think will or will not apply, depending on what standards are finally settled on.

Q121 Dr Whitehead: We are talking here worst case scenario as against—

Ed Mitchell: I think our range is sort of £350 million to £950 million, depending on what comes in over the period to 2018.

Q122 Chair: When would that figure become certain?

Ed Mitchell: First of all, we need to know what the standards are that the refineries are going to have to operate against, which is when the BAT reference document is published, which we expect to be next year, and that is a political process around Europe in agreeing and publishing that document. Then we have to discuss with the individual companies exactly what the implications are of those new standards; can they meet them already; can they meet them by relatively cost effective tweaks to their process; do they have to invest in major capital expenditure for abatement equipment? We are a way away from having a very firm figure.

Q123 Chair: Obviously that makes planning to invest a challenge if you don’t know the environment.

Ed Mitchell: Yes, although all the refineries have a current investment plan, an upgrade plan agreed with us that runs to 2016. They have certainty up to 2016 already and have had since 2007.

Q124 Barry Gardiner: I didn’t quite get your response to the question that the Chair asked originally. This was the one where he was talking about how Okios had had to spend £250,000 on these tank overflows, which you then decided perhaps were not needed after all.

Ed Mitchell: I think that was the Health and Safety Executive, as I tried to explain, not the Environment Agency. When you are talking about tank storage, there are three levels of containment. You have the integrity of the tank itself and whether it overflows. You then have a bund around the tank in case the tank ruptures and then you have some sort of protection around the site as a whole. That is called primary, secondary and tertiary containment. Primary containment is primarily on health and safety grounds. There is a relationship with the environment, but the main environmental controls are the secondary and tertiary containment. Overflow alarms are a factor of that primary containment, so the Health and Safety Executive are the lead agency on that.

Q125 Barry Gardiner: But it was the overflows that ultimately were deemed not to be necessary, wasn’t it?

Ed Mitchell: Apparently, yes.

Q126 Barry Gardiner: Is that not you?

Ed Mitchell: No, that is the Health and Safety Executive. I have only read what you have read. I don’t know the ins and outs of that or the truth of that statement.

Q127 Barry Gardiner: Sorry, I just wanted to be clear. So we should speak to them about that, should we? All right.

I wanted to focus on your role with the ETS, the European Emissions Trading Scheme, and basically the business of stopping carbon leakage. It has been suggested that the system allows for the different levels of complexity found in EU refineries. Given that those different levels of complexity could perhaps result in carbon leakage, do you agree with that and what do you see as the implications for UK refineries?

Ed Mitchell: I just need to explain our role in the various carbon trading schemes. Whether it is the domestic CRC energy efficiency commitment or whether it is the EU Emissions Trading Scheme, our role is simply an administrative role. We carry out the mechanics of the scheme. These are cap and trade schemes. We don’t set the cap or the trading rules. All we do is facilitate them, so I am afraid our—

Q128 Barry Gardiner: I am not asking you to set policy. What I am asking you to do is to advise the Committee whether, as you are operating the scheme, you believe that the mechanics of the scheme allow for carbon leakage. I accept that you are the operator
of it but perhaps the operator of it has the best view as to whether carbon leakage is being facilitated.

**Ed Mitchell:** I am afraid in this case I don’t think we do have a good view of that. You will know that the idea of a degree of free allowances is to deal with the issue of carbon leakage, but the amount of free allowances and all of that is a DECC Government decision. All we literally do is turn the handle, so I am afraid I am not in a position to offer you any sensible advice on that.

Q129 **Barry Gardiner:** The UKPIA says they will need £53 million of free allowances and DECC’s assumptions are for £103 million of allowances. Doesn’t that suggest that somewhere there is a big gap?

**Ed Mitchell:** Yes. I am not familiar with those figures but that suggests that the industry is asking for fewer free allowances than the Government is offering.

Q130 **Barry Gardiner:** Which is dumb, isn’t it, if you are trying to operate a tight carbon emissions trading scheme?

**Ed Mitchell:** It sounds counterintuitive. I think that is all I can say.

Q131 **Barry Gardiner:** Let’s move on to COMAH and containment policy, which applies to the bulk storage of petroleum products. Bluntly, Okios are suggesting that older storage tanks are not subject to the same degree of regulatory upgrade as new facilities. Is that right? Is it something that one should be concerned about or are they just absolutely wrong?

**Ed Mitchell:** I think they are mistaken in that case. The containment policy applies across all petroleum product storage facilities whether they are associated with a refinery or are standalone. As I say, it offers a 20-year window to make the necessary upgrades with a risk-based phasing of the investment within that 20-year window, so some of the investment we asked to see earlier because it is high risk versus some that is lower risk that can wait within that window. Depending on the individual risk on the site, the nature of the tanks, the nature of the products, there will be variations in where they are on that journey through the containment policy, but it is consistent in that it is risk-based in how we apply it.

Q132 **Barry Gardiner:** Are you confident that an older facility, which may be approaching the end of its life, is not being treated any more leniently by you, that you are not saying, “You can’t really expect that of it because it is that technology”? Are you confident that the level of risk around any of them is the same?

**Ed Mitchell:** The very old storage tanks are often metal tanks on bare earth and so the risk of leakage is relatively high because you can’t obviously see what is happening underneath. You don’t necessarily have monitoring embedded underneath the tank so that you can tell what is going on. The only way to deal with those is literally to lift the tank, lay an impermeable membrane underneath it, put the tank back down again and have an impermeable bund around the tank. We are requiring on a risk basis equally across both refineries and storage terminals in line with the containment policy.

Q133 **Barry Gardiner:** Is it correct that older tanks do at the moment carry a greater risk than newer tanks that would have that fitted as standard from the beginning?

**Ed Mitchell:** I can’t talk specifics but there must be examples of where we and industry together should have dealt with the higher risk tanks as part of the containment policy process but nonetheless, because it is a risk-based system and because there is this window in which to make the improvements, you will have some minor variations in the residual risk, as the Europeans put it.

Q134 **Barry Gardiner:** You will have a ranking order of which are the riskier and which are the safer stations and you will therefore have a profile of the work that you believe needs to be carried out to bring them all up to standard. Is that correct?

**Ed Mitchell:** Yes.

Q135 **Barry Gardiner:** Could you make that available to the Committee?

**Ed Mitchell:** It is done on a facility-by-facility basis and it is embedded in their improvement programme. Neil, are you able to—

**Neil Davies:** That is right, and it is the company’s risk assessment. That is an important thing to bear in mind here. The company has to undertake the risk assessment because they are carrying the risk around this and we have to make sure that they have covered that adequately. They will go through that. At the moment, as Ed has said, we are working with each of the companies for them to develop their improvement programme that we based on the risk assessment of all their tank storage on site and they will then have a programme to implement whatever improvements are necessary.

Q136 **Barry Gardiner:** But, Mr Davies, the company does not say in its own risk assessment, “And by the way, we are riskier than these ones but we are not as risky as those”. That is your job, isn’t it?

**Ed Mitchell:** We enforce the baseline, if I can put it like that. It is interesting that some companies, particularly in the bulk storage sector, have made their own judgments about the level of risk that they wish to sustain and have made improvements earlier than we would require. That is probably related to the margins in that sector, their ability to do it, but I am aware of a particular site where, because they had a leak of a tank that caused them a significant clean-up cost, they have accelerated their programme of tank refurbishment and lifting and bunding and so on beyond the level that we would mandate. Companies have choices in this as well as our regulatory role, which is to set the baseline.

Q137 **Barry Gardiner:** But are you able to make your ranking order list available to the Committee?

**Ed Mitchell:** I will have to revert to you on that. I think it is already in the public domain in the form of
the improvement programmes for the individual facilities but I will just need to check that.

Q138 Barry Gardiner: I do want to be clear that the individual programmes are not the same as your assessment of where they all stand in relation to each other. What I am asking you for is the latter not the individual.

Ed Mitchell: I understand. One of the improvements we have made to the way that we regulate in the last three or four years is that we have put a much stronger emphasis on how we ensure consistency across a sector. This does not just apply to refineries but it does include refineries. We now have sector groups where all of the relevant officers who are doing the regulation meet and discuss the relative risk across the different sites. Prior to that, some of these decisions were made by individual site inspectors on an individual basis. We now benchmark that between the different sites through a sector group so that we have a very high level of assurance that we are applying a level playing field.

Q139 Barry Gardiner: Thank you. Greenergy suggests that, “Fundamentally, storing onshore product for strategic purposes builds security”. If the Government wish to increase oil product security that means we are going to have large volumes of petroleum products stored ashore. Should the public have any concern about that from either an environmental or health and safety perspective?

Ed Mitchell: No, I don’t think so because we have the regulatory regimes and the regulators to ensure that those risks are minimised to appropriate levels. There will be a difference between what is achievable with a brand new tank storage facility or a brand new refinery. One of the things I didn’t explain but should have done is that that four-year window that is allowable under the Industrial Emissions Directive for upgrading facilities only applies to existing plant. If you build a new plant you have to meet the standards from the word go. New facilities inevitably have higher standards in the first instance and it takes a little while, because of the investment programmes and allowing for capital and so, for the others to catch up but there is only a relatively short time difference between the two.

Chair: Thank you very much for your evidence. If you can clarify the issues that Mr Gardiner wanted in writing later, or if there is anything else you think you should have said but didn’t please get in touch, and similarly we may have some follow-up questions.
worse than those in the developing world where demand is growing faster.

**Roger Hunter:** There is no reason why well run, complex, large scale refineries in the UK won’t continue to prosper.

**Q144 Ian Lavery:** Mr Hunter, you stated in your written evidence that there are regions of the UK where a refinery closure would have a larger impact on resilience due to high demand and limited alternative supply options. Why is this the case and which regions are particularly vulnerable?

**Roger Hunter:** Given the commercial nature of my job, it is difficult for me to comment to this Committee on region-specific, but one thing I would suggest is that DECC’s call for evidence specifically asks that question and gains more information on a region-by-region basis. Generally speaking, some regions have more options than others. Some regions have more import capability, some regions have more refiners. I think it is a good thing for DECC to look at going forward but, as I say, given the commercial nature of my role I don’t want to comment on a specific regional level of resilience.

**Stephen George:** My general view is that where a refinery could close, if a refinery were to close, you have a potential import terminal location. They are all pretty much sea-based and are currently capable of bringing in crude oil, so could bring in products in lieu of crude oil. So there is some resilience in the supply of the product markets. That doesn’t necessarily mean that the refiners are safe in those locations.

**Q145 Ian Lavery:** Do you agree with DECC’s assessment when they have suggested that the UK’s import capability plays an important role in maintaining resilient product supplies to the UK and supports jobs and contributes to economic development?

**Roger Hunter:** The UK needs a healthy mix of refining and importing. That is what will provide resilience with respect to supply and jobs. Jobs come from both import infrastructure and companies as well as refiners, and the UK needs a healthy mix of both. One thing I would say is, I don’t think there is any kind of magic number in terms of how many refiners one needs or how many import terminals one needs. I think the market needs to decide that, given the underlying declining demand for light oil products in a country like the UK. But both play an important role in resilience and jobs.

**Q146 Ian Lavery:** Is security of supply an issue?

**Roger Hunter:** Currently I don’t think security of supply is an issue. As I say, you need this healthy mix of both refiners and importers to provide that security of supply for a country like the UK. The country is an island with good roads, with good infrastructure to move hydrocarbons around, and as a result I don’t think there is an issue currently with security of supply.

**Stephen George:** We also have a pretty good supply outside the UK coming into the ARA market—Amsterdam, Rotterdam, Antwerp—products coming out of Russia in increasing volumes. There is quite a lot of import infrastructure into northwest Europe that will be available to supply the UK market if there were less refining capacity.

**Q147 Ian Lavery:** In your view would that be a secure supply?

**Stephen George:** Reasonably so. I think there is an increasing interest on the part of traders and refiners outside the northwest European market to bring product into this market. You have expansion of terminal capacity in the ARA basin, for example.

**Roger Hunter:** Shell, as a company, has a lot of retail sites in the UK and we are very concerned about it. Security of supply is the kind of thing that we think about, such that we can provide robust supply to our customers. So we look at this landscape carefully and we feel that there is an adequate mix of supply sources at the moment from both importing and refining in order to provide that robustness.

**Q148 Ian Lavery:** Mr Hunter, getting back to your written evidence where you suggest that UK refineries all have different international operators and the change in ownership that was seen in recent years from the integrated IOCs to specialist refining companies reflects a trend that we are seeing across Europe and the US. What are the broad implications of this?

**Roger Hunter:** I think it is healthy. It is good that things change and that new buyers come in and different buyers buy refineries for different reasons. You have new market entrants and it shows that there is good competition and it keeps competition high as you have new entrants coming into the market. Generally speaking, I have no concern about this change from the IOC world to more of an independent-based world. I think it is a natural market evolution.

**Q149 Albert Owen:** Gentlemen, there are two things that you have raised in responding to questions from my colleague. You don’t think having to rely on imports is a big issue because it is a global market, but to our constituents it is quite a big issue if they are paying more for the product at the end of the day. Previous witnesses have said that the fact that diesel has gone up considerably and is higher than petrol is because we don’t have the capacity in this country to refine. That is a big issue not just to car owners but to lorry transportation and goods in shops, so it does have an impact on the economy of the United Kingdom in a negative way.

**Roger Hunter:** I don’t agree with that. Having that healthy mix of importers and refiners keeps a high level of competition in the UK market, which is good for the consumer.

**Q150 Albert Owen:** They have specifically said that the reason that the cost of diesel is higher and has gone up faster than petrol and overtaken petrol in the
last 10 years is because we have a lack of capacity in this country so we rely on imports. It is obviously more expensive to import something into this country.

Roger Hunter: We have a competitive marketplace in this country. We have the ability for the refiner’s diesel barrel to compete with the importer’s diesel barrel and that level of competition is nothing but good for the consumer.

Q 151 Albert Owen: It is interesting to hear that because that is directly opposite to what other witnesses have said. Another point I would like to make is about labour costs in different countries. Are they higher in Europe and Britain than they are in some other parts of the world and is that a big factor? Labour is a high percentage of most companies’ costs.

Stephen George: I think it is certainly the case that some countries would have a higher cost but it would be more in the cost structure. They may be less efficient operations than you have in a UK refinery. There will also be some that are much cheaper. I have spent a lot of time looking at eastern European refining and their per capita labour costs are very low but their headcounts are massive. Some of these refineries will have 10 or 15 times as many employees as a well managed northwest European refinery.

Q 152 Albert Owen: What would the overall labour costs be?

Stephen George: It depends but I would say an efficient refinery running—you are basically talking about the operating costs per barrel and looking at a $3 to $3.50 range for a north-west European refinery. Some of the southern European refineries can be $6 or $7 per barrel because their costs are high and have higher bureaucratic structures. They are just not that efficient. It is going to depend site to site for every site, depending on your scale and your complexity. It is not that straightforward a question.

Q 153 Albert Owen: It may not be straightforward but in many other high quality jobs there is a big issue. Many companies relocate abroad specifically because of labour costs. That is not the case in the oil industry and refining in particular?

Stephen George: Not so specifically. They are not just picking up and moving a shop offshore, for instance. It is not that straightforward. You can look at, say, the Indian market or the south east Asian market and see very low per barrel opex but that doesn’t necessarily mean it is directly competing with refineries here. There is an advantage to being located close to market as well. You can refine for cheap in India or in Korea and that product has to come all the way to Europe and that may not be as competitive as refining locally.

Q 154 Albert Owen: We have also heard that shipment within the United Kingdom is more costly than shipment from abroad in many cases because duties are added, so perhaps if a British company were to relocate in India where labour costs are cheap, the transportation would not be that expensive because of duties.

Stephen George: Quite possibly. It is all on a case-by-case basis. Going back to the diesel question, there is a question of the import parity pricing. Yes, this country is short of distillates and has to import them from ARA or from further afield but that cost is not necessarily giving a huge disadvantage in the local market. Other countries in north-west Europe are short of distillates as well. It is a structural feature of the whole market that we have dieselised far faster than refiners have been able to invest to keep pace with that dieselisation and the whole market is short of distillates and long on gasoline.

Q 155 Barry Gardiner: To be clear, Mr George, you are directly contradicting what Mr Hunter just told Mr Owen earlier. Mr Hunter said that there was a competitive market—and in fairness Mr Hunter just gave us the theology rather than the evidence—and therefore there should not be a problem. What you said is in fact the domestic market, as Mr Owen was suggesting, could not produce enough diesel to supply the whole market and therefore we have to rely on imports and in that sense it is not a competitive level playing field because no one of them can supply the entire market and we are subject to whatever the higher import price is. Is that correct?

Stephen George: I think it is exactly suggestive of a competitive market, some imports and some domestic production. For some UK producers it is cost effective to produce more distillate and to run at higher utilisation. If it were an advantage to the domestic production, the utilisation rates in UK refining would be higher. As it stands, to supply some of the markets, let’s say the southeast England market, it is probably more cost effective just to bring it in rather than to refine it at distance and then move it to the southeast England market by pipeline.

Q 156 Barry Gardiner: The benefit here is to the refiner and not to the customer. What you have told us is that they can make a greater margin elsewhere but not that there is adequate diesel supply from the domestic market. I understand that the benefit is to the refiner and that they believe that by not producing diesel but by producing other things they can make more margin on that, but from the customer’s point of view, as Mr Owen was suggesting, on the forecourt the domestic supply of diesel is inadequate and therefore the customer is left at the mercy of the slightly higher imported diesel price.

Stephen George: Possibly slightly higher, but I wouldn’t necessarily say that benefit accrues solely to the refiner. It is going to accrue through market forces to whomever—

Q 157 Barry Gardiner: The benefit there does not accrue to the refiner, I understand that, but the point is that what you were saying was that the domestic refiner is making greater margin elsewhere and therefore is not producing enough diesel to make Mr Hunter’s theology correct, that in fact there is adequate supply of diesel to supply the domestic
Stephen George: There isn't sufficient capacity here to supply the market without causing uneconomic distortions in the refining barrel. If UK refiners were to produce more distillates locally it would also mean they were producing more surplus gasoline and fuel oil products that have to be exported at relatively low value in order to produce a margin. They are obviously making an economic decision to produce what is the most economic for the company, I am sure.

Q158 Barry Gardiner: I think what Mr Owen and I were simply pointing out was it was the economic decision for the company and may not be in the best interest of the consumer on the forecourt. Can I try to drive another wedge between you two? Let me start with Mr Hunter. The Purvin & Gertz report has suggested that one of the key problems, if not the key problem, is that refiners here are subject to increased legislative restrictions or constraints and demands and yet the modelling that we have seen shows that production has been decreasing since 2004, demand has been decreasing since 2009 and imports have been increasing since 2005. The gentleman sitting next to you, Mr George, his company has produced a report that is saying new capacity, largely in the Middle East and Asia, India and China in particular, is coming on stream, which is giving you competitive disadvantage. Middle Eastern refineries, particularly Saudi Arabia and Abu Dhabi in the UAE, are aimed at producing products for export, counter to the usual rule of thumb, and China has been adding refining capacity at a rate of around 500,000 barrels per day per annum to keep pace with its own domestic demand. So the whole structure of global refining is changing, isn't it? They are very often larger refineries that have benefits of economies of scale that some of the refineries in the UK don't have. They can make different crude qualities and they are more suitable to produce the current demands of different petrol products.

Roger Hunter: And newer.

Stephen George: Absolutely. So the idea that this is all a problem with the regulatory burden of government in Europe is really pretty much nonsense, isn't it?

Roger Hunter: The regulatory burden that comes from Europe is clearly an issue for the refiners in Europe, including that of the UK. The underlying demand decline in countries like the UK and Europe is also a problem for European and UK refiners. I think we all acknowledge that there is a problem there for the sector and that there needs to be some rationalisation. As you rightly point out, other countries, for different reasons, are investing and keeping more and more supply, more and more infrastructure coming on stream, which has an overall global effect on the price of global refining margins. That combination has caused an issue for European, including UK, refiners. I still believe that well run, well invested in refiners within the UK can survive and will continue to be healthy, but there needs to be a shake-out, and there has been a bit of a shake-out over the last few years, in order for things to rebalance. The market will change. There will be fewer refiners in Europe over the next 10 years and that is a product of global changes in infrastructure supply and demand. Stephen George: I would say the same. The European market, as long as the borders are open—and you talked about carbon leakage earlier—to receiving imports of product that are less regulated than our own we are giving away some of the advantage we might have within Europe, but that doesn't mean that the markets aren't going to be flooded with products from some of these new refineries. Looking at the Middle East, it is a complete strategic sea change for these folks to start wanting to refine their own oil and ship the products out rather than to ship the crude oil out. They see it as building up jobs in the domestic economy and reinvesting in their own countries and pushing product out. You can imagine that if you are producing 10 million barrels of oil a day you are going to have no problem making sure your refineries are on full and push product out into the international market. I think the future reality is we are going to see some of that product coming our way in the medium term. Maybe in the long term it will start moving back into the Asian markets, but while there is a condition of oversupply globally that product is going to seek a market. I hate to say a sort of fortress around Europe but if there is not some kind of level playing field for European refiners they are going to face the brunt of economic forces that are coming from outside of Europe.

Q159 Barry Gardiner: Mr George, I think what your company's report did was it very clearly set out the whole range of different competitive attacks that the European domestic market and the UK market are faced with. I called them attacks. I simply mean the competitive disadvantages that we would be faced with. What I am trying to get out of both of you is a clear acknowledgement that the idea that the only reason that we are going to see refineries in Europe closing is that of legislative and regulatory disadvantage is nonsense and that there would be refineries closing in any event because of the very points that you have just made and that you set out very clearly in your report.

Stephen George: I think that is right. There is no reason to think that the regulatory burden in the UK or in north-west European or in Europe in general is the ultimate killer blow.

Roger Hunter: The only reason, I think you used the words “only reason”. It is not the only reason.

Stephen George: Certainly there are a lot of pressures beyond the regulatory burden.

Q160 Barry Gardiner: It is also possible, is it not, that the regulatory constraints that Europe is putting in place, and has put in place, are going to be ultimately caught up with by other regions putting those same regulatory constraints in place. We are looking to a scenario in 2015 with the UNFCCC COP in Paris where we are hoping for a global agreement on the level of aspiration in tackling climate change. The measures that we have taken and are taking in
Europe are ones that are front of edge, aren’t they? But if you are front of edge what you hope is that everybody else is going to catch up with you, and that is certainly what the United Nations is trying to do. Are the people behind the Purvin & Gertz report, who are now citing it so liberally as a means to attack the regulatory burden, not banking on regulatory failure in this? Are they not banking on the fact that maybe we will not get any global agreement on this and that we will continue our march towards busting through our 2 degree target? Stephen George: I wouldn’t want to comment on their objectives and I kind of doubt that is the case but maybe a slightly different—

Q166 John Robertson: Fortunately the Government asks the questions and you need to supply the answers. You don’t make the questions up so you have to answer the questions they give you, and they are asked for a reason. Government are not here to keep you guys in business. They are here to get the best deal for the country. So, perhaps when they ask the questions you will look at it in a different light. The UK refining industry, for example Petronines, have concerns regarding the European Commission refining fitness checks. What could the UK Government do to alleviate these concerns?

Stephen George: I am not aware of what the fitness checks are.

Q167 John Robertson: That is one for you to look up and perhaps send us something back in writing.

Stephen George: If I were asking DECC to look at things I would say to look at the competitive pressures that are coming from outside the European Union, make sure your terms of references are not drawn so narrowly that you say, “How are we competing against France, Denmark or the Netherlands?” and look at the forces that are coming from outside, because they are the big forces that are putting refineries in Europe out of business.

Q168 John Robertson: There are two ways to look at that. It is also to get companies such as Shell to explain basically why they have moved away from the UK. Quite a few of the oil majors have left and what we would really like to know is, is your exit related to Government actions or price, or is it just cheaper everywhere else to make it, or are the rules governing the refining not as stringent?

Roger Hunter: We didn’t exit the UK because of the Government. We exited the UK, and we have exited a number of refineries across the world over the last few years, because we want to reduce our overall exposure to the global refining margin. It is a strategic decision in terms of how we want to resize our downstream business to be more profitable and more competitive. That meant that we have stepped out and sold refineries in a multitude of different countries, and one of them was Stanlow in the UK.

Q168 John Robertson: So it was purely financial?

Roger Hunter: Indeed.
Q169 John Robertson: Is there anything the UK could have done to help attract these major companies back or from leaving, or is it just the fact that it is cheaper and easier elsewhere?

Stephen George: I think it goes to the healthy churn that was mentioned earlier, that we are seeing new entrants. That doesn’t mean they are weak entrants. They are entering with a new motivation. If Chevron moves out and Valero moves in, Valero are keen, independent refiners who have a vision and say, “We can do something with that Pembroke refinery”. If PetroChina want to come in and be refining in the UK, they have a motivation for doing that. If Essar come into Stanlow, they have a motivation for doing that. There is a new class of refiners in the UK but that doesn’t necessarily mean they are any weaker than the majors that are exiting.

Q170 John Robertson: Well, they are weaker because they are smaller. They don’t have the money at the back of them that the large companies have.

Stephen George: They have obviously come in here for sound purposes.

Q171 John Robertson: Yes, but they could leave just as easily as the larger companies do.

Stephen George: That doesn’t make them any different to the majors.

Q172 John Robertson: I have a problem with the larger companies doing that. They are quite happy to sell their product here, they make a lot of money from the British taxpayer, and yet when it comes to giving something back you are not very good at it, are you? Silence is golden. I will take that as a, “Definitely, no, you are not very good at it”.

Mr Hunter, Okios suggests that the use of UK Oil Pipelines Act is very clear about the fact that anybody can use that pipeline as long as it is not restricted.

Q173 John Robertson: Why would they say that then? My follow-up question was why would it be restricted? If they are saying it is restricted, obviously they would like to use it. What is the problem?

Roger Hunter: I think they need to read the UK Pipelines Act, because it is not restricted as long as it is not fully utilised.

Q174 John Robertson: So it will be restricted then. Whatever the UK licence is will be restricted to stop these companies from using it, otherwise they would be using it.

Roger Hunter: There are many, many tens of countries around the world where we are investing. We have numbers of investments in both upstream and downstream countries.

Q175 John Robertson: Okay. We will ask them what they have to say about it. What countries are Shell investing into these days? Whereabouts are you?

Roger Hunter: There are many, many tens of countries around the world where we are investing. We have numbers of investments in both upstream and downstream countries.

Q176 John Robertson: I used to have connections in Nigeria. Are Shell still in Nigeria?

Roger Hunter: Indeed.

Q177 John Robertson: Are they still gas flaring?

Roger Hunter: I am not from the upstream business, I am from the downstream business, so I am not an expert to answer the question.

Q178 John Robertson: It used to be that something like nearly a quarter of the gas flaring in the world was done in Nigeria. You don’t know? Okay. You are not answering many of my questions, but thank you.

Chair: Thank you very much for your evidence. If there is anything you think you wanted to add if you could put it in writing to us and similarly we may come back with further questions in writing. Thank you.

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Examination of Witnesses

Witnesses: Rt Hon Michael Fallon MP, Minister of State for Energy, DECC, and Sarah Rhodes, Head of Energy Resilience, DECC, gave evidence.

Q179 Chair: Thank you, Minister, for coming to give evidence. Since this is your first evidence session as the new Energy Minister, welcome to your role and we look forward to hopefully many years of exchanging evidence on the energy sector. Does DECC have a view of the balance of refining and importing as fuel supply to the UK economy?

Michael Fallon: That is one of the issues the cross-departmental review, which has already started and that I hope your own inquiry will be a useful addition to, is looking at to see whether we have the balance right in respect of a number of things—whether the duties paid by importers and refiners are right, whether the oil stocking obligations are fairly balanced between the two. So the broad answer is yes.

Q180 Chair: Are you minded to take action to improve refining capacity?

Michael Fallon: To improve capacity, no. As well as getting the balance right between importers and refiners, what we really want to look at is the way in which the environmental regulation imposes costs on our refineries and how we can be sure in future that we have sufficient resilience. I don’t think it is simply a matter of what is the right capacity. It is, is the capacity we have resilient enough.

Q181 Chair: In your written evidence you talk about transport providing 75% of the final consumption of refined oil products and then go on to talk about 65% of the transport fleet will need to be electrified by
2050. Are you saying in the long run there is not an issue?

**Michael Fallon:** In the very long run, perhaps there will be less of an issue, but that is 2050. Certainly I see oil playing a very big part in our transport fuel market right into the 2030s, if you are speaking of 2050 perhaps but we have a long way to go until then.

**Q182 Chair:** In the consultation, are you looking at the integration of refining and importing?

**Michael Fallon:** Yes, we are looking at all these things. There is quite a lot of integration at the moment, but we need to understand overall how the refining sector is constructed and, as I said, whether it has sufficient resilience for the years ahead. I think that is important in the light of the closures of Teesside and Coryton.

**Q183 Barry Gardiner:** How does the Department intend to ensure the correct mix of oil products are available in the UK?

**Michael Fallon:** I am not sure Government can decide the correct mix. I think what we have to be sure of is that we do have, as I said, sufficient resilience, and therefore sufficient capacity, I suppose, is the answer for likely demand. I do not think it is for Government to prescribe what the exact mix should be, I am sorry.

**Q184 Barry Gardiner:** No, I understand that answer and it is a perfectly reasonable statement of where you believe Government has a role to play. The problem of course is that at the moment our UK refineries are optimised to make more petrol than diesel and we find that demand for diesel is growing by a percentage point per year, but petrol demand is decreasing by between 5% and 7% per year. So when you say you want to ensure that we have resilience, that resilience has to be about producing a product that we want rather than a product that we do not want. I just wondered how you see Government being an active player in that.

**Michael Fallon:** It is obviously difficult for Government itself to start redesigning refineries. You have analysed it very well. Our refineries are petrol-facing, if you like, and not diesel-facing, and although they compete well at the moment in Europe, the long-term trend therefore puts them at a disadvantage. They are producing too much petrol, not enough high-value diesel or jet and they are less likely to compete with the refineries of the future and therefore the investment case for investing in them probably will get weaker. It is difficult to see in the long term how they are going to continue to compete in the same way that they are competing at the moment.

**Q185 Barry Gardiner:** We heard in our last panel— and Ms Rhodes was here for some of that—their concerns. You may be aware of the KBC report that has looked at the competitive pressures not simply from within Europe, as you were referring to, but much more widely from the Middle East, from the new capacity coming on in India and China that is changing the face of supply and demand there. It would appear that in effect what we have is an old-fashioned smaller-scale uncompetitive set of kit around Europe, which, it has been pointed out, has a higher regulatory constraint than elsewhere in the world. While we may all hope that the regulatory constraint may be levelised upwards to meet our good standards, those other pressures cannot just be legislated away. Therefore, when you speak of resilience and what Government needs to do to create resilience in the sector, it is difficult to see exactly what levers are available to you, isn't it?

**Michael Fallon:** Again, I think you have analysed it very well. There is over-capacity at the moment in the European market. As you have said, there is likely to be, and there is already, new capacity being added in the Middle East and in the Far East, and our own refineries have to compete against that. You described them as small scale. Our refining capacity is not wholly out of line; it is not out of line with France or Spain, for example. I accept there is more refining capacity in Germany and in Italy.

**Q186 Barry Gardiner:** I do not mean within Europe. I am really comparing it with what is happening now in the Middle East, where they have guaranteed supply into their refineries and they are producing the products for export. There they have the economies of scale that we simply cannot match, don't they?

**Michael Fallon:** Yes. The issue then comes back to your question as to what Government can do. We are, as I said, reviewing resilience. I think what we need to do is to see what we can do to help UK refineries invest in their own competitiveness, if I can put it like that. One obvious thing Government must not do is to burden them with unnecessary new regulatory costs that increase the capital budget and will not be affordable. That is why we are looking extremely hard at some of the regulatory proposals that are proposed at the moment. In respect of the commission's intention to hold what they call a sector fitness check, for example, I am concerned that the particular remit is a little too narrow and excludes some of the new regulatory costs. I apologise for a long answer, but I have written this week to Commissioner Tajani to ask him to widen his check to encompass some of the other regulation that affects refineries, not least the Fuel Quality Directive and the Industrial Emissions Directive.

**Q187 Barry Gardiner:** Is that letter in the public domain and, if not, could you make it available to us?

**Michael Fallon:** I have only just written it so it is not in the public domain, but I will certainly make it available to the Committee.

**Q188 Barry Gardiner:** Thank you very much. I am sure that will be extremely helpful.

Minister, given the sort of problems that we have identified for not only the UK domestic but the European refining market—and you have rightly talked about the regulatory burden but we have also talked about the other much wider competitive pressures that the European refineries are now facing—do you believe that the market has already incorporated those competitive disadvantages going
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forward into the share price of those companies or do you believe that that has not yet been reflected in the share price of those companies?

**Michael Fallon:** I am not sure I am qualified to assess the composition or the strength of the share prices of the various operations concerned. All I would say is that some proposed regulation at the moment is going to add to the regulatory burden, and that is where the need to be fairly careful, before we are absolutely sure that we have sufficient resilience, about adding fresh regulatory burdens that will apply in a cumulative manner. That is what I am really worried about. There is a cumulative burden of well-intentioned legislation that I fear could put further economic pressure on our refineries.

**Q 189 Barry Gardiner:** Just one final question then. Increasingly, refineries are closely integrated with other petrochemical plants, Fawley, Grangemouth, Stanlow, or they sometimes export the feed stocks to chemical production plants within the UK elsewhere and overseas. In its review is DECC considering the knock-on effects on those ancillary industries if the UK refining industry were to decline yet further? We have heard earlier that there will be, in the view of some of our witnesses, an inevitable rationalisation, that there may be further closures. What is that going to do for the ancillary industries that are based around our refineries?

**Michael Fallon:** That is something we should look at in the context of the review, yes. This is a cross-departmental review and, as you say, there are these ancillary activities that are associated with the refineries, or indeed partially integrated into them. We should look at that as well and we are.

**Barry Gardiner:** I think my question was more what, not will you.

**Michael Fallon:** We have just started this review at the moment, so I think it is a bit premature to tell you how it is going. We don’t know yet, but it is a wide-ranging review, as I have described it.

**Q 190 Ian Lavery:** I want to briefly mention the security of supply. The previous panel seemed to suggest that there were not any problems at all with the security of supply. I wondered what the Minister’s view would be on that. But in saying that, the International Energy Association model for Short-term Energy Security, that is MOSES, suggests that the UK dependence on imports of jet kerosene and diesel is currently at levels considered high risk for energy security and kerosene is just 1% off from being considered high risk. What are your views on this?

**Michael Fallon:** The MOSES index that the IEA operates has its uses. I think it has some weaknesses as an index, as it does not track developments over time, so I think it is more of a snapshot. We do not think there is any imminent or short-term issue with security of supply, but obviously when the Coryton closure was raised last year Government looked extremely hard at the likely implications and, as you will know, took the decision not to intervene. I think overall, that has been proven to be the right decision. We have not seen some of the consequences that were predicted at the time of the closure.

**Q 191 Ian Lavery:** What you would think is the optimal level of domestic refining for security of supply?

**Michael Fallon:** That is what we are looking at. That is the purpose of the review, to establish what the degree of resilience is and whether there are other ways of shoring it up. That is exactly what we are looking at.

**Q 192 Ian Lavery:** The MOSES model suggests import dependency equal to or greater than 45%. Is that the ballpark figure that you are looking at?

**Michael Fallon:** We are not looking at a specific ballpark figure. Obviously it is a widely-respected index and we pay attention to what the IEA say, but we are not looking at a specific figure.

**Q 193 Ian Lavery:** So you wouldn’t have any figure in mind on where there will be a huge problem in terms of security of supply?

**Michael Fallon:** I would not want to get pinned down to a particular figure and say that once you drop below or go above a certain percentage then you are in trouble, but we are looking at all this, this whole issue. That is the purpose of the review, so it may be that one of the conclusions we come to is that we should set ourselves some kind of trigger.

**Q 194 Ian Lavery:** Greenergy suggested that storing onshore product for strategic purposes builds security. Does the Government see a lack of stored product as a security of supply issue?

**Michael Fallon:** We are looking at the stocking obligation and there is a separate piece of work going on with the industry to look at that and the management of the way that oil is stocked and to see whether that can be improved. When that is concluded, we will see what needs to be done in terms of Government action.

**Q 195 Ian Lavery:** Does DECC have any strategy whatsoever for ensuring security of supply or basically are we hedging our bets?

**Michael Fallon:** We are not hedging our bets. We look at these things extremely carefully. Government looked very carefully at the situation when Coryton closed last year, because it was a very large refinery. We set up the review into resilience this year. These are matters I discuss with the downstream industry and we keep a very close eye on. We will learn a lot more from the review. Indeed, Mr Chairman, I hope we will learn from the evidence that you have been taking and weighing as part of your inquiry. There is no complacency about this issue. It is something we need to weigh very carefully.

**Q 196 Albert Owen:** Good morning, Minister. Can I take you back to some of the responses you gave Mr Gardiner with regard to the impact that legislation has on the industry? You are sending a letter to the Commissioner in Europe and it is very welcome, but in the evidence— and indeed in your consultation, if I can start there— you talk about, “The challenges faced by the UK sector are in common with other European refineries”. We have had companies giving evidence
to us in earlier sessions saying there is a lot of gold-plating going on, in other words there are issues in the United Kingdom that are over and above what Europe does and it makes the margins tighter and British refineries less competitive. How would you respond to that?

Michael Fallon: Gold-plating is an issue the Government takes extremely seriously. We published what are called the guiding principles on all Government Departments in order to avoid gold-plating and they took effect from 1 July 2011. Under one of my other hats, I am the Minister responsible for ensuring that we do not gold-plate any more.

Albert Owen: I wasn't going to embarrass you on your dual role on your first outing.

Michael Fallon: But it is one of my jobs to ensure that we do not gold-plate, and we have added very recently a further sixth principle to ensure that, far from gold-plating, Government Departments do the minimum necessary to implement the legislation, rather than adding to it. There has been gold-plating in the past, I am afraid, under previous Governments, and we are looking back through the stock of legislation to see where there was gold-plating that was simply discretionary. There have been examples, not in the energy field, where Government has had the chance—

Q197 Albert Owen: You are being very general, sorry. The evidence we were given was very specific today. It was specific about European legislation that is coming forward that this Government, under this regime—you made it partisan in saying about the differential; I am saying it has been going on for a long time and it is continuing to go on—are looking at this and bringing this legislation in sooner and it is unclear how this EU legislation will develop, so we will end up with more regulation. That is what the industry is telling us. It is not a partisan point about which Government brought it in. It is a fact that we have been given, only a fortnight ago, by oil refineries companies.

Michael Fallon: I am not aware of any example since July 2011 of gold-plating in terms of energy legislation, and if you have one I would be very happy to look at it. I think there has been gold-plating in the past. Let us just say between us, Mr Owen, it probably occurred under all kinds of Governments, but the purpose of the letter to the Commissioner is to ensure that his approach is much more robust, that it does look overall at all these pieces of legislation. I am concerned about the cumulative impact, not so much the gold-plating, the fact that there are so many regulatory proposals that will involve extra cost for our refineries.

Q198 Albert Owen: Would you accept that Britain is too keen to move ahead of other European companies and put British companies at a disadvantage?

Michael Fallon: I think in the past there has been a tendency in this country to conform with the law. We have been good and we have signed treaties—

Q199 Albert Owen: With respect, I am sure if I was asking our European counterparties they would be saying that they would do it within the law as well. What I am saying specifically is if a date is given and you have to bring in a regulation in three or four years' time, here in Britain we tend to bring it in unduly early, as some companies suggest.

Michael Fallon: We do not do that now and we would only ever do that if industry itself saw some advantage in bringing it forward earlier.

Q200 Albert Owen: With respect, I am sure you read the text of what the oil refineries are saying. I am not saying that it is happening now or last year or the year before, what happened in the previous Government. I am saying they are raising it as recently as a fortnight ago as an issue, which I am sure will come out in the review and consultation. Do you accept that this is a fact, that it is happening and do you believe that you should be doing something immediate about it?

Michael Fallon: I will certainly look at it. You have drawn it to my attention. I will look at that particular evidence. All I am saying is that it is Government policy that that should not happen across the board. If there is a specific example, I will look at it. If I can add, Chairman, where I said that we are too ready to conform to the full thrust of the law, and you suggested other member states might say the same, that is not quite right. We have come across examples of other member states who are willing in their interpretation of EU legislation to be taken to court and have infraction proceedings against them and they are prepared to take more of the risk of that.

Q201 Albert Owen: But that wasn't the example, with respect. I know that goes on. The Irish are famous at it. I do a lot with Irish politics, I know, but they go to the wire and they do not actually appear in court.

Michael Fallon: I will look at the evidence that you are drawing my attention to.

Q202 Albert Owen: The point has been made to us that here in the UK it is more difficult because we either have additional regulation burden or we bring in European legislation too early. That is the point I was making and you have said that you will look at that. But going on to the European-wide level, do you believe that some of the environmental protection legislation that we have puts at risk European business, and in particular UK jobs, and good refineries are facing extra burden for it and it does not do much for the environment? Is that a general view that you would share? A gain, it has been given to us in evidence, which is why I am raising it.

Michael Fallon: The industry certainly have drawn our attention to the considerable costs that are likely to be imposed by the regulatory proposals, not by the regulation that is biting at the moment, but the regulation that is coming down the track, and we have no reason to dispute their particular figures. That is why I am concerned about the cumulative impact of European legislation. Some of these commitments of course are much older. Some of these various schemes
such as the Carbon Reduction Commitment was, of course, signed by a previous Government.

Q203 Albert Owen: Previous Governments and future Governments will be signing up to them as well. I think you are wearing a third hat here as Deputy Chairman of the Conservative Party, to be honest with you, looking at some of the answers that you are giving, but I can live with that and I will respond openly and honestly to it. But honestly, what I am dealing with here is evidence that we have had as recently as a fortnight ago, and I am concerned as anybody across parties on this Committee about some of the issues that they raise. I am not doing a party knock-about; I want to get what is best.

You mentioned—and I will deal specifically with—the up and coming legislation, which I do not think you can even blame on the previous Government, let alone two or three previous Governments. Can I ask you specifically what you are going to be doing about it? What is worrying some of the oil refiners again is that they cannot plan to invest because they are not sure what is going to be happening. What are you doing, as the British Energy Minister, to ensure that British companies know exactly what is coming down the line so they can implement it now and plan for the future to help UK refiners?

Michael Fallon: That suggests you do want them to implement it sooner rather than later.

Q204 Albert Owen: No, I think that it is unclear at the moment, that there is no focus on it, they are not sure what is going to be happening. What we are saying is—their words again not mine—they have concern about timing and focus of the EU fitness checks in particular. They want to know what the UK Government is going to be doing about it. That is what I want to know, because they raised the issue with us.

Michael Fallon: On the fitness check, I have already told you that I want the Commissioner to widen his fitness check to encompass particularly the Fuel Quality Directive and the Industrial Emissions Directive. On the very specific legislation the industry is concerned about, primarily implementation of the Fuel Quality Directive Article 7a, that has not yet been agreed and that is something we are battling in Brussels over. We are absolutely determined to make sure that it is fit for purpose, that it does deliver the progress towards environmental goals but it does so in a way that doesn’t impose an unsustainable burden on the refining industry that will simply lead to more closures. So that is a very good example of a proposal that we are fighting on behalf of industry over in Brussels.

Albert Owen: That is one you will get my 100% backing on if we can get it focused and sorted out very soon.

Michael Fallon: I hope we will. These things are not easy in Brussels, but I can assure you that is one particular proposal we are fighting.

Q205 Albert Owen: That is one we have full agreement on. But I have a few more questions and one of them is specific to Britain, and again an issue that has come up and surprised some of us on the Committee was the fact that products that are made and refined in the UK pay duty to be shipped out or shipped within the UK, whereas coming from the European refineries or anywhere else in the world don’t pay it. Again, UK refineries are at an unfair advantage. How do you respond to this?

Michael Fallon: As I described at the beginning, that is a key part of our review, to look at the balance between refiners and importers as to how the duty is fairly distributed and whether there is a case for rebalancing the duty between the two. That is a very important part of the review and I think you have really put your finger on one aspect of where our refiners may be at quite a significant disadvantage.

Q206 Albert Owen: Do you accept that the UK duty is a disadvantage to UK refineries?

Michael Fallon: What I accept is it is different, and you have drawn our attention to that. It is different for refineries as it is for importers.

Q207 Albert Owen: It is hugely different.

Michael Fallon: It is hugely different, fine.

Albert Owen: One company says $5 a tonne.

Michael Fallon: Yes, it is hugely different and what we need to establish is that huge difference—

Q208 Albert Owen: It is not a difference, it is a disadvantage. Let’s not play with words. It is a huge disadvantage to UK companies. It is not a difference here, it is a disadvantage. It is clear, isn’t it? If you pay extra in the UK for your own product than somebody importing it, it is a huge disadvantage.

Michael Fallon: Yes, but what we need to establish is whether that disadvantage, which has been around for a while, is fair, how it is constructed, whether it is intellectually justified and whether it is coherent and whether it is too large, and that is precisely part of the review.

Q209 Albert Owen: I think we disagree on interpretation here. If something happens in Europe, it is clearly wrong and a disadvantage; if something happens in the UK, there might be a perfectly good reason for it. That is what you are saying.

Michael Fallon: No. I am saying we need to look at the balance between importers and refiners of all these obligations, and indeed the levels of duty. We need to have a good look at it and see whether, as the industry says, that is a huge disadvantage, as you describe it, or not. That is a key part of our review.

Albert Owen: I am describing what they are telling us. I am not making this up.

Michael Fallon: Sure.

Q210 Albert Owen: The final point I have to make is that evidence to this Committee suggests that some companies have to get two licences for the same piece of work on jetties; hazardous substances consent licences are given by local authorities and there are long delays. What scope is there for consolidation and rationalisation of these licences? Is this something that you have identified and that you want to come out of this review?
Michael Fallon: If you are talking about the development of jetties and docks and things like that, we have separately—I am afraid wearing another of my hats—agreed a protocol between the various licensing authorities, the MMO, Natural England, the Environment Agency, the local authority and so on. We have spent a lot of time on this and now have a protocol that they will decide very quickly in any application as to who the lead regulator is, so there is not a whole series of sequential consultations one after the other, you don’t have to go from one to the next. There will be a lead regulator who will take overall charge and liaise with all the others.

Secondly, where a local authority might not have experience of handling that kind of application, they might never have seen it before, they can access advice through the Local Government Association from another council that is used to dealing with it and, if necessary, bring in outside expertise. It has been an issue, not simply for the refining industry but for all kinds of maritime developments.

Q211 Albert Owen: So again it is a question of rationalising the different levels of consents and you are looking at that closely?

Michael Fallon: Yes. It is simplifying it, it is ensuring that these things are handled as efficiently as possible in terms of time and bureaucracy, that companies are not faced with having to go through the same consultation in essence through a number of different agencies.

Q212 Albert Owen: So you, as the DECC Minister, are looking to simplify the consent process?

Michael Fallon: I have been looking to simplify it as DECC Minister and as a BIS Minister.

Q213 Dr Lee: Looking at the role of UK Government, I suspect, Minister, you are well placed for this, as somebody who is across Departments and the sort of alleged silo thinking that can sometimes go on in Government. Phillips 66 were quoted as saying that, “The issue being within Government, whether is UK or EU, is that Government is organised by Departments. The energy, there is transport, there is climate change, and it is about trying to get them to work together across the boundaries to see the whole picture and not just the picture that they see within their remit.” I think if that could be worked on as well, that would make the legislation more effective at a holistic level. Are you working across Government to help resolve the cross-departmental issues of oil refining and storage, the move from refining to storage facilities at the UK and/or at the EU level?

Michael Fallon: Yes. This is a cross-departmental review, so it involves not simply my Department but other Departments with an interest, the Department for Transport, the Treasury and others.

Q214 Dr Lee: DECC has previously commissioned studies on the oil sector in 2009, 2010, 2011 and worked in collaboration with UKPIA to agree terms of reference for an independent study published in May this year. In response to that, Essar Oil stated that the rigour and openness of Government in this recent stage of refining had been excellent. However, UKPIA stated, “At the end of this Department consultation there has to be a refining strategy for the UK that deals with concrete actions”. Do you think there are going to be concrete actions?

Michael Fallon: It is possible. That is what the review is there to find out. There may well be actions we can take. Mr Owen opened up one area, which is the balance between importers and refineries and how fair that is in terms of stocking obligations or duties. We do not know, but there may be some very specific actions that we are able to take to improve resilience and I am sure there is more we can do on the legislative and regulatory side to decrease the burden and ensure that, as I said, the cumulative impact is minimised.

Q215 Dr Lee: When do you foresee making the recommendations?

Michael Fallon: We are working towards the end of the year, I think.

Q216 Dr Lee: Shell and other global oil majors have exited the UK refinery industry. Is this of concern? Do the Government think they have a role to try to attract oil majors back to the UK?

Michael Fallon: No, I do not think it is Government’s job necessarily to do that. Obviously when Coryton closed, these were things that the Government looked at across the sector, but I do not really want to be drawn into discussing the strategy of individual companies, or indeed the position of individual refineries. It transpired, I think, after Coryton that the sector could cope, the resilience was there, but I want to be sure that the resilience will continue to be there, given the pressures that we have been talking about.

Q217 Dr Lee: In the light of changing global circumstances, which seem to have changed by the day, particularly in the fossil fuel rich parts of the world, do you think the role of Government in general is going to increase in this market or decrease?

Michael Fallon: There will obviously be a role for Government in responding to the various pressures for example, the more and more environmental legislation. Those pressures are here, those pressures are in Brussels, and indeed there are international commitments, so there is certainly a role for Government in weighing those various demands and the commitments that we are being asked to sign up to and making sure they don’t impose unnecessary costs on our industry. But the oil market, as you have indicated, is changing and the centre of gravity of refining seems to be shifting as well to the east. I don’t think that is a trend Government can halt.

Q218 Dr Lee: Do you foresee a tension that the refining capacity is moving towards autocracies, away from democracies, in the context of security of supply, resilience, our ability to have a functioning economy in the future, which ultimately is dependent upon energy and the cost thereof?

Michael Fallon: That is certainly worth thinking about. It is not something I have considered at the moment as to where exactly future refining capacity
is likely to be around the world, but obviously part of our review is to look at resilience and we do that right across the energy sector to make sure we are not over-dependent on single or unstable sources.

Q219 Dr Lee: Finally, the refining capacity in this country is predominantly towards sweeter forms of crude, I think I am right in saying north Africa, west Africa, that type of part of the world outside of our own. Do you think our foreign policy and defence policy should reflect that going forward in terms of building resilience?

Michael Fallon: Yes. We do look at those things all the time when considering gas pipelines, for example, or our dependence on foreign design or finance for our nuclear industry. We do weigh up all time the foreign policy considerations of that across Government.

Q220 Barry Gardiner: Minister, you mentioned the burden of the CRC that has been placed by the previous Government, but of course the previous Government had asked the businesses to make those commitments and then had said it was going to recycle the £1 billion to the businesses themselves. It was your Government, when it came in, that said that £1 billion would be taken away from them and taken into the Treasury. Is your comment to Mr Owen about the CRC an indication that the Government may be looking to repatriate some of that £1 billion back to business?

Michael Fallon: No, that is not what I meant, and I do not want to get drawn into too much of a party political argument about this.

Barry Gardiner: You did start it with that.

Michael Fallon: I started it simply by showing that some of those commitments that turn out to be too burdensome we all happily signed up to, previous Governments, previous Parliaments and I think that is always something we should bear in mind. As I understand it, that particular scheme we have now simplified and there will be very little—minimal—cost to the industry from its implementation. So we have, I think, improved it. But if I may, I will look at your specific point about the missing £1 billion and get back to you.

Q221 John Robertson: I always find it funny that we are all in it together sometimes; it just depends on whose fault it is. Anyway, moving on, the IHS independent report published in May this year suggests the annual contribution of the UK refining industry to the economy is some £2.3 billion and each large refinery is estimated to inject around £60 million plus into the local economy where it is located. They claim the UK oil refinery sector is a crucial sector and contributes some £60 billion to the UK economy, with a downstream sector accounting for some £37 billion worth of tax and VAT revenues. What impact would the closure of this industry have on fuel costs in the UK economy?

Michael Fallon: If the whole industry was to close, it would certainly have an impact. It is an important industry, it is a relatively large industry. According to the UKPIA, refineries support around 26,000 jobs directly and indirectly if we lost all our refineries, yes, it would certainly have an impact.

Q222 John Robertson: But do you accept we are on a path of decline in this area?

Michael Fallon: We have seen two very recent closures. As I said, our refining capacity seems to be roughly in line with that in France and Spain, so I think it is a bit too early to foretell the end of the industry, but we have earlier discussed some of the challenges it faces. It is a very competitive industry. It is competing well in Europe at the moment, but it does face these challenges in the balance between petrol and diesel and the new regulatory burdens and costs that are going to be imposed and will require extra investment.

Q223 John Robertson: Is there anything Government can really do or are we just in the hands of the market?

Michael Fallon: We are not leaving it entirely to the market. That is why I am talking to the industry and why we have set up this review, which will look thoroughly at the resilience of the industry and the amount of capacity that we really do need. That is why you are having this inquiry and that is why Government will continue to battle, with the industry, where the proposals from Brussels seem to be disproportionate, so we are not sitting back watching an industry decline. On the contrary, we are having a good hard look at it and we are ready to defend the industry where we can.

Q224 John Robertson: Do you think it is fair to say that the UK Government is responsible for the largest component in cost, in excess duty, and so its regulation is also causing them problems, particularly on the domestic front?

Michael Fallon: Clearly duty is a very large component of it and the regulation of course is not simply domestic, it is European regulation. These are commitments that have been signed up to or ambitions that successive Governments have supported in terms of improving the protection of the environment. So to that extent, yes, there is a Government responsibility there.

Q225 John Robertson: In the previous panel, they pretty well said—in some cases by their silence—that cost is the name of the game and that nothing else really matters so going to the cheapest and easiest place to do the refining is where they want to be. How does that meet the security aspects of this country?

Michael Fallon: We touched on this earlier and I think Mr Lavery raised this issue of whether there was a dependency percentage beyond which we would feel insecure in terms of our supplies. But this is a very competitive industry, Mr Robertson, and of course our constituents benefit from that competition if costs are kept down for them, because these refineries are competing against each other and are competing across Europe at the moment. What we are talking about here is the future burden of costs and the continuing over-capacity in the market and the likely
increase in capacity further east. These are the challenges the industry faces.

Q226 John Robertson: Yes, but if we continue to rely more on importers and terminals abroad and the infrastructure that is outwith our control, this puts our security in danger, does it not? This Committee originated years ago because of security of supply of energy and yet we seem to have forgotten that that is one of the reasons that we are here. I would say, Minister, the Government may have put that through into the background as well.

Michael Fallon: Absolutely not. Security of energy supply is one of our principal policies at the Department of Energy and Climate Change, whether we are talking about gas or whether we are talking storage or whether we are talking about getting the right mix of energy sources so that we are not over-dependent on one particular technology or one particular source. That is why this Government, with support from Parliament very recently through the energy legislation, is taking forward the replacement of our nuclear fleet. That is yet another way of enhancing our security. But you make a fair point, the overall dependence on oil products coming from abroad, and when I say we need to improve resilience, that is something we need to have a look at and see if we can answer Mr Lavery’s question: should there be some kind of default trigger, that we want some dependency percentage we would not want to go over?

Q227 John Robertson: How much effort will be going into electrifying 65% of the transport fleet by the 2015 emissions target, to say the least, and various other technological and infrastructure development? The Government is contributing £25 million to ultra low carbon vehicle demonstrators, £20 million to the Low Carbon Vehicle Public Procurement Programme and the Office for Low Emission Vehicles was set up in 2009 to oversee aspects of electric funding. In 2010, £43 million was confirmed for the consumer purchase subsidy. Does this investment stack up for UK residents? Will transport by electric vehicle be as cost-effective as transport based on oil products? In other words, are we starting to forget about oil and yet we may not be able to deliver electrically?

Michael Fallon: The cost of oil has risen enormously in recent years, and in order to meet our overall carbon reduction targets, of course we have encouraged the automotive industry in its move, which is happening anyway, towards electrical or fuel cell vehicles. I take responsibility for the OLEV budget that you have referred to, in conjunction with Mr Baker at the Department for Transport, and we are spending Government money on research and development in this area, in ensuring that, for example, where electric cars are encouraged, there are the plug-in facilities that you would expect. We are already seeing the development of longer-range electric vehicles by producers here and in Japan. We are fairly close to the development on a more commercial scale of fuel cell vehicles. So these are not things we can ignore and it may well be they do contribute to a reduction in the demand for oil products.

Q228 John Robertson: One of the things that concerns me personally is the aspect of cheap labour and, shall we say, companies working at less reliable safety practices abroad. How much does this Government look into these companies that sell their product in this country, the same way we have done in clothing and aspects of that as well? The same kind of thing can be levelled against some of these companies abroad.

Michael Fallon: I think you are right. Clearly some of these newer refineries further east do not have the same health and safety or environmental standards that we already have and certainly are not considering imposing the new regulation that is coming down the track from Brussels, so they are at a competitive advantage. How much can be done about that, as you suggested, in clothing or textiles, I am not sure. If your Committee would like to recommend or look at that particular action that would certainly be useful, but I am not sure how we can ensure that those costs are more fairly balanced between us and, say, Middle East countries.

Q229 John Robertson: Surely the buying power of this country can put pressure on these companies. Embarrassing them in the media alone would cost them a lot of sales, and that would be spread over quite a lot of the rest of the world, would it not?

Michael Fallon: Possibly. We have seen in the retail sector how responsible retailers are able to secure and protect higher standards from their suppliers and it is maybe something that could be looked at in this sector too.

Q230 John Robertson: You get my point though, that the lead has to come from Government.

Michael Fallon: The lead probably has to be international if there are—

Q231 Albert Owen: A big concern for my constituents and businesses in my area is the high cost of diesel as opposed to petrol. As you are well aware, as somebody who has been in Parliament for some time, there used to be incentives for people to switch to diesel motors. Many in my area did so and have still kept them—they don’t change their cars every year—and they are now paying a higher cost for that because of the lack of capacity of oil refineries to diesel in this country. Is that a concern that you have, because of the impact particularly on businesses as well, because the cost of many of the goods in periphery areas reflects the cost of transportation, which is from diesel?
Michael Fallon: We are looking at that. It is a fact that the other European countries levy a lower fuel duty on diesel than petrol and we are the exception. I think there are some areas of company car tax where that is not true, but in general terms we are the exception to that. So we are looking at it. It is part of the review. I think the difficulty would be even if Government tried to change, to realign the duty, it might take years and years before people then moved away from—

Q232 Albert Owen: Sure, but it would have an immediate impact on some of the small businesses, and be an advantage to them. At the moment, most of the goods in periphery areas do come by road and there is high diesel cost, which is the reason I raise this. There is day-to-day concern in my area. But it is linked to this inquiry, Minister, which is why I think it is important, because much of the evidence, which I am sure you will read, suggests that because of tight margins, that is a deterrent in investing in production of diesel. We had a very good earlier session that gave a different view on that but, at the end of the day, the customer is suffering as a consequence of this.

Michael Fallon: Sure. That is something the review is looking at.

Q233 Chair: Thank you very much, Minister, for helping with this inquiry and obviously our report will come into your inquiry as well. If there is anything you think you should have said that you have not said please put it in writing, and similarly, if there is anything we need to follow up, we will write to you as well.

Michael Fallon: Thank you, Chairman. I certainly owe Mr Gardiner a letter, I think, on the cost of the CRC, but if there is anything additional I will certainly add it. May I say again, we very much welcome your inquiry and it is going to be a big part of our review, and Parliament and the Executive seem happily aligned here in terms of timetable? Thank you.

Chair: Thank you very much.
Written evidence

Written evidence submitted by the Department of Energy and Climate Change

INTRODUCTION

1. DECC welcomes the opportunity to provide evidence to the Select Committee's inquiry announced on 18 April 2013.

2. DECC is leading cross-Government review of the role of the UK refining and fuel import sectors in the supply of refined oil products into the UK market. The review will consider the UK’s need for petroleum products over the next decades as we transition to a low carbon economy in 2050. In meeting this demand, it will assess the contribution of the refining and import sectors to the resilience of UK downstream oil supply, to our economy, environment and wider society, and the growth capacity of the import sector.

3. A key focus for the review will be the impacts of the existing and, particularly, the proposed regulatory and policy framework on the refining sector. It will also consider the balance of regulatory obligations between refiners and importers, and the risk of undermining policy goals (eg in environmental protection) by importing from less regulated countries.

4. The review will identify any appropriate actions to incentivise investment and improve competitiveness to ensure UK supply resilience.

5. The Government is committed to ensuring that the UK has a downstream oil supply chain that provides security of supply, is resilient to short term disruptions, and supports jobs and economic development. Building a clear and robust evidence base is critical, and will enable us to address the challenging questions posed by this review. As such it would be very helpful if the Committee published evidence early and shared final (or at least interim) findings with DECC in time for these to be factored into the review, which will publish conclusions towards the end of this year.

6. The review will be informed by a DECC Call for Evidence to be published during May, a series of focus groups, and input from a wide range of stakeholders who have both a direct and indirect interest in the downstream oil sector.

7. DECC has worked in collaboration with the UK Petroleum Industry Association (UKPIA) to agree terms of reference for a study (undertaken by independent consultants PGI) to assess the role and future of the UK refining sector in the supply of petroleum products and its value to the UK economy. This study was published on 10 May 2013 (http://www.ukpia.com/files/pdf/therolefutureoftheukrefiningsector.pdf).

8. As the Committee will be aware, the European Commission announced in 2012 the intention to undertake a Fitness Check for the petroleum refining sector. This will look at the implementation and interaction of those policies that are most important for the competitiveness of the sector. The Commission recently published the draft mandate for the Fitness Checks for consultation, and intend to complete the Fitness Checks by September 2014. This will involve a quantitative assessment of the impact of European regulation on the costs and expected revenues of the EU petroleum refining industry, and its capacity to invest, to innovate and to be competitive internationally as well as the environmental and social impact such as in the case of relocation of production facilities outside the EU that could increase emissions in third countries where industry would not be subject to comparable regulation and lead to a loss of employment in the EU.

9. The Commission will also undertake a qualitative assessment considering how coherently and consistently EU legislation work together and to look for excessive burdens, overlaps, gaps, inconsistencies and obsolete measures. Underpinning this work, the Commission has also established the EU Refining Forum. This is a permanent body for discussions of relevant proposals and initiatives with potentially significant impacts on the industry and on security of supply. DECC attends this forum which has representation from Member States, MEPs and stakeholders. DECC also intends to input the findings of the review into the Commission's Fitness Check.

DECC RESPONSE TO COMMITTEE QUESTIONS

What are the factors that have led to closures of UK refineries? Why is production increasing overseas?

10. The UK’s oil refineries compete in a difficult international and competitive market for both crude oil and refined product. High global oil prices have squeezed downstream margins and reduced the profitability of the sector, and global refining overcapacity adds further pressures. In addition, the UK’s refineries were built in the 1960’s and 70’s, and were configured to meet a high market demand for gasoline. Since then, demand has shifted towards middle distillates such as diesel, and although overall demand for refined products in the OECD is declining, this trend is continuing and the UK is ever more reliant on imports of diesel and aviation fuels and exports petrol. Put simply, UK refinery output is out of balance with market demand and profit margins are thin. Cheaper competition from the US, based on shale oil, is expected to exacerbate this situation.
11. These problems are shared across Europe and both European and UK refining capacity has sharply reduced. The UK has seen two recent closures, at the Coryton and Teeside refineries, as PetroPlus went into administration in late 2012.

12. There remains a risk of further refinery closures in the UK, as a combination of the above factors continues to put pressure on the sector. Global refining capacity is projected to increase by 7% between 2011 and 2017, with most of this coming from China and the Middle East. These refineries are able to compete very successfully in the global market due to a number of factors that includes less regulation, in particular environmental regulation; more government support and investment, modern infrastructure that matches current demand/supply mix, and more favourable tax/duty regimes that mean that exporting their products remains competitive, despite additional transportation costs.

What impact (if any) has UK and EU regulation had on the UK refining industry?

13. The sector is heavily regulated notably for environmental protection and safety reasons, which has significantly increased costs compared with some global competitors.

What part will refined oil products play in the UK's energy requirements and transport in particular to 2030 and beyond? What mix of products is likely to be required and how well does this match with current UK refining capacity?

14. Oil is likely to continue to play an important role in meeting our transport needs well into the 2030s. Overall demand for oil is expected to remain relatively constant in the short term, but low carbon futures estimate at least 65% of our transport fleet will need to be electrified by 2050 to meet carbon targets. Our exact levels of oil use in the future will be dependent on innovations in the transport sector. Diesel consumption in volume terms is expected to plateau from 2020 onwards owing much to more fuel efficient vehicles whilst demand for jet fuel is likely to continue to steadily increase.

15. Scope for consumer preferences to change and manifest in the fleet mix is likely to be gradual. Thus, the preference for increasing consumption of diesel over petrol is expected to continue at least in the short to medium term, exacerbating the mismatch of UK supply and demand of refined product. Given current market conditions and trends the UK is likely to grow increasingly short of domestically refined middle distillates such as diesel and jet fuel.

What is considered to be the right balance between oil products refined locally and imports and what are the current and future scenarios?

16. This question is at the heart of the DECC review, as our refining capacity has declined and imports have increased in recent years. It will be considered from the point of view of supply resilience, and contribution to economic, social and environmental goals.

What are the factors, both domestic and international, that will determine the future viability of the UK refining industry?

17. Key factors include legislative costs, crude oil costs, operating margins, access to capital, and relative production costs and profitability compared to competitors.

What impact would the closure of UK refineries have on (a) energy supply security (b)environmental objectives and (c) the price of petroleum products in the UK?

18. The DECC review of the role of UK refining and import sectors in the supply of refined oil products into the UK market will consider this question.

What would be an appropriate baseline level of refining capacity in order for the UK to remain broadly self-reliant in an emergency?

19. The DECC review of the role of the UK refining and import sectors in the supply of refined oil products into the UK market will consider this question.

What steps could the UK Government take to maintain an appropriate baseline level of refining capacity?

20. The DECC review of the role of the UK refining and import sectors in the supply of refined oil products into the UK market will consider this question.

What is the significance and potential future impact of the changing ownership of UK refineries in recent years?

Most UK refineries have undergone a change of ownership over the last decade and one is currently for sale. Perhaps the most significant result of this change is that the downstream oil sector as a whole is much less vertically integrated. UK refined product is increasingly sold on a “merchant” basis, to distributors, suppliers and retailers who will move and sell it under a different brand. This fragmentation of the supply chain impacts
Supplementary written evidence submitted by Michael Fallon MP, DECC

Re: Energy and Climate Change Select Committee Inquiry into oil refining in the UK—follow up points from oral evidence session.

I agreed to write to the Committee on a couple of points following my appearance at the evidence session on 25 June 2013.

First, I would like to clarify the position regarding the CRC Energy Efficiency Scheme. This scheme started on 1 April 2010, and is designed to improve energy efficiency and cut emissions in large public and private sector organisations. As a result of stakeholder feedback that the scheme was overly complex and administratively burdensome, Government committed to review its operation and design with a view to simplifying it. It consulted on this in March–June 2012 and published a Government Response in December 2012. This announced that the simplified scheme will come into fully into effect from the start of Phase 2 (2014–15), with some changes being introduced for the final two years of Phase 1 (2012–13, 2013–14).

The simplification of the CRC Scheme will reduce the scheme’s overlap with other policies such as Climate Change Agreements (CCA) and the EU Emissions Trading Scheme (ETS). Facilities and installations covered entirely by CCAs and EU ETS installations will not be covered by CRC. For refineries, the UK PIA sponsored study by Purvin and Gertz estimates that the 2013 (final year of phase I) costs to be in the region of £12.2 million across the seven refineries. As a result of the changes to the scheme they do not consider that there will be costs for refineries in the second phase.

Government took the decision to end revenue recycling and allow HM T to retain the revenue because, as well as driving energy efficiency, CRC revenues are helping to address the deficit. Further, not recycling CRC revenue gives a significant secondary benefit of a clearer carbon price signal which can help strengthen the business cases for energy efficiency projects. The decision to end revenue recycling was taken against a background of unprecedented pressure on the exchequer and the Chancellor has announced that he would seek to remove the tax raising element of the CRC scheme when public finances allow. The CRC scheme is expected to deliver £3.1 billion in revenue this spending review period: 2011–12—£673 million; 2012–13—£721 million; 2013–14—£724 million; 2014–15—£913 million.

In his 2012 Autumn Statement, the Chancellor committed to a full review of the CRC in 2016. We are continuing to keep the regulatory landscape under review, in order to ensure policies provide a supportive environment for business.

Second, the committee referred to an example of “gold-plating” provided by the refining sector at the first evidence session. This refers to an objective for a 15 minute measurement of sulphur dioxide, which industry consider represents a “gold plating” of EU limit values. To clarify, this was last debated in 2007 as part of a consultation on the UK Air Quality Strategy. The UK had existing domestic legislation in place regarding limit values that were stricter than proceeding EU legislation. The great majority of respondents to the consultation agreed that the limit value should stay the same and not be lowered in line with new EU limits as this would be a retrograde step.

I do not believe that “gold plating” is the issue here. Rather, the review will explore whether there is any evidence to suggest that implementation and enforcement of EU legislation is unaffordable or more burdensome in the UK than other EU countries. Nevertheless, I would encourage the sector to come forward with evidence where they consider there is a risk that EU legislation is or has been “gold-plated”.

As I stated at the session, tougher new rules have been imposed across Whitehall to prevent government departments adding to UK business costs by adding additional burdens to EU legislation. Furthermore, I have also committed to withhold agreement for any new regulations that gold-plate EU legislation unless it can be demonstrated that it is in the UK’s interest.

Finally, I would like to thank the committee for its work in this area and look forward to the inquiries findings which will be taken into account as part of the cross Government review into the role of the refining, wholesale and import sector in the supply of refined products into the UK.

June 2013
Ev 42 Energy and Climate Change Committee: Evidence

Written evidence submitted by Phillips 66 Limited

Phillips 66 is a downstream energy company with Refining and Marketing (R&M), Midstream and Chemicals businesses. The company’s R&M operations include 15 refineries with a net crude oil capacity of 2.2 million barrels per day, 10,000 branded marketing outlets, and 15,000 miles of pipeline systems. In Midstream, the company primarily conducts operations through its 50% interest in DCP Midstream LLC, one of the largest natural gas gatherers and processors in the United States with 7.2 billion cubic feet per day of gross natural gas processing capacity. Phillips 66’s Chemicals business is conducted through its 50% interest in Chevron Phillips Chemical Company LLC, one of the world’s top producers of olefins and polyolefins with more than 13 million metric tonnes/year of annual chemicals processing capacity across its product lines.

Phillips 66 Limited owns and operates the Humber Refinery in the UK and markets transport fuels under the JET brand.

Response to Questions Posed by the Committee

1. What are the factors that have led to the closure of UK refineries? Why is production increasing overseas?

1.1 Refining is the link between two independent oil markets: the crude oil market and oil products market. Refineries purchase crude oil, the price of which is determined by the availability of crude oil and the demand for crude oil by refineries, and refineries sell oil products, the price of which is determined independently by the demand for energy by end users and the supply of oil products from refineries. Refining is a margin business therefore and out of the margin that is available from these two independent markets, a refinery must pay its fixed costs (for items such as labour, maintenance, rates, taxes), its variable costs (for items such as chemicals, catalysts, energy) and must generate sufficient cash to invest in maintaining safe, reliable and legally compliant operation.

1.2 Key factors that determine the competitiveness of any refinery are its location, size, complexity and operating performance as well as the legislative burden placed on it, and UK refining is disadvantaged vs competition in many of these factors: Increases in the production of shale oil in the United States, limits on infrastructure to transport the shale oil to refineries and legislated limitations on the export of crude oil from the country are leading to a surplus of crude oil within the US, which is depressing the price of crude oil locally and providing a substantially greater margin for US refineries to operate than UK refineries. In addition, rapid increases in the availability of shale gas in the US have depressed natural gas prices, reducing the cost of energy to US refining significantly compared to UK refining. With energy being the single largest cost of operating a refinery, the lower energy cost for US refineries is another significant competitive advantage for US refineries compared to UK refineries. Similarly, the availability of cheap natural gas in the Middle East provides a competitive advantage for Middle Eastern refineries compared to UK refining. Electricity is a large cost for refineries and the UK’s leadership in reducing greenhouse gas emissions is leading to substantial increase in the UK’s electricity cost. This compounds the fact that other countries have lower generation cost from low price fossil fuel.

1.3 The size of a refinery is an important factor for economy of scale; larger refineries can dilute their fixed and investment costs over a larger volume of products and thereby reduce the costs on a per barrel basis and improve the operating margin. The average size of refineries in the US and Middle East is larger than in the UK and UK refining is disadvantaged compared to these other regions by its smaller size of refinery.

1.4 The complexity of a refinery is a measure of its capability to process heavier, more contaminated feedstock (which is cheaper as a result of its poor quality) and/or produce a higher proportion of high-demand products such as jet fuel and diesel (which command higher prices as a result of the demand). US and Middle Eastern refineries have invested more heavily in equipment to process cheaper, more difficult to process crude oils and to produce a higher proportion of high value products than UK refineries have and are able to extract a higher gross margin (before costs) from the market than UK refineries can.

1.5 European Union objectives to improve air quality require European refineries to invest more heavily in equipment to reduce environmental emissions than refineries outside Europe; US refineries have a similar legislative burden to European refineries. In addition, UK specific legislation such as CRC and Carbon Floor Pricing for example, burden UK refineries even further, requiring even higher levels of cost and/or investment and making UK refineries less competitive in a global market.

1.6 The UK privatised its ports and unlike with other privatisations such as electricity and water, Government did not appoint a Ports Regulator. UK refineries such as Humber Refinery, which historically leased ports assets or land for critical infrastructure during the time of Government ownership, are now faced with privatised monopolies exploiting the fact that there is no Ports Regulator when it comes to renewing leases. The ability for privatised ports to exploit the lack of a Ports Regulator is compounded by a weakness in the Landlord & Tenant Act which allows privatised ports to seize assets from tenants and to charge those previous tenants with unregulated commercial rents for their use.

1.7 The UK climate change goals to reduce greenhouse gas emissions by 80% by 2050 are a clear message to refinery owners that the UK is committed to reduce the consumption of fossil fuels. The result of the legislation is that the UK (and European) oil consumption is falling and that refinery capacity is therefore not
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utilised fully by supplying products to UK/Europe. Unless UK/European refineries can compete with other refineries around the world to supply products outside of Europe, UK/European refineries will close.

1.8 The afore-mentioned factors result in UK (and more generally, Europe) being a challenging region for refining and with a surplus of refining capacity globally, then some UK and European refineries have become unable to make sufficient sustained profits or attract the necessary investment to upgrade them to remain valuable businesses in their company's portfolio of refineries.

2. What impact (if any) has UK and EU regulation had on the UK refining industry?

2.1 UK legislation which is not applicable to refineries in other countries, is not based on sound science, and/or which favours one technology vs others disadvantages UK refining by adding cost which many competitors do not have to bear or do not bear to the same degree.

2.2 IHS Purvin & Gertz estimate that UK refineries will need to invest £5.5 billion of capital to meet UK and EU legislative measures in the period 2013–30 and will incur an additional £5.9 billion of operating cost in the same period in order to operate that new equipment, to purchase EU allowances and to support the UK’s target carbon floor price. This figure excludes legislative impacts for Fuels Quality Directive and Energy Efficiency Directive which as yet are not fully defined.

2.3 This large, mandatory expenditure provides no return on investment and reduces the funds available for UK refinery owners to invest in improving the performance of UK refining businesses and to maintain or improve the viability of UK refineries. As outlined in section 1 above, the UK is a challenging country for refineries and margins are tight. Large investments in projects that do not earn a return on capital are therefore difficult to justify. Owners are therefore faced with the alternatives of making large investments in low return UK refineries or avoiding the investment by either partial or total closure.

2.4 Within the transport sector, a combination of Government-driven fiscal factors and the automotive industry’s response to targets derived from Government environmental legislation has encouraged a shift away from petrol powered vehicles towards diesel powered vehicles, as a result of which the UK has a surplus of petrol, which it is exporting and a shortfall in diesel, which it is importing to meet demand. The necessity for UK refineries to export petrol to distant markets outside of Europe (Europe has an excess of petrol for the same EU Government legislative reasons) reduces the value that UK refineries can achieve for petrol products and reduces margin consequently, although this is partially offset by an increased margin available for supplying diesel. IHS Purvin & Gertz estimate that UK refineries would have to spend approximately £1.5 to £2.3 billion over the next 20 years to keep up with changing product demand.

3. What part will refined oil products play in the UK’s energy requirements and transport in particular to 2030 and beyond? What mix of products is likely to be required and how well does this match with current UK refining capacity?

3.1 The International Energy Agency forecasts that oil will be a major source of energy to 2030 and beyond, accounting for over 80% of EU transport fuel. The projections for UK demand are similar.

3.2 The main fuels required in the UK in the future will be petrol, diesel, gas oil and kerosene, but refinery specialty products such as lubricants, solvents, carbon coke and petrochemical feedstocks will become increasingly important sources of supply for growing, downstream industries and hence uses of oil products.

3.3 Renewable fuel such as bio-ethanol and bio-diesel are likely to become an increasing proportion of fuel for transport and heating, partially replacing fossil fuel in the energy mix.

3.4 There is a mismatch between UK refinery output and UK market demand. UK refineries, which were built predominantly in the 1960s when petrol demand was a much higher proportion of total UK energy demand, currently produce an excess of petrol and insufficient diesel and jet fuel (refer to response to Questions 2 and 4), the shortfall being met by imports from countries such as the Middle East, Russia, India and the USA.

4. What is considered to be the right balance between oil products refined locally and imports and what are the current and future scenarios?

4.1 Phillips 66 refers to the International Energy Authority model for Short Term Energy Security (MOSSES) and the guidance issued by the IEA that import dependence greater than or equal to 45% of market demand is high risk to a country’s energy security. The UK’s dependence on imports is currently at a level of 56% for jet kerosene, 48% for diesel and 44% for heating kerosene. There is a surplus of petrol to meet the demand.

4.2 Using IHS Purvin & Gertz forecast for future UK demand and assuming no further closures of UK refineries then UK dependence on imports increases to 59% for jet kerosene and 56% for diesel by 2020. The dependence on heating kerosene imports remains at 44% and the petrol surplus increases. If more refineries were to close, and two have been actively marketed recently without finding buyers, then IHS Purvin & Gertz forecast that import dependence for jet kerosene and diesel could increase to levels of 77% and 75% respectively by 2020. It is for Government to decide the right balance between oil products refined locally and imports, however Phillips 66 recommends that Government adequately model supply security both in times of stability (when oil markets operate well) and in times of dislocation such as occur during wars, hurricanes etc.
5. What are the factors, both domestic and international, that will determine the future viability of the UK refining industry?

5.1 The factors that determine the future viability of the UK refining industry are detailed in response to Question 1. UK legislators are unlikely to influence the commercial conditions affecting the refining sector (oil price, refinery size), but can and do impact the cost for UK refiners to comply with legislation and to some extent (eg electricity from renewables), the cost of energy. European specific and UK specific legislation impact the competitiveness of UK refineries compared to the global competition by increasing the level of investment required to continue to operate in the UK vs elsewhere.

5.2 IHS Purvin & Gertz forecast that average UK refining margins in the future may be approximately $2.50/barrel of oil processed. It is possible given the global surplus of refining capacity and the economic conditions for refining in Europe, that refining margins in the UK could be even lower than this, with some UK refineries being break-even rather than profitable. In the period to 2030, IHS Purvin & Gertz estimate that the cost for UK refineries to comply with European/UK legislation will be the equivalent of $1.85/barrel, not including the compliance cost for article 7a of the Fuels Quality Directive or the Energy Efficiency Directive. Estimates for the cost to comply with FQD article 7a alone range between $1.50/barrel and $7.00/barrel, which would be additional to the costs described above. In this scenario it seems unlikely that UK refineries will invest the £1.5 to £2.3 billion required to meet the changing product demand of the market and security of energy supply in the UK will increase as forecast and remain high risk.

6. What impact would the closure of UK refineries have on (a) energy supply security (b) environmental objectives and (c) the price of petroleum products in the UK??

6.1 The impact of further refinery closures on supply security is highlighted in the response to question 4 above.

6.2 The impact upon UK environmental objectives is difficult to predict but since refining crude oil is very energy intensive, it is likely that the closure of UK refineries would reduce the UK’s domestic emissions. However, demand for oil products previously produced within the UK would be met by imports from overseas refineries, thereby probably increasing overall emissions by longer supply chains.

6.3 The future cost of oil products in the UK should another refinery close is complex, with regional supply & demand balances overlaid with other factors such as logistics costs, taxation policy and duty point determination. Phillips 66 has no comment on future pricing of oil products in the UK.

7. What would be an appropriate baseline level of refining capacity in order for the UK to remain broadly self-reliant in an emergency?

7.1 IHS Purvin & Gertz report that the UK is dependent currently on imports to meet approximately 50% or more of the market demand for jet kerosene, diesel and heating kerosene, which is a high risk to energy security using the International Energy Authority model for Short Term Energy Security. It is unlikely, given underlying global economic fundamentals for the refining industry and the cost of meeting the environmental objectives of the European Union and UK Government that further refining capacity will be added in the UK in the foreseeable future nor existing refining capacity modified extensively to increase kerosene and diesel production and as a result, it is unlikely that the UK can be broadly self-reliant in an emergency. Indeed, the economic conditions for UK refineries may result in further refinery closure.

8. What steps could the UK Government take to maintain an appropriate baseline level of refining capacity?

8.1 Despite not having a company view on what an appropriate baseline capacity is, Phillips 66 sees the following as measures that would assist preserve a UK refining industry:

8.2 Meeting the UK’s future energy needs in a secure, resilient and sustainable way that also meets environmental and air quality objectives, is a huge challenge. It requires policy that is closely aligned and balanced across these key areas and it requires UK Government to set out a long-term framework for UK refining that provides oil companies with the confidence and incentive to continue operating refineries in the UK and to continue investing to maintain a viable UK refining industry in the future.

8.3 At both the European and UK level, Government should strive to implement legislation in a way that maintains the competitiveness of UK refining vs other European refineries and vs global competition. In particular, legislation should not be European or UK specific to as large an extent as possible, legislation should be justifiable, based on sound science and achieve the agreed objectives, without gold-plating or adding “bells and whistles” and it should not favour one technology over another.

8.4 The UK Government should address elements of taxation and/or economic policy that impact UK refiners adversely compared to an importer operating in the same market. One example being that an importer importing product in to the UK pays duty as that product crosses the loading rack whereas a UK refiner pays duty on product as it leaves refinery tankage. This difference favours an importer by allowing an importer to move product to terminals in the UK without paying duty. A second example is the reduced obligation for importers
to store only 58 days of oil products compared to UK refiners obligation to store 67.5 days, which increases the working capital that UK refiners must bear compared to importers.

8.5 The UK Government should appoint a Ports Regulator or put an arbitration process in place to resolve disputes between UK refiners and privatised port authorities, on whom refiners are wholly dependent for movement of feed and product by ship and who have a monopoly position. In addition, the UK Government should amend the Landlord & Tenant Act to prevent privatised ports from seizing assets from tenants and then charging the previous tenant unregulated commercial rents for their use.

8.6 UK Government should urge the European Parliament to retrospectively review the plethora of existing legislation impacting the UK refining industry to check its fitness for purpose.

8.7 UK Government should not intervene on the EU Emissions Trading Scheme. This scheme is set up to trade carbon allowances in the free market. Any retroactive amendment of the trading scheme such as withdrawing credits or raising the target for 2020 CO₂ reduction goes fundamentally against the effective running of a trading scheme.

9. What is the significance and potential future impact of the changing ownership of UK refineries in recent years?

9.1 Many of the current and prior owners of UK refineries have large, diverse, international refining portfolios, have differing objectives for their refining portfolios and have competing opportunities for capital investment. In these circumstances, the portfolio value of any particular refinery can change with time and a refinery can become less valuable to an existing owner than it is to another. In a mature sector like the UK, it is likely and indeed healthy for there to be changing ownership of refineries as strategy and objectives of individual companies change with time. Changing ownership can be a positive factor since it brings in new entrants, new investment and new ideas.

9.2 One potential adverse impact of a change of ownership, especially an impact of the withdrawal of large, multinational oil companies and the introduction of smaller, less diverse companies is the risk that the asset base of some of the smaller companies is not sufficient to justify providing credit terms to those companies at a level that supports the arrangement of product exchanges and purchases and sales that occurred historically with the multi-nationals. This limitation to doing business with some owners of refineries may be particularly important during a response to an unplanned disruption to fuel supplies in country.

May 2013

Supplementary written evidence submitted by David Blakemore, Phillips 66 Limited

I would like to thank you for the opportunity to discuss the UK Refining Industry and Oil Supply Security with you at the Energy and Climate Committee oral evidence meeting on 11 June, 2013. At the close of the hearing, Sir Robert Smith said “If there is anything that occurs to you that you did not say that you thought you should have said, if you could write to us afterwards, that would be great”. I would like to therefore take this opportunity to write to you with the following additional comment.

At the oral hearing, question 98 was as follows:

Chair: Any other suggestions? Are there any steps the Government should be taking on the critical infrastructure of pipelines, terminals and jetties that support the industry?

Mr Andrew Owens responded:

I think free access is a positive. I do not think it is as important in the UK as it might be in other countries, because most of the population live close to a port. The viability of ports is important and one longer-term risk, perhaps, is that some oil ports are under pressure to be converted into other uses. That is a possible issue.

Phillips 66 is supportive of the response made by Mr Andrew Owens. The UK Government’s own forecasts show that a secure supply of oil products to UK customers will be of critical importance for many years to come. Over the past years (including when the ports were publicly owned businesses), both oil refiners and importers have built critical oil supply infrastructure such as pipelines, terminals and jetties within the UK’s ports. These ports are now under private ownership, are not regulated and are not accountable for oil supply security. Furthermore, these privatised ports have sometimes also been appointed as the Statutory and Competent Harbour Authority, a role which provides them with influence over the ability of other persons to construct their own facilities in harbours.

When Phillips 66 Limited constructed the Humber Refinery in the late 1960’s, we came to an arrangement with the British Transport Dock Board to construct our road loading terminal and much of our import/export shipping infrastructure within their Immingham docks. An example of a clear threat to UK critical oil product supply infrastructure can be seen in Associated British Ports’ “Port of Immingham Master Plan 2010-30”. This shows a plan to replace Phillips 66 Limited’s oil product road loading facility and a third party shipping gas
jetty with a container storage area and import facility. Both of these facilities are critical to our Humber Refinery.

The road loading facility is also recognized by DECC as being one of the major supply points by road for oil products to the inland UK. Unlike many other port users such as container shippers, the scale of oil refining operations means that we do not have any choice, but to use the port located next to our refinery. Immingham Port is therefore in an effective monopoly position.

Government should ensure that oil product supply security is not threatened by new port developments displacing critical oil supply infrastructure. Furthermore, Government should ensure that privatised ports acting as Statutory and Competent Harbour Authorities are not placed in a potential conflict of interest position by having influence over the development by third parties of new harbour facilities that could be in competition with their own existing port business. We therefore request that a regulator is appointed to oversee these important areas.

June 2013

Written evidence submitted by Petroineos Manufacturing Scotland Ltd

Petroineos Refining and Trading is one of the largest independent refiners trading in Europe. Our two advantaged refineries process up to 420,000 barrels of crude oil per day, and produce in the region of 19 million tonnes of fuels per annum. Grangemouth supplies the majority of fuel used in Scotland and also into Northern Ireland and the North West of England through its Terminal distribution network. Petroineos supplies 85% of the fuel consumed in it's hinterland from Carlisle to Aberdeen, and 70% of the fuel consumed in Scotland, excluding North Sea offshore consumption (Source: Petroineos data). In the last financial year, Grangemouth Refinery generated £3.6 billion in duty and VAT on Fuels (Source: Petroineos data).

We are a member of the UK Petroleum Industry Association (UKPIA) representing the oil refining and marketing interests of the nine main downstream oil companies in the UK that supply the greater part of the oil derived energy and products used in the UK. Background information on the UK Refining Industry can be found in the UKPIA Submission to this call for evidence.

We welcome the opportunity to respond to the Committee's inquiry on the major challenges facing the refining sector, which have potential significant implications for the UK's future energy security of supply and resilience.

Summary Views

Petroineos' views can be summarised as follows:

1. Oil products will continue to be an important part of the future fuel mix. The International Energy Agency forecasts that oil will be a major source of energy to 2030 and beyond. The potential loss of UK refineries will increase our import dependency as refined oil products will still be required and the exporting of UK refining emissions resulting from closures is likely to increase overall global emissions as products are sourced from installations not subject to UK/EU environmental controls. There will also be a significant impact on UK jobs and a marked decrease in UK supply resilience.

2. Energy security and diversity of supply should be part of overall policy, consistently applied. Meeting the UK's future energy needs in a secure, diverse and sustainable way that also meets environmental and air quality objectives, is a huge challenge. It requires policy that is closely aligned and balanced across these key areas (see UKPIA's paper “A Question of Balance”). Petroineos and UKPIA believe that energy and environmental policy should continue to be based on maintaining a reliable UK energy system meeting all three pillars of sustainability—economic, environmental and social.

3. Oil refining sector and its contribution to security of supply. UK refining plays a vital role in maintaining the country's fuel supplies but the UK's level of imports for middle distillates such as diesel and jet fuel is already at a high risk level and close to high risk for kerosene heating oil (based on the International Energy Agency's "MOSES" methodology). Further refinery closures could increase this exposure. Crude Oil needs to be processed in a Refinery, whether in the UK or overseas. Greater reliance on imported refined products is an option, but carries the risk of reduced supply resilience associated with a longer supply chain. Further UK Refinery closures would increase this exposure.
4. UK refining faces challenging conditions, huge legislative compliance costs but can be competitive given a level playing field.

UK refining faces a serious threat to its survival as outlined in an independent report by IHS Purvin & Gertz published 10 May 2013, sponsored by UKPIA in collaboration with the Department for Energy & Climate Change (DECC). Although long-term net refining margins are projected to average around $2.5 per barrel of oil, this masks the huge potential cash impact of additional required capital and operating expenditure in the period 2013-30 of £11.4 billion just to meet UK and EU legislative measures. Most of this would generate no return and would not be recoverable from consumers. In addition there are other legislative impacts such as Fuels Quality Directive and Energy Efficiency Directive as yet not fully defined and thus uncosted. Furthermore, to keep pace with changing product demand trends, refineries would also need to invest some £1.5 to £2.3 billion over the same time frame which is unlikely in view of the impact of legislative compliance costs and low investment returns.

The attached graph (Source: IHS Purvin & Gertz 10 May 2013) neatly illustrates the scale of the issue facing UK Refineries:

![Graph illustrating the scale of the issue facing UK Refineries](Source: IHS Purvin & Gertz 10 May 2013)

<table>
<thead>
<tr>
<th>Capacity (kb)</th>
<th>Mt/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esso Fawley</td>
<td>270-550</td>
</tr>
<tr>
<td>Essar Stanlow</td>
<td>267</td>
</tr>
<tr>
<td>Total Lindsey</td>
<td>218</td>
</tr>
<tr>
<td>Valero Pembroke</td>
<td>209</td>
</tr>
<tr>
<td>Petchem Grangemouth</td>
<td>196</td>
</tr>
<tr>
<td>Phillips 66 Humber</td>
<td>190</td>
</tr>
<tr>
<td>Murco Milford Haven</td>
<td>130</td>
</tr>
<tr>
<td>Total operational capacity</td>
<td>~3500</td>
</tr>
</tbody>
</table>

The UK currently has the fourth largest refining capacity in Europe after Germany, Italy and France.
However, given a legislative level playing field with other refineries across the EU and globally, UK refineries would be considered competitive.

The HIS Purvin and Gertz report concluded that “no industry would bear such a mandatory investment burden for no return and a consequence could be the closure of more UK refineries and greater import dependence for refined products”.

5. Time is not on our side—legislators at the UK and EU level have been slow to realise the value of refining and the threats to its survival.

There is a growing realisation of the value of the refining industry. The industry is working with DECC towards developing a policy framework for UK refining, informed by the comprehensive report from IHS Purvin & Gertz, which sets out the value of UK refining, the challenges it faces and the potential impacts on UK energy resilience.

The European Commission facilitated a Refining Round Table in 2012 to examine the issues of refining sustainability and the impact of legislation. This led to the establishment of a permanent Refining Forum—whose major output was determined to be refining industry “Fitness Checks” designed originally to examine the cumulative effect of EU regulation on the sector and consider mitigating measures. Regrettably, at the first Refining Forum meeting on 12 April 2013 no Terms of Reference for the Fitness Checks were produced. A verbal update by DG Enterprise not only stated that the Fitness Checks would not be retrospective ie not examine legislation currently under discussion (which precludes consideration of Fuels Quality Directive Article 7a and the Refinery BREF linked to the Industrial Emissions Directive), but further that the Fitness Checks would not concluded until the end of 2014, by which time the crucial legislation under discussion will have been concluded.

The industry has always assumed the Fitness Checks would include existing and planned legislation and called for a moratorium on any further legislative pressure until the outcome of the Fitness Check was known.

RESPONSES TO QUESTIONS POSED BY THE COMMITTEE

1. What are the factors that have led to the closure of UK refineries? Why is production increasing overseas?

1.1 Refinery closures

The key factors are: weak refining margins and the huge investment demands associated with legislative compliance (as outlined above); flat or reducing demand for transport fuels, as a result of demand destruction linked to legislative measures to reduce GHG emissions from transport and improved energy efficiency of vehicles; competition from overseas refineries and supply sources.

1.2 Increasing overseas production

Production overseas is increasing, for example in the Middle East and Asia, because of the proximity to rapidly growing markets (Asia), more attractive investment returns on large new refineries with the flexibility to meet current product demands and a less challenging legislative background. Most of these are in the Middle East and the USA and are also supported by structural cheaper feedstocks.

2. What impact (if any) has UK and EU regulation had on the UK refining industry?

2.1 The key legislation impacting upon the sector includes:

- EU:
  - EU Emissions Trading System Phase III.
- UK:
  - Environment Agency proposals on product containment policy.
  - Government proposals for Carbon Floor pricing.
  - CRC Energy Efficiency Scheme.

International regulation such as MARPOL Annex VI/IMO specifications for low sulphur shipping fuel and the IEA’s rules on Compulsory oil stocking obligations also impacts refining and downstream oil.

2.2 HIS Purvin & Gertz estimate the required refinery capital and operating expenditure in the period 2013–30 to be £11.4 billion to meet UK and EU legislative measures alone. This figure excludes the legislative impacts such as Fuels Quality Directive and Energy Efficiency Directive as yet not fully defined and thus uncosted.

These costs (as shown in the diagram in Section 4 of the summary) ensure that UK Refining is unsustainable going forwards with expected income not meeting costs.
3. What part will refined oil products play in the UK’s energy requirements and transport in particular to 2030 and beyond? What mix of products is likely to be required and how well does this match with current UK refining capacity?

3.1 The International Energy Agency forecasts that oil will be a major source of energy to 2030 and beyond, accounting for over 80% of EU transport fuel. The projections for UK demand are similar, IHS Purvin & Gertz forecasting that oil product demand will increase only slightly between 2010 and 2030.

3.2 Within the transport sector, however, a combination of fiscal and energy efficiency factors has encouraged a shift towards diesel powered vehicles as a result of which petrol demand has declined from a market share of 73% in 1990 to around 41% in 2012 (18 billion litres) with diesel now accounting for 59% (26 billion litres).

3.3 Aviation kerosene has been falling during the recession, UK demand amounting to 11 million tonnes in 2012, but is forecast to begin increasing again. (Source: DECC, DUKES data.)

3.4 The main fuels required in the future will be petrol, diesel, gas oil and kerosene mainly for aviation. In addition, other products from refining like LPG, bitumen, lubricants, solvents, carbon coke and feedstocks for the petrochemical industry will continue to be important. Future road fuel demand is forecast to remain flat but diesel demand is likely to continue growing slightly while petrol will continue to decline but more slowly than in recent years. Demand for aviation fuel is closely linked to future recovery in GDP but potentially could grow rapidly in the future. (Source: IHS Purvin & Gertz.)

3.5 There is a mismatch between refinery output and demand. UK refineries, in common with those across the EU, produce an excess of petrol and not enough middle distillates like diesel and jet fuel. The shortfall is met by imports which reduces UK Energy Resilience. Similarly the petrol length is exported, which can lead to issues with Refinery resilience if buyers are not found. In addition, fuel specification changes associated with the UK’s Renewable Transport Fuel Obligation and MARPOL marine fuel sulphur reduction will increase the demand for middle distillates.

4. What is considered to be the right balance between oil products refined locally and imports and what are the current and future scenarios?

4.1 The IEA model for Short Term Energy Security (MOSES), comparing oil imports to demand, considers 46% import dependence as high risk. The UK is already at a level of 56% imports for jet/kerosene and 48% for diesel.

4.2 Under a future UK refinery closure scenario, this import dependence would increase to 78% and 77% respectively (Source: HIS Purvin and Gertz Report May 2013) for these products by 2030, which would have serious implications for supply robustness of these products.

5. What are the factors, both domestic and international, that will determine the future viability of the UK refining industry?

5.1 Legislators cannot directly influence commercial conditions affecting the refining sector, which in a global market are influenced by a complex number of factors. However, legislative impacts highlighted in 2 above will have a serious impact upon profitability.

5.2 IHS Purvin & Gertz forecast that future UK refining margins are projected to average around $2.5 per barrel of oil. However, over the period 2013 to 2030, the total cost of such legislative items adds up to around $1.85 per barrel, of which only an estimated small proportion might be passed on to the consumer because of international competition. These legislative requirements would entail capital expenditure of £5.5 billion over the period to 2030, much of which would generate no return on investment.

5.3 This scenario seriously impacts the viability of the refining industry and furthermore makes it highly unlikely that the estimated £1.5 to £2.3 billion capital expenditure that refineries need to meet changing demand trends would be made.

5.4 IHS Purvin & Gertz commented that “We believe that no industry would bear such an investment burden for no return. It would be highly likely that, when faced with such a large mandatory capital expenditure requirement that provides no return on investment, UK refineries could be forced to close more UK refineries.”

6. What impact would the closure of UK refineries have on (a) energy supply security (b) environmental objectives and (c) the price of petroleum products in the UK?

6.1 The impact of further refinery closures on supply security is highlighted in the response to question 4 above.

6.2 The impact upon UK environmental objectives is difficult to measure. Clearly any emissions generated by the closure of a UK refinery would reduce the UK’s domestic emissions. However, demand for the products previously produced would be met by imports from overseas thus increasing overall global emissions, particularly for CO₂.
6.3 While it is difficult to comment on how the price of petroleum products may change in the future, the reducing supply of UK refined product and the need for purchased imported fuel in an ever more competitive global market would suggest that the price of petroleum products would increase should UK refineries close.

7. What would be an appropriate baseline level of refining capacity in order for the UK to remain broadly self-reliant in an emergency?

7.1 It is difficult to provide a definitive answer on this as the level in the future may vary depending on a range of factors such as the state of the economy, vehicle efficiencies, and ambient weather conditions.

7.2 Under both the steady state scenario (the number of refineries and capacity remains at 2012 level) and the modest investment scenario (investment to upgrade some secondary upgrading processes), the current imbalances in the UK supply-demand balance become worse. Under both these scenarios the UK would be in a worse supply position and in 2011 before the closure of Coryton refinery. Exposure to the international refined product markets would remain, with significant imports of diesel and jet required to balance demand.

8. What steps could the UK Government take to maintain an appropriate baseline level of refining capacity?

8.1 As stated previously, Petroineos’ firm view is that a strong and healthy indigenous refining sector ensures the nation’s “base load” of transport fuels, chemical feedstocks and other vital products is maintained. This requires a better balance between energy and environmental policies both in the UK and at the EU level.

8.2 The UK Government should examine the impacts of UK legislation, particularly Carbon Floor Price, CRC Energy Efficiency Scheme and containment policy proposals as applied to the storage of fuel products including the PPC Regulations which are a subset of the Industrial Emissions Directive (IED).

The headline costs of meeting the requirements of the PPC Regulations for the Grangemouth Refinery are £95–110 million for SOx and NOx emissions.

It should also examine the current duty treatment for product shipments between UK locations to ensure a level playing field for UK products against imports from outside the UK; further details of this can be found on Page 127 of the report from IHS Purvin and Gertz.

8.3 Ideally, these issues should be contained in a policy framework for the sector which we hope will be developed by DECC, informed by the findings of the report from IHS Purvin & Gertz.

The UK should not “gold plate” European Directives with additional ones specific to the UK. Two specific examples of this for Petroineos are as follows:

(i) The UK has a 15 minute air quality objective for SO2 which is additional to the EU Requirements. This led to the Refinery having to invest £32 million in a Tail Gas Treatment Unit many years ahead of the future IED requirement to upgrade in 2018.

(ii) The IED legislation states that the only Refining of Mineral Oil and Gas is covered by the Directive. However UK regulation expands the remit of the activity to include the Refining of Mineral Oil or the loading, unloading and storage of crude oil. This brings crude handling facilities at Finnart under the PPC Regulations.

However, the most vital and pressing need is for the UK Government to make urgent representations to the European Commission in regard to the “Fitness Check” process outlined in point 5 in our Summary Views above. The Fitness Checks must include consideration of Fuels Quality Directive Article 7a and the Refinery BREF linked to the Industrial Emissions Directive, and be concluded before the end of 2013 NOT 2014, by which time the crucial legislation under discussion will have been concluded.

9. What is the significance and potential future impact of the changing ownership of UK refineries in recent years?

In any mature industry sector like refining there will be changing ownership due to the strategy and policy objectives of individual companies. Given the global nature of the industry there will be competing investment projects not just in the downstream sector but also in upstream exploration.

Changing ownership can be a positive factor since it brings in new entrants that may have a different strategy, outlook and investment perspective.

However it can be concluded that the exit of the UK Refining industry by the global Oil Majors highlights the critical state the sector is currently operating in and the future outlook.

We thank you for the opportunity to contribute to this important debate and would be pleased to elaborate on our views should the Committee so wish.

May 2013
Written evidence submitted by the Downstream Fuel Association

Introduction
This response is submitted by the Downstream Fuel Association (DFA), which represents UK’s biggest independent fuel importers and major supermarket fuel retailers accounting for in excess of 40% of petrol and diesel sold in the country.

Executive Summary

- UK refineries operate in a global market and face global competitive pressures.
- Shifts in product demand in the last decades have not been met by the necessary investments to upgrade UK refineries. In line with broader European trends, this has led to a mismatch in UK’s refining output with excess gasoline production and not enough diesel and jet fuel.
- Product importers have ensured short term resilience and long term UK energy robustness by supplying diesel and jet fuel according to demand. They have the logistical infrastructure and the ability to do so in an efficient, cost effective and resilient manner.
- Importers source refined products and components for blending through global, sophisticated and deep markets which allocate resources efficiently. A significant proportion of these products do still come from UK refineries.
- The UK accounts for a very small and decreasing share of global refining demand. Refining capacity is increasing globally.
- UK importers have increased competition and driven prices down across the country. Lower energy prices have a major impact on the cost of living and the economy in general.
- The disruptions in the supply of liquid fuels that have affected the UK in the last 10 years have been overwhelmingly driven by domestic issues and would have become materially worse problems without the ability of importers to effectively respond in times of crisis.
- Not all UK refineries are the same but all of them will have to face the fact that UK’s petrol excess capacity cannot be absorbed viably by international markets. This poses an obvious cap to the amount of diesel and kerosene that UK refiners can economically produce thus further limiting their ability to supply middle distillates to the country. Self-sufficiency in middle distillates is an impossible goal in any reasonable scenario without dramatic cost increases.
- We believe that not all UK refineries will be viable in the long term, but some are competitive and will survive without any interventions.
- A self supporting domestic refining capacity is a worthy policy goal but any intervention needs to be grounded in a clear understanding of its wider societal costs, so as to avoid damaging existing competitive supply chains and refiners, which are competitive as a consequence of enlightened investment decisions over the years which should not be unfairly undermined.

Background

1. In the last five years, approximately a third of Europe’s refining capacity has changed hands, been mothballed or converted to import terminals and storage facilities. In the UK, since 2007, four of the nine then operating refineries have changed ownership, two have apparently been in unsuccessful auctions and two have ceased operations leaving seven productive ones.
2. These events have created concerns about the long term viability of the UK oil refining sector, its optimum future size and the effect of any further demise in the industry on jobs and UK supply security.
3. The DFA contends that not all refineries are the same or play the same role in the UK supply chain and that a balanced approach of viable refineries and strategic terminals is the best way to protect the national interest.
4. In this respect, indiscriminately supporting UK refining may have unintended consequences. Protecting otherwise technologically and commercially obsolete refineries could lead to supply insecurity and be damaging to the broader economy and jobs as well as being a drag on the best and most robust refineries which have a relatively more competitive configuration.
5. Current dynamics in the UK petroleum refining industry reflect wider European and international trends. UK refineries suffer from an ageing and relatively subscale infrastructure, limited crude flexibility and a product mix which is not in line with current and projected demand.
6. These competitive disadvantages, accumulated over decades of underinvestment, coupled with declining liquid fuel demand and increased competition from refineries in emerging economies, have led to widespread consolidation and changes in the ownership profile of UK refineries.
7. Since the mid to late 1990s, international oil companies (IOCs) have started reconsidering their global investment priorities and focused their efforts on upstream projects whilst reorganising their downstream activities. In so doing, IOCs have concentrated their downstream assets in a smaller number of strategic locations and divested or shut down other facilities deemed uneconomical.
8. While this process was relatively orderly and part of a long-term strategic plan, other market participants, especially pure play refiners which grew to represent a significant percentage of European refining capacity, did not have the luxury of a robust balance sheet and simply collapsed.

9. Refining margins tend to be cyclical. However, despite rationalisation, divestments and recent closures, European and UK refining has witnessed what could amount to a structural erosion in margins. All other things being equal, this is due, on one hand, to technological advances that put the relatively old UK assets at a global disadvantage and, on the other, to shifts in product demand from petrol to diesel.

10. UK refineries, built in the 60 and 70’s and optimised to maximise petrol yields, have not been able to capitalise on the “dieselisation” of the European car parc or on the growth of aviation fuel demand. Now saddled with a growing gasoline overproduction, they are less and less able to find export markets for it.

11. Older, less complex and smaller than the new mega refineries in emerging markets, UK plants have higher maintenance costs and have to compete on a global stage at a time when Europe is considered a strategic export market by emerging refining centres.

12. UK refining more than meets national demand in gross tonnage but looking beneath the headline numbers, it is in the product mix that UK refineries fall short in providing full coverage of what is needed for UK end consumption. They produce more petrol than is required but do not produce enough middle distillates (mostly diesel and jet fuel). Maintaining overall product balance depends on other players, who are making the investments to import diesel and jet fuel that the country needs.

The Current UK Market and the Inevitability of a Shortfall in Middle Distillates

13. According to the International Energy Agency’s (IEA) World Energy Outlook 2012 central projection, in 2035, European Union’s energy demand for transport will be 270 million tonnes of oil equivalent (mtoe), of which 93% will come from oil, an annual compounded decrease of only 1.2% from the 2010 baseline (297 mtoe). Even in the most environmentally ambitious policy scenario developed by the IEA, in 2035, oil will still count for 65% of the energy needs for transport of the European Union.

14. Standalone terminals independent of UK oil refineries, but trading with them, account for in excess of 40% of all transport fuels consumed in the country. However, not all of the fuel supplied by these terminals is imported from overseas.

15. From 2006 to 2011, the share of imported fuels for UK inland delivery has been consistent at around 35% to increase only more recently in response to the closure of Coryton. This percentage does not reflect an overall shortfall in UK’s refining output, rather a mismatch whereby UK refineries produce too much petrol and not enough kerosene type jet fuel and diesel.

16. Increased demand for diesel and jet fuel has built over decades. On an aggregate basis, however, in mature Western economies, the exceptionally high cost of upgrading the refining infrastructure to respond to these trends and the lack of obvious long term benefits have precluded the option of catering for these shifts in demand in the UK/European market.

17. UK refineries produce too much petrol which has historically found export markets in the US and Africa. Latterly, however, these markets are shrinking as the US is turning into an exporter in its own right and Africa is being increasingly supplied by more competitive Indian Ocean refineries. As a consequence, UK refineries will be forced to reduce output thus cutting their diesel and jet fuel production further, exacerbating their supply mismatch.

18. The prospects for UK refineries are therefore likely to get significantly worse in the near future. We note that the ability to market UK produced petrol is central to the projections made in the P&G Report. We believe that this would require the highly unlikely reversal of long term global trading trends and investments in UK refineries of a magnitude that is not justifiable by the private sector and can never be expected to deliver a return on capital.

Factors Affecting the Competitiveness of UK Refineries

19. Refining is a global business and the competitive position of UK refineries should be judged on this basis.

20. As with many other manufacturing processes, refining benefits from economies of scale and investments in technology. The age profile of UK refineries is in excess of 40 years therefore adding increased cost burden to operations. The lack of appetite for capital expenditures in UK/European refining is however balanced by investments in other parts of the world so much so that global refining capacity is steadily increasing thus worsening the plight of UK refineries.

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21. Location is another factor with the associated dimensions of staff cost and differences in the logistics of sourcing feedstock and finding a market.

**The Global Market for Fuels and Crude**

22. Trading in crude oil is global as are finished product markets. The former is undoubtedly more liquid but this feature does not necessarily benefit UK refineries as they are constrained in their crude intake to sweeter crudes which are more expensive and represent a modest percentage of globally extracted oils. Only 20% of global oil production supply can be classified as light and sweet, with the remaining 80% classified as medium/heavy and sour. An important factor is that excess crude production capacity is largely sour which means that in times of constrained supply, UK refiners cannot tap into the marginal crude supplier for relief.

23. Product importers, on the other hand, unconstrained by crude quality, can source products globally.

24. The IEA importers that, in the next five years, a drop in the global trade of crude oil will be more than offset by a steady growth in the volume of traded refined products. On the back of substantial overcapacity building up especially in China and Saudi Arabia, it is anticipated that trade in refined products will change from mainly short-haul to longer distance. Aramco, the Saudi Arabia national oil company, is building three 400,000 b/d refineries which alone will be able to supply the entire import demand of a country such as France.

25. Companies importing finished fuels and fuel manufacturing/blending components into the UK and biofuels producers are now an integral part of the architecture of the UK fuel supply. Not only do they improve the UK long-term supply robustness by diversifying supply and sourcing the diesel and jet fuel that cannot be produced in the UK, but importers also have the logistical infrastructure and the ability to promptly respond to short-term crisis thus increasing UK’s resilience and security of supply.

26. For instance, in 2012, owing partly to the closure of the Coryton refinery, UK production was, according to preliminary figures from DECC, 8.3% lower than in 2011. The decreased refining output was counterbalanced by the growth of imported fuels which increased by 13.9% leading to a seamless post-Coryton supply environment.

**UK Resilience**

27. For a long time, Europe, with its large presence of refineries and oversupply of liquid fuels, interpreted energy security mainly as availability of crude oil supplies. In this regard, the UK, owing to North Sea oil, is still in a very favourable position when compared to other European countries. However, it is now obvious that other considerations, including finished product supply resilience, market change dynamics and, crucially, the impact of the cost of living, must also form part of a more holistic and sophisticated analysis of UK resilience.

28. The resilience of a supply chain could be defined as its ability to react to disturbances and return to its original state or a more desirable one. Considering the current shortage of middle distillates in the output of UK/EU refineries, national security of supply for these products relies on the resilience and fluidity of international markets.

29. The international market for finished oil products is global, mature, sophisticated and flexible with a reliable supply system. In this sense, provided that crude and oil products are freely traded in open international markets, the preference between one supply route and another is one of economics and economic wellbeing for jobs and the economy.

30. Since the 1973 oil crisis, the history of oil shocks including the Iranian revolution of 1978-79, the Iran-Iraq War, the first Persian Gulf War in 1990-91 and the oil price spike of 2007-2008 has provided compelling evidence that the crude oil and refined product markets will, in an emergency, promptly reallocate and ration supply efficiently to avoid prolonged shortages.

31. In the last 10 years, there have been more internal UK issues than external shocks. In these cases, the price change needed to normalise the market again after the initial shock is an unknown. As guidance, however, the price elasticity of demand and supply for refined products is higher than that of crude oil. Correspondingly, short-term price effects of refined product shocks could be expected to be smaller than for equivalent crude oil shocks.

32. An often overlooked feature of the market is that, during an international crisis, the price of crude immediately jumps making refinery margins go negative. This may not matter much for vertically integrated oil majors as their upstream activities will compensate for the losses triggered by negative refining margins. Standalone merchant refineries, however, may succumb to the temptation to slow down or even shut down loss-making operations to restart production when economics are more favourable. Independent product importers, on the other hand, are not impacted.

33. The IEA has developed a framework to analyse the vulnerability of its member countries to short-term energy supply disruptions including for finished products. This model, called MOSES (Model of short-term energy security), categorises countries based on a number of parameters and evaluates the vulnerability of domestically refined products, imported products and their supply chains and complements it by including the
level of stocks held as a mitigating feature. In 2011, MOSES rated the resilience of the UK oil product import infrastructure as “high”, giving correspondingly high marks to the resilience of the petrol and middle distillates total flows. This means that the combined (domestic and imported products) vulnerability of the UK is considered low not unlike that of countries such as Canada and the US which import a significant percentage of their refined products from abroad.

34. But it is probably Australia which provides the most convincing argument for favouring a multipronged approach where domestic refining and imports contribute to the overall security of supply by seamlessly complementing each other.

35. Net imports of refined petroleum products represented around 30% of total Australian consumption, excluding LPG, in 2008-09 and 2009-10. In 2012, Australia lost additional refining capacity with the closure of Shell’s Clyde; Shell recently announced that, unless a buyer is found, their Geelong plant will be shut down too, lowering Australia’s domestically produced fuels to approximately 40% of the country’s consumption needs, a level significantly lower than that of UK’s domestically refined product.

36. Two successive studies on the vulnerability of liquid fuel supply to Australia concluded that, as long as the country can access diverse and well-established supply chains, the planned replacement of lost refining needs, a level significantly lower than that of UK’s domestically refined product.

37. UK importers have become strategic for the UK security of supply both from a regional and from a product mix perspective. Without a robust and competitive import industry, the recent supply shocks affecting the UK, including the Stanlow and Grangemouth outages, various strikes and the collapse of Petroplus would have led to far more pervasive supply disruptions and hit the country much harder. It should additionally be noted that the nature of these supply shocks has been overwhelmingly domestic. In this sense, the domestic refining industry, without a sound and responsive import supply chain, far from being an asset, would have been a liability, at least in terms of security of supply.

ECONOMICS & PRICES

38. A crucial aspect of the benefits of having a thriving import industry and a correspondingly robust infrastructure is that importers act as catalysts for efficiency gains on a global scale and drive down prices wherever they operate in the UK.

39. In commodities markets with extremely modest price discrimination this means that importers, by virtue of the competitive pressures they bear on domestic refiners, are responsible for widespread reductions in wholesale margins which greatly benefit consumers and the UK economy at large contributing, for instance, to restrained commodity price inflation thus making UK plc all the more resilient to external shocks.

40. This phenomenon has been demonstrated time and time again. Suffice to say that the pre tax price of petrol in the UK is consistently amongst the lowest if not the lowest of OECD countries and that price levels for diesel are not dissimilar.

41. Without importers or with artificial trade barriers and protectionist policies, the wholesale price of hydrocarbon products in the UK would be set at a level that gives domestic refineries a return, thus damaging consumers who would be paying higher prices.

42. Any consideration on (artificially) preserving employment levels in refining cannot divorce itself from the costs associated with it to the wider society. If supporting the UK refining industry means implementing policies that erode competition and market transparency, the implications of potentially higher fuel prices to the UK consumer/industry need to be fully understood and factored in from a wider societal perspective.

CONCLUSIONS

43. In a globalised refining product market, all UK refineries will have to face increased competition from facilities that can efficiently process sour crudes and yield the right mix of light and middle distillates. But not all UK refineries are the same. Some of them are probably technologically unfit to stand on their own in the long term without major additional investments; some will have to face significant investments just to comply with health and safety requirements, let alone to remain viable. Some will remain competitive on a world scale.

44. It is important not to consider all of them to be in the same predicament.

45. Not unlike other businesses, UK refining is subject to competitive pressures that are often global in scale. Returns on investment (or equity for that matter) are not a given even for the best managed private undertakings operating in an open economy. Pretending it to be a prerogative of UK or European refiners would be illogical and inconsistent.

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46. In our opinion, there is not a single market-driven scenario where all currently operating UK refineries can survive in the medium to long term.

47. A self-sustaining UK-based refining capacity is a worthy policy goal and one with obvious political appeal. A achieving this, however, will require a balanced approach grounded in a deep understanding of supply chains and an appreciation of how integrated UK refineries are with importers and on how instrumental these are to UK energy supply resilience.

48. More importantly, however, we believe that any measure should be developed on the back of a realistic assessment of the likely impact on fuel prices, UK consumers and, crucially, UK employment and economy.

49. We are advised that in the forthcoming weeks DECC will issue a call for evidence to help inform their review of the UK refining sector. The DFA looks forward to articulating its position in a more complete response in due course.

May 2013

Written evidence submitted by Oikos Storage Limited

Executive Summary
— The UK fuel distribution chain is an interconnected and interdependent market involving refineries, storage terminals and distribution channels. It is necessary to consider the UK fuel distribution market holistically to understand the factors involved and not take one element—oil refineries—in isolation.

— Two factors have had a significant impact on the role of UK refineries:
  — Firstly, more modern and efficient overseas refineries provide a more cost-effective option for suppliers, and
  — Secondly, the rise of supermarkets and independent wholesalers has changed the market for refined oil products. These actors have emerged as a dominant force in recent years and as they are not tied to refineries are able to extract more value from importing, storing and distributing products through independent storage terminals. These factors have influenced the decisions by owners to convert refineries into terminals.

— In this modern market, security of supply depends on a diverse mix of ownership and assets in the fuel distribution chain. This helps guard against concentrated ownership that, in turn, can weaken the UK’s resilience in times of national emergency or other unexpected shocks.

— As the role of domestic refineries declines, storage terminals will also play a larger part in meeting environmental policy objectives and providing the competitive pressures that benefit consumers at the petrol pump.

— A healthy UK market, in which refineries and storage terminals play their respective roles, requires a level playing field to ensure independent owners can operate successfully alongside large-scale wholesalers and supermarket chains.

About Oikos Storage Limited
— Oikos Storage Limited (Oikos) is located 38 miles east of London on the north side of the Thames River estuary. It is the only independently owned bulk liquid storage terminal able to deliver products safely and securely into two of the United Kingdom’s key pipeline networks: Government Pipeline and Storage System (GPSS); and United Kingdom Oil Pipeline (UKOP), as well as the capability of delivering product by road tankers into the South East of England.

— The site currently has a bulk storage capacity of 300,000 cubic metres (cbm) with individual tank capacities of between 500 cbm to 20,500 cbm and has recently refurbished its deep water jetty to be capable of receiving 50,000 DWT vessels from North West Europe, Middle East, the Baltic, and the Gulf Coast.

— The facility is able to import, store, blend, and redeliver a range of petroleum products to meet UK demand, including various grades of gasoline, diesel and middle distillates, jet fuel, gas oil, and heavy fuel oil.

— Oikos is recognised by the Department for Energy and Climate Change as part of the UK’s critical national infrastructure.

— The facility has been extensively refitted and refurbished to ensure it is compliant with all post-Buncefield recommendations. The facility has a recently renewed Hazardous Substances Consent, bonded warehouse approval status from HMRC, and a Local Authority Pollution, Prevention and Control Permit.

— Following the closure of all the refineries in the South East of England, Oikos (with other Thames-side terminals) meets the petroleum requirements of the South East—the largest market in North West Europe—through ship-borne imports.
— Oikos has been operating on Canvey Island for over 70 years.

**Petroleum Sector Overview**

The Committee should not consider refineries in isolation from other parts of the UK road fuel distribution chain when reflecting on questions of security of supply and baseline levels of capacity.

The South East of England has the highest demand for concentrated road fuel products in North West Europe yet Coryton, the last remaining refinery in the area, closed in 2012 with no disruption to energy security because of the presence of modern storage terminals on the Thames.

Storage and distribution terminals play an intrinsic part in the market for petroleum products and should be factored in to the committee’s deliberations. With this in mind, Oikos has responded to the posted questions from a storage and distribution facility perspective.

1. What are the factors that have led to closures of UK oil refineries? Why is production increasing overseas?

1.1 A key driver that has led to the closure of UK oil refineries is the increasing market share of the supermarkets in the retail fuels sector that has ultimately led to an increase in market share by the independent fuel importers/wholesalers such as Greenery and Harvest. Unlike the major oil companies who have typically owned and controlled the fuels logistics infrastructure from refinery to the pump, these new entrants are not beholden to refinery economics and are able to extract more value from importing cargoes from cheaper global alternatives, storing at independent storage terminals, then distributing the product by road tanker, for example, to the retail fuel forecourts.

1.2 It is typically more cost-effective for wholesalers to source refined petroleum products from the newer and more efficient overseas refineries than UK oil refineries that are no longer optimised for current product demand, especially diesel production.

1.3 Similarly, it is potentially advantageous for wholesalers to blend the components of diesel and gasoline locally in a storage terminal rather than buying it already blended from a refinery.

2. What impact (if any) has UK and EU regulation had on the UK refining industry?

2.1 We understand that a key decision for owners of UK refineries is the large capital investment required to modernise dated facilities and to comply with current health, safety and environmental standards. This is in addition to the major capital investment required to produce more diesel from each crude barrel.

2.2 Whereas Oikos—as a storage terminal—was required to undertake significant investment to comply with extensive post-Buncefield measures, the same requirements are not currently imposed on refinery operations despite the similar, if not higher, risk profile. Therefore storage terminals have a higher regulatory burden than converted refineries.

2.3 Oikos was the first petroleum storage terminal in the UK to become compliant with the post-Buncefield requirements. It is expected that all the storage terminals in the UK will need to put in place measures to comply with these rigorous standards. Oikos currently operates at a higher health, safety and environmental standard than many, if not all, of the UK refineries and other bulk storage facilities as a result of its recent and significant capital investment program.

3. What part will refined oil products play in the UK’s energy requirements and transport in particular to 2030 and beyond? What mix of products is likely to be required and how well does this match with current UK refining capacity?

3.1 Refined oil products will continue to form a significant part of the UK’s energy requirements, with diesel and gasoline providing separate and distinct elements of the supply. There is a difference between the diesel (distillate) and gasoline supply requirements for the UK, which are increasingly being met from imports rather than current UK refining capacity.

3.2 Diesel. The level of diesel production in North West Europe is not sufficient to meet demand. Imports are sourced from Russia, the US Gulf, and the Arabian Gulf with Asia increasingly expected to also supply the market in the foreseeable future. These imports will be supplemented by the local addition of biodiesel to meet the renewable fuel obligations imposed by the UK Government on fuel suppliers as part of their commitment towards compliance with the EU Renewable Energy Directive. Oikos currently undertakes the blending of FAME (biodiesel) with mineral diesel to achieve the B5 diesel grade.

3.3 Gasoline. The level of gasoline production in North West Europe is sufficient to meet local demand with excess production available for exports. In the South East of England, UK importers can either purchase finished gasoline or blend gasoline locally on the Thames using imported components. Subject to the pricing of the components, it is potentially advantageous to blend gasoline from its components rather than buying it already blended from a refinery, thereby reducing costs and increasing diversity of supply.
4. What is considered to be the right balance between oil products refined locally and imports and what are the current and future scenarios?

4.1 Determining the right balance between domestic refinery capacity and imports is a strategic policy decision for the UK Government. In making that decision the Government should be aware that the current global economics of oil product supply favours the use of storage terminals in the UK over refineries, and it is difficult to see that situation changing in the near future.

5. What are the factors, both domestic and international, that will determine the future viability of the UK refining industry?

5.1 The South East of England provides a good insight into the future viability of the UK refining industry. With the closure of all the refineries in this area, including the recent sale of the former Coryton Refinery for conversion into a storage terminal, it is evident that oil refining is no longer considered by the major oil companies, retail fuel operators, or wholesalers as critical to the industry for the reasons outlined above.

5.2 The presence of quality, safety focused sites such as Oikos that have the capability to receive, handle, and redeliver finished grade product in volumes and using the same distribution infrastructure (ie pipelines, road, barge, and rail) as refineries has further reduced the reliance on oil refining in the UK.

5.3 Given the expected market trend for refineries to be converted into terminals on change of ownership, a key focus should be ensuring the storage terminal industry remains competitive. This requires a level playing field to be maintained across all operators from a health, safety and environmental perspective. Additionally, to ensure security of supply and optimal pricing outcome for retail fuel supplies it is important that concentrated ownership of terminal assets does not lead to market distortion.

6. What impact would the closure of UK refineries have on a) energy supply security b) environmental objectives and c) the price of petroleum products in the UK?

6.1 There is a fundamental shift taking place in how the UK meets its fuel demand needs. Increasingly storage terminals being fed by imports refined abroad are replacing UK-based refineries as the primary source of oil product by major oil companies and fuel wholesalers. An example of this is the exit by both BP and Shell of their ownership interests in UK refining over six years and two years ago, respectively, yet they both remain significant wholesalers and retailers by having access to imported product via bulk liquid storage terminals. Therefore security of supply, environmental policy and pricing are now less oil refinery issues and should include the oil storage terminal operators.

6.2 With the significant capital investment made in recent years, Oikos is now a strategic oil storage facility that operates at a health, safety and environmental standard higher than most, if not all the remaining UK refineries and bulk storage facilities.

6.3 There is also the prospect of storage terminals that have the potential to accommodate deep water vessels and larger tanks to act as another means of securing energy supply. As the only independent storage terminal in the UK that is connected to both the UKOP and GPSS pipelines, as well as having the ability to access road connections and redelivery to ships, Oikos is strategically positioned to play a key role in securing UK’s energy supply now and in the future.

6.4 It is important to have diversity of storage terminals and refineries supported by transport channels with a broad portfolio of owners to ensure UK petroleum security of supply in the long run. Independent terminals offer diversity and help minimise the UK’s dependence on a small group of large, vertically integrated owners or consortiums. With the closure of UK’s oil refineries, it is important that concentrated ownership of terminal assets on the Thames, for instance, does not lead to market distortion and ultimately less transparency on pricing that can affect the price consumers pay at the pump.

7. What would be an appropriate baseline level of refining capacity in order for the UK to remain broadly self-reliant in an emergency?

7.1 The recent closure of the Coryton Refinery in the South East illustrated that the UK’s baseline level of refining capacity is not solely affected by refinery closure, due to the capacity of storage terminals in the UK. In this example, the South East was able to maintain supplies through increased imports into the Thames-side storage facilities to meet the shortfall from the closure of the Coryton Refinery.

7.2 As an alternative to maintaining a baseline level of refining capacity, the UK may consider maintaining strategic reserves at storage terminal locations with national pipeline connections. For example, the Oikos facility is well placed to hold strategic reserves for the UK due to its connections to the UKOP and GPSS which connects the terminal to the key inland distribution hubs for road fuels as well as Stansted, Gatwick, and Heathrow airports and certain ministry of defence airfields for jet fuel.

8. What steps could the UK Government take to maintain an appropriate baseline level of refining capacity?

8.1 The UKOP pipeline system is currently owned by four major oil companies with access largely limited to their use. To further maintain an appropriate level of access to oil products and competitive pricing across
the UK, a step that could be taken by the Government is to seek a more open access environment on the UKOP. This will provide greater efficiencies across industry and will reduce the impact of further refinery closures in the UK.

9. What is the significance and potential future impact of changing ownership of refineries in recent years?

9.1 Changing ownership has seen a growing trend of the new owners transforming refineries into storage terminals.

9.2 The closure and sale of Coryton to a consortium of Vopak, Greenenergy and Shell has significant impact on the nature of competition of deep water ports in the Thames Estuary. Alongside Vopak’s existing Thurrock terminal this means that a single owner will have access to 80% of the distribution capacity for the South East of England.

9.3 Tesco owns a 35% share in Greenenergy which also has the potential to become an unfairly dominant force both as a supplier to and owner of petrol station forecourts; with the danger of full vertical integration into the petrol supply chain.

9.4 Given the strategic significance of storage terminals, particularly the demanding South East of England petroleum market, the Thames Estuary needs independent refining and storage facilities to provide effective economic competition. This helps avoid an oligopolistic market forming which could have deleterious effects on end consumers.

May 2013

Written evidence submitted by KBC Advanced Technology plc

Executive Summary

— The refining sector is facing difficulties as a result of the state of the market in the wake of the financial crisis and prolonged slow recovery.
— European refining is being particularly hard hit by a confluence of a number of distinct issues:
  — Weakening European demand.
  — Global and regional overcapacity.
  — Renewable fuels (biofuels) mandates.
  — Duty-driven dieselisation of the transport fuel pool.
  — Changing specifications in the bunker fuel market.
  — Rising product exports from the Middle East and Russia.
— UK refining has suffered in the downturn, but the market is fairly resilient.
— Current UK refining capacity is a good match for domestic supply.
— UK refineries are not optimally configured to meet the domestic/NW European demand barrel.

Supply/Demand/Balance

1. The oil refining industry has been under considerable pressure since the onset of the global economic crisis in 2008. Just prior to that time, the refining sector was experiencing a period of exceptional growth and strength as a result of rising oil demand and concerns over supply shortages. These included:
   (a) A surge in annual oil product demand growth of 2.4 million barrels per day (bpd) in 2004, nearly double the average global demand growth.
   (b) Crude oil supply shocks caused by political instability in Iran, Iraq and Nigeria.
   (c) Over one million bpd of refining capacity on the US Gulf Coast being idled for an extended period by Hurricanes Katrina and Rita.

2. As a result of these shocks and resurgent strength in refining margins, a wave of new refinery construction projects was launched beginning in 2006. The first of these new refineries was the 600,000 bpd expansion of the Reliance Petroleum refinery in Western India. In total, around 15 million bpd of new refining capacity was announced between 2006–08, with around nine million bpd of that capacity being reasonably firm.

3. The global economic crisis caused a severe disruption to the pattern of rising annual oil demand. Global oil demand fell in 2008 by 800,000 bpd and in 2009 by over two million bpd. It recovered strongly in 2010 and since has returned to its long-run trend of around 1-1.2 million bpd per annum. Oil demand did not recover to its 2007 level until 2011. Hence new capacity being built in the interim period was being added to weak demand, which led to a position of overcapacity that persists to this day.
4. New refinery construction has continued at a pace exceeding the rise in refined product demand. New capacity is largely being added in the Middle East and in Asia—India and China in particular. These additions are strategic in nature and will transform the global market for refined products:

(a) Middle Eastern refineries—particularly in Saudi Arabia and Abu Dhabi in the UAE—are aimed at producing products for export. This is counter to a usual "rule of thumb" that it is better to refine products close to end-use markets because crude oil shipping rates are cheaper than refined products shipping rates.

(b) China has been adding refining capacity at a rate of around 500,000 bpd per annum to keep pace with its domestic demand. We believe that China’s central planning policies prefer to have the fuels and petrochemicals markets supplied almost entirely from domestic refineries, leaving only a small potential requirement to trade in regional markets.

(c) India’s refineries—both state-owned and private sector—have been adding capacity far in excess of growth in domestic products demand. This is part of a strategy to see India as a regional refining hub, supplying products to its neighbours who have been less willing or able to invest. India’s government has encouraged the growth of its state-owned refineries to be able to supply at least 90% of domestic requirements from state-owned refineries.

5. Since the global downturn, Europe’s refiners have been particularly hard hit by structural changes in the global refining sector.

6. European Union refined product demand has been in decline since 2006, when it peaked at a level just over 15 million bpd. In 2012, this demand had dropped back to 13 million bpd. We forecast that it continue falling in the long term, dropping back to just 12 million bpd by 2020 and to 11.2 million bpd by 2030.

7. The EU Renewable Energy Directive ("RED") (2009/28/EC) obliges all member states to incorporate 10% (by energy content) of renewable fuels into their transport fuels pool by 2020. This is effectively a biofuels mandate obliging the use of non-refinery sourced fuels to comprise 10% of the transport pool (petrol, diesel). The directive allows a very small amount of discretion in how this mandate is achieved. The UK has its own National Renewable Energy Action Plan (NREAP) and is implementing the RED under the guidance of the Renewable Transport Fuel Obligation (RTFO).

8. EU-27 transport fuel demand in 2013 is forecast as 3.67 million bpd of diesel and 1.80 million bpd of petrol. UK 2013 demand is 290,000 bpd of petrol and 430,000 bpd of diesel. These volumes should be approximately 10% renewable content by 2020 according to the RED/RTFO requirements.

9. The combination of declining overall demand and rising supply from renewables suggests a shrinkage of EU-27 demand for conventional refined fuels from pre-recession levels of 15 million bpd to a 2020 level of 11.4 million bpd.

Challenges to UK Refiners

10. Northwest European refiners have faced considerable pressure in the years since 2008, primarily in the form of low refining margins. At times since 2008, refining margins net of operating costs have been negative, meaning that at least some refiners have been losing money on every barrel of oil they refine.

11. The EU fuels market continues to “dieselise”. Each year, the market shifts increasingly to favour the use of diesel over petrol. In 2000, market demand was nearly 50-50 between diesel and petrol. Today it is 67% diesel, 33% petrol. The main driver of this long-term trend is the favourable taxation of diesel favoured by all EU countries.

12. The UK has Europe’s most harmonised taxation policy on diesel, with the duty rate being equal on a volumetric basis for petrol and diesel. The current rate of duty is 57.95 pence per litre. All other EU countries have varying rates of tax with petrol taxed higher than diesel.

13. This is important because diesel has a higher energy content than petrol and hence gives better fuel economy on a volumetric basis. Diesel gives about 20% better fuel economy per litre and thus it is attractive in its own right. When this advantage is enhanced by a lower rate of duty, the choice of diesel over petrol becomes even more obvious.

14. In 2012 the European Commission rejected a proposed directive that would have obliged all members to harmonise duty on an energetic basis. If this had been implemented, diesel duty would have risen to a point where it would have been 20% greater than petrol.

15. Continuing dieselisation is a particular burden to NW European refiners. Most refineries in Northern Europe were built at a time when petrol was the preferred fuel. Their configurations, including their main heavy oil upgrading units, were designed to maximise the output of petrol. Many Southern European refineries have upgraded recently and thus have been able to direct their capital spending toward the production of diesel.

16. Europe’s skewed demand barrel has resulted in a rising surplus of gasoline from NW European refineries. This gasoline has historically gone into markets in North America and West Africa. As oil demand has been
17. NW European refineries are squeezed economically because, having invested in gasoline-skewed upgrading configurations, they cannot economically justify a transition to a distillate-skewed production. Such projects are very expensive—$1–2 billion—and cannot achieve economic hurdle rates because they are already upgrading their low-value residue products to one higher value product (petrol) and they would only be upgrading on a differential between petrol and diesel rather than low-value fuel oil and diesel. The difference per tonne might be $50 instead of $400.

18. NW European refineries also are increasingly burdened by surplus fuel oil. According to the UK Petroleum Industry Association (UKPIA), UK refineries produce around 9% residue fuel oil (RFO), the "bottom of the barrel" product left over from refining. This low-value product is usually burned for bunker fuel for ships. In the past it also was used to generate power and for industrial uses, but these markets have been declining as they are replaced by cleaner, cheaper natural gas as a substitute.

19. From 2015, the bunker fuel market in Northern Europe will no longer be able to burn as much (if any) residue fuel oil due to changes agreed and imposed by the International Maritime Organization (IMO). Under IMO’s Annex 6, the Northern European corridor comprising the English Channel/North Sea/Baltic Sea will be subject to strict emissions guidelines that will effectively eliminate the use of RFO as bunker fuel. After 2020, all EU waters will be subject to similar regulations, though imposed by the EC rather than the IMO.

20. Refiners have two choices of action on RFO: they can sell it or upgrade it. Until 2015, with a ready market in NW Europe, it has been preferable to sell it. After 2015, most of the RFO will have to be exported to the Middle East or Asia, where markets for power and bunkering will remain.

21. This situation further impacts NW European refineries: more of their product barrel will be sold for export, which is a lower-margin activity than refining for the domestic market. Because marginal product is exported, petrol, naphtha and now RFO will be priced based on export-parity rather than import parity. This means lower returns for NW European refineries. Nearly all UK refineries are in this position.

22. A further challenge to European refineries is posed by Russia, and in particular by the extension of preferential rates of export duty on refined products. The so-called "60/66 reforms" introduced in 2011 were designed to force Russian refiners to modernise and upgrade their refineries. Prior to 60/66, Russian refiners received a significant discount for every barrel of product they produced. It was more economic for them to export RFO than to upgrade product to higher quality gasoline or diesel, but it was still economic for them to refine to any product rather than to export crude oil. This older policy had the practical outcome of keeping Russia's antiquated refining circuit running near full capacity.

23. Under the 60/66 rules, Russia’s government is making it less attractive to export RFO. After 2016, refiners will receive no incentive for exporting fuel oil and only a small incentive for exporting petrol. They will continue to receive large incentives only for the export of distillates (gasoil, diesel, jet fuel). These are the products that are the "shortest" in Europe—that is to say, Europe must import these. At present, much of Europe’s supply is coming from East of Suez—markets in India and even as far away as South Korea. As the new export-oriented refineries in the Middle East start up, they will likely target selling distillates to Europe. US refineries, filled with cheaper domestic crude oils, are shipping distillates to Europe. And when Russia modernises its refineries, it will send a flood of new clean distillates to Europe.

24. European refining margins are to some extent sustained by the distance which distillates must travel. Diesel “cracks”— the difference between the price of crude oil and diesel—provide support for European refining margins. As the distance this material must travel grows shorter, the diesel crack spread will narrow. This will pressure NW European refining in general.

25. When we look at EU refining, we see a sort of “death of a thousand cuts”. Dieselisation means that Northern European refineries in particular are not making the right “product barrel” for the home market. Bunker fuel switching to distillates means that fuel oil prices will fall. Distillate imports from the “near abroad” mean that the diesel crack—the “tallest pole in the tent”—will be shortened. All of these weigh on the gross refining margins available to NW European refineries.

26. UK refineries have struggled in the aftermath of the financial crisis. The UK has seen two refineries close in recent years—the simple Teesside refinery and the relatively large and complex Coryton refinery. The closure of Teesside was perhaps understandable, as it was smaller scale and not capable of upgrading the bottom of the barrel. But Coryton was, according to its previous owners, Petroplus, one of its most profitable refineries. That was not sufficient to attract a buyer who was willing to keep it running as a refinery, and it is subsequently being converted to an import terminal.

**Terms of Reference Issues**

27. Baseline refining capacity: UK total oil product demand is around 1.43 million bpd at 2013, expected to fall to around 1.36 million bpd by 2020 and to 1.3 million bpd by 2030. The UK currently has 1.27 million bpd of refining capacity. It produces a surplus of around 100,000 bpd of gasoline and imports around 200,000...
bpd of distillates (jet fuel, diesel). UK refining ran at 81.6% utilisation in 2012, even after the closure of the Coryton refinery in September.

28. The UK is positioned close to the major oil and oil products trading hub at Amsterdam-Rotterdam-Antwerp (ARA) and thus can be easily supplied from refineries and terminals there through coastal terminals and a sophisticated network of products pipelines. UK refineries are for the most part large and complex, though not optimally configured for the domestic demand barrel. UK products markets are robust and are suited both to importing and exporting on the margins, so supply from imports is not necessarily a problem.

29. Determining an adequate UK baseline capacity is a complex exercise that will depend on regional balances (ARA, NW Europe and Russia), as well as the potential for trading imports from outside the EU. The UK is accessible to imports both from North America (US Gulf Coast) and East of Suez. If refineries are running only 82% full today (ca. 1.15mbpd), then the market is well served by imports and is not signalling UK refineries to run harder for domestic consumption. With demand set to decline only modestly over the next two decades, maintaining a sustainable refining capacity at an absolute minimum of 1-1.1 million bpd would seem a suitable base level, but allowing for maintenance downtime and market flexibility, it would seem sensible to support capacity at a higher level—perhaps close to the present level of 1.27 million bpd.

30. European governments have not been particularly effective at defending their refining assets in spite of headline efforts to appear supportive of installed industrial capacity. France has lost two refineries in the past year in spite of making a show of trying to find buyers and keep sites open. Italy is plagued by overcapacity and its major refineries are practicing are using a rota “temporary closures” to avoid hard decisions about permanent site closures. The UK government, by contrast, has appeared to have a fairly laissez-faire approach to its refining sector, but the market seems fairly capable of sorting out domestic requirements, as the entrance of Shell, Vopak and Greenenergy planning to import to the void opened by the Coryton closure would suggest.

31. The entry of new participants to UK refining: Valero at Pembroke, Essar Energy at Stanlow and PetroChina at Grangemouth—indicates that the UK market is not an unattractive place to refine, provided the assets fit in with corporate strategy. Valero have indicated that their first foray into European refining is a good fit with their trading business in the US, and as they sold off assets on the East Coast of the US have now replaced that supply with exports from Wales. Essar have indicated that they are working to squeeze costs out of Stanlow to make it more competitive and profitable. PetroChina’s participation in PetroIneos can be seen as a part of a larger strategy for Chinese refiners to reach out beyond Asia and establish global operations that help them to integrate their business, both upstream and downstream. The participation of these parties can be seen as a vote of confidence in the UK/EU market as a good place to do business.

May 2013

Written evidence submitted by Essar Oil UK Limited

Summary

A. Essar Oil UK is a subsidiary of Essar Energy plc, which is listed on the London Stock Exchange. Essar Oil UK owns and operates the Stanlow Manufacturing Complex, the UK’s second largest refinery. It has a nameplate throughput capacity of 296,000 barrels of oil per day (bpd), and a Nelson complexity of 8.2. However, our current optimised configuration gives Stanlow a 240,000 bpd operating capacity with an effective complexity of around 10.

B. The refinery, located on the south side of the Mersey Estuary close to the major cities of Liverpool and Manchester, supplies 15% of UK transport fuels. It has an annual production of two billion litres of jet fuel, three billion litres of petrol and 3.5 billion litres of diesel.

C. We are a major regional employer with over 1,000 staff, an additional 500 contractors on site and a further 5,000 people employed indirectly through the extended value chain, contributing an estimated £60 million each year to our local economy.

D. Together with other UK refiners, we face an extremely challenging refining environment with margins depressed and likely to remain so for many years ahead. In addition, as players in a highly competitive global industry, current UK and proposed European legislation places us at a severe disadvantage compared to our competitors based in other parts of the world.

E. The fact that we do not operate on a level playing field risks serious consequences for the viability of UK refiners and our national fuel energy security going forward.

F. The loss of UK or EU refining capacity would be detrimental to an improved global environmental footprint. Less polluting EU businesses will be forced to close in favour of heavier polluters in other parts of the world not subject to the same stringent controls.

G. We urge the UK Government to work with the refining industry to identify the most effective, balanced and pragmatic solutions to deliver truly sustainable solutions for the environment, economic growth and employment opportunities.
The UK refining industry does not operate on a level playing field within a highly competitive and fluid global market. Legislation has had and will continue to have a material impact on the future sustainability of the sector. For our Stanlow refinery, Purvin & Gertz estimate these annual legislative costs at £125 million, before factoring in an additional £75–350 million per annum for the EU Fuel Quality directive article 7a alone when it passes into law. Not only would independent refiners like Essar Oil UK find it difficult to source funding for such high annual investment requirements, but the reduced profitability would even put the viability of such advantaged refineries as Stanlow in doubt.

On a UK level, the following will have significant impacts: CSO obligations; Carbon Floor Pricing; CRC Energy Efficiency Scheme; COMAH containment policy.

On an EU level, the following will have significant impacts: EU Emissions Trading Scheme Phase III; Industrial Emissions Directive (plus associated refinery BREF); Renewable Energy Directive; Fuel Quality Directive; Renewable Energy Directive.

What part will refined oil products play in the UK’s energy requirements and transport in particular to 2030 and beyond? What mix of products is likely to be required and how well does this match with current UK refining capacity?

Even as we move towards a low carbon economy, oil will remain an integral part of the UK energy mix for decades to come. IEA projections show oil will be a major source of energy to 2030 and beyond, accounting for over 80% of transport fuel even then.

There has been a major change in the refined product market in the UK, with a significant decrease in demand for gasoline (from 73% in 1990 to 41% by 2012) and gas oil and a significant increase for jet fuel and diesel (which now stands at 59%). Fiscal policy, increased engine efficiency and the dieselisation of cars have driven this change. During the recession, demand for aviation fuel has also fallen.

Looking forward, the main demand for transport fuel will be for gasoline, diesel, jet fuel and gas oil. Road fuel demand is forecast to remain flat but within this group, demand for gasoline will continue to fall, albeit more slowly, while diesel will rise. Recovery of national GDP will influence the demand for aviation fuel. In addition, other products from refining such as LPG, bitumen, solvents, carbon coke and feedstocks for the petrochemical industry will continue to be important.

As previously stated, UK refineries produce a significant excess of gasoline and not enough diesel and jet fuel. These shortfalls will need to be met by imports and as these increase over time, our reliance on other sovereign states will grow. We estimate that only Russia and the Middle East will be providing any incremental diesel and jet shortage.

What is considered to be the right balance between oil products refined locally and imports and what are the current and future scenarios?

The UK government should consider as a matter of the highest priority the implications for our national energy security. The independent IEA’s own model for Short Term Energy Security (MOSES), which analyses oil imports compared to demand, considers 46% import dependence as high risk. The UK figures are currently 56% imports for jet & 48% for diesel.

The difficulty will be in reducing the amount of gasoline produced in UK refineries whilst increasing the yields of diesel and jet. Unfortunately, investments into hydrocracker technology (over £1 billion per refinery) are not expected to remunerate. Resilience will thus likely require a combination of some further solutions.
refineries shutting and the Government providing incentives for further diesel/jet incentives and increased environmental investments.

5. What are the factors, both domestic and international, that will determine the future viability of the UK refining industry?

5.1 To be viable UK refineries need to operate at a high utilisation rate and at a competitive cost level.

6. What impact would the closure of UK refineries have on (a) energy supply security (b) environmental objectives and (c) the price of petroleum products in the UK?

6.1 The Government has clearly identified security of supply in other energy sectors such as electricity generation as a priority. In this context, it is worth noting that UK refiners currently supply over 34% of total UK energy.

6.2 We believe there would be a significant threat posed to our national energy security if our reliance on imports is allowed to increase from a level already classified as one that is high risk, especially with incremental diesel and jet largely being sourced from Russia and the Middle East. Whilst some further refinery closures are expected, the Government should consider incentives into building more diesel and jet capacity to improve transport fuel resilience.

6.3 Should the new EU environmental legislation be passed and implemented as per the initial proposals, a larger number of refineries in the UK are going to be at risk. The global environmental footprint would actually also worsen if UK (and EU) refineries were to close. This is because lost product supply would be met by non EU refineries often with less stringent environmental controls.

6.4 The market would determine the price of products. However, an acute dependence on imports would expose the UK to potential external pricing factors it could do little to mitigate or influence. These could be to the detriment of both the national economy and the consumer.

7. What would be an appropriate baseline level of refining capacity in order for the UK to remain broadly self-reliant in an emergency?

7.1 We refer to the IEA’s approach used in its Model for Short Term Energy Security (MOSES), which considers imports compared to demand as discussed in Purvin & Gertz study.

8. What steps could the UK Government take to maintain an appropriate baseline level of refining capacity?

8.1 As a matter of urgency, the Government should insist that the European Commission take a common sense approach to the question of their Refining Forum Fitness Checks, and ensure these are completed quickly and comprehensively. In the meantime, a moratorium should be declared on any further legislative impacts on the refining sector until the impact assessment has been concluded, effects digested and an action plan agreed.

8.2 At national policy level, the UK Government should define the role they see the UK refining industry playing in helping to safeguard future energy resilience. They should explain whether they consider a UK dependent on imports for strategically important fuels to be acceptable. Clarification on that key issue will help shape investment decisions on the part of UK refiners and provide the basis on which they can confidently approach the capital markets to raise funds.

8.3 As a key player in the UK refining industry, we would welcome the opportunity to work with the relevant departments within Government to help formulate effective, balanced and pragmatic solutions to deliver truly sustainable solutions for the environment, economic growth and increased employment opportunities.

9. What is the significance and potential future impact of the changing ownership of UK refineries in recent years?

9.1 The Stanlow refinery was acquired by Essar Oil within the last 20 months from its previous owners and is now a fully independent site that is a committed player in the downstream sector. We are determined to thrive in this space and have introduced a number of strategic initiatives to continue the growth of the business.

9.2 Whilst it can be argued that independent refiners are more committed to the long-term sustainability of the UK refining business, they typically struggle with a weaker balance sheet. As such, investments can only be financed via operating cash flow, and in periods of low margins, turnarounds or incremental legislative costs, via additional bank loans.

May 2013
Written evidence submitted by the UK Petroleum Industry Association

The UK Petroleum Industry Association (UKPIA) represents the oil refining and marketing interests of the nine main downstream oil companies in the UK that supply around 85% of the oil derived energy and products used in the UK. We welcome the opportunity to respond to the Committee’s inquiry on the major challenges facing the refining sector, which have potential significant implications for the UK’s future energy security of supply and resilience.

Summary Views

UKPIA’s views can be summarised as follows:

1. Oil products will continue to be an important part of the future fuel mix. The International Energy Agency forecasts that oil will be a major source of energy to 2030 and beyond, accounting for over 80% of EU transport fuels. The potential loss of UK refineries will increase our import dependency, as refined oil products will still be required and the exporting of UK refining emissions resulting from closures will likely increase overall global emissions as products are sourced from installations not subject to UK/EU environmental controls.

2. Energy security and diversity of supply should be part of overall policy, consistently applied. Meeting the UK’s future energy needs in a secure, diverse and sustainable way that also meets environmental and air quality objectives, is a huge challenge. It requires policy that is closely aligned and balanced across these key areas (see UKPIA’s paper “A Question of Balance”). UKPIA believes that energy and environmental policy should continue to be based on maintaining a reliable UK energy system meeting all three pillars of sustainability—economic, environmental and social.

3. Oil refining sector and its contribution to security of supply. UK refining plays a vital role in maintaining the country’s fuel supplies, but the UK’s level of imports for middle distillates such as diesel and jet fuel, is already at a high risk level and close to high risk for kerosene heating oil (based on the International Energy Agency’s “MOSES” methodology). Crude oil needs to be processed in a refinery, whether in the UK or overseas. Greater reliance on imported refined products is an option, but carries the risk of reduced supply resilience associated with a longer supply chain. Further UK refinery closures could increase this exposure.

The UK has seven major operational refineries

<table>
<thead>
<tr>
<th>Capacity, kb/day</th>
<th>Monthly</th>
<th>Yearly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eso Fawley</td>
<td>270-350</td>
<td>13.5-17.4</td>
</tr>
<tr>
<td>Essar Stanlow</td>
<td>267</td>
<td>13.3</td>
</tr>
<tr>
<td>Total Lindsey</td>
<td>238</td>
<td>10.9</td>
</tr>
<tr>
<td>Valero Pembroke</td>
<td>209</td>
<td>10.4</td>
</tr>
<tr>
<td>Petrofinae (Grangemouth)</td>
<td>196</td>
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</tr>
<tr>
<td>Phillips 66 Rumber</td>
<td>190</td>
<td>9.5</td>
</tr>
<tr>
<td>Murco Milford Haven</td>
<td>130</td>
<td>6.5</td>
</tr>
<tr>
<td>Total operational capacity</td>
<td>8340</td>
<td>77.7</td>
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The UK currently has the fourth longest refining capacity in Europe after Germany, Italy and France.

4. UK refining faces challenging conditions and huge legislative compliance costs, but can be competitive given a level playing field. UK refining faces a serious threat to its survival as outlined in an independent report by IHS Purvin & Gertz published 10 May 2013, sponsored by UKPIA to inform the Department for Energy & Climate Change (DECC) review into the Refining Sector in the UK. The report indicated that although long-term net refining margins are projected to average around $2.5 per barrel of oil, this masks the huge potential cash impact of additional required capital and operating expenditure of £11.4 billion in the period 2013-30 just to meet UK and EU legislative measures. Most of this would generate no return and would unlikely to be recoverable from consumers. This is illustrated in the diagram below.
In addition, there are other legislative costs such as the Fuels Quality Directive, which are not yet fully defined and are thus uncosted, the impact of which were not included in the study. Furthermore, IHS Purvin & Gertz estimate that to keep pace with changing product demand trends, refineries would also need to invest some £1.5 to £2.3 billion over the same time frame, which is unlikely in view of these legislative compliance costs and low investment returns. However, given a legislative level playing field with other refineries across the EU and globally, the report observed that UK refineries would be considered internationally competitive. The report concluded that: “... no industry would bear such a mandatory investment burden for no return and a consequence could be the closure of more UK refineries and greater import dependence for middle distillate products such as jet fuel and diesel.”

5. Time is not on our side—legislators at the UK and EU level have been slow to realise the value of refining and the threats to its survival. There is a growing realisation of the value of the refining industry. The industry is not asking for special treatment or protection but seeks a legislative level playing field. UKPIA and its members are working with DECC towards developing a policy framework for UK refining, informed by the comprehensive report from IHS Purvin & Gertz, which sets out the value of UK refining, the challenges it faces and the potential impacts on UK energy resilience. The European Commission facilitated a Refining Round Table in 2012 to examine the issues of refining sustainability and the impact of legislation. This led to the establishment of a permanent Refining Forum—whose major output was determined to be refining industry “Fitness Checks” designed originally to examine the cumulative impact of EU regulation on the sector and consider mitigating measures. Regrettably, at the first Refining Forum meeting on 12 April 2013 no Terms of Reference for the Fitness Checks were produced. A verbal update by DG Enterprise stated that the Fitness Checks would be retrospective, ie not examining legislation currently under discussion and not yet fully implemented or subject to further regulation (which precludes consideration of Fuels Quality Directive Article 7a and the Refinery BREF linked to the Industrial Emissions Directive). Furthermore, the DG Enterprise stated that the Fitness Checks would not be concluded until the end of 2014, by which time the crucial legislation currently under discussion will have been largely implemented. The industry has always assumed the Fitness Checks would include existing and planned legislation and called for a moratorium on any further legislative pressure until the outcome of the Fitness Check was known.

Responses to Questions Posed by the Committee

1. What are the factors that have led to the closure of UK refineries? Why is production increasing overseas?

1.1 Refinery closures

The key factors are: weak refining margins and the huge investment demands associated with legislative compliance (as outlined above); flat or reducing demand for transport fuels, as a result of
demand destruction in part linked to legislative measures to reduce GHG emissions from transport but also improved energy efficiency of vehicles; and competition from overseas refineries and supply sources, where the same legislation does not apply.

1.2 Increasing overseas production

Production overseas is increasing, for example in the Middle East and Asia, because of the proximity to rapidly growing markets, more attractive investment returns on large new complex refineries having flexibility to better meet current product demand split and a less challenging legislative background.

2. What impact (if any) has UK and EU regulation had on the UK refining industry?

2.1 The key legislation impacting upon the sector includes:

EU:
- EU Emissions Trading System Phase III.

UK:
- COMAH containment policy.
- Carbon Floor Pricing.
- CRC Energy Efficiency Scheme.

International regulation such as MARPOL Annex VI/IMO specifications for low sulphur shipping fuel and the IEA’s rules on Compulsory Oil Stocking obligations also impacts refining and downstream oil.

2.2 IHS Purvin & Gertz estimate the required refinery capital and operating expenditure in the period 2013-30 to be £11.4 billion just to meet UK and EU legislative measures alone. This figure excludes the legislative cost impacts arising from legislation such as the Fuels Quality Directive and Energy Efficiency Directive, which are not yet fully defined and are thus uncosted.

3. What part will refined oil products play in the UK’s energy requirements and transport, in particular to 2030 and beyond? What mix of products is likely to be required and how well does this match with current UK refining capacity?

3.1 The International Energy Agency forecasts that oil will be a major source of energy to 2030 and beyond, accounting for over 80% of EU transport fuel. The projections for UK demand are similar, IHS Purvin & Gertz forecasting that oil product demand will increase from 74.3 million tonnes in 2010 to 75.2 million tonnes in 2030.

3.2 Within the transport sector, however, a combination of fiscal and energy efficiency factors has encouraged a shift towards diesel powered vehicles as a result of which petrol demand has declined from a market share of 73% in 1990 to around 41% in 2012 (18 billion litres) with diesel now accounting for 59% (26 billion litres). Aviation kerosene demand has been falling during the recession, UK demand amounting to 11 million tonnes in 2012. (Source: DECC, DUKES data.)

3.3 The main fuels required in the future will be petrol, diesel, gas oil and kerosene (mainly for aviation). In addition, other products from refining—LPG, bitumen, lubricants, solvents, petroleum coke and feedstocks for the petrochemical industry—will continue to be important. Future road fuel demand is forecast to remain flat, but diesel demand is likely to continue growing slightly, while petrol will continue to decline but more slowly than in recent years. Demand for aviation fuel is closely linked to future recovery in GDP. (Source: IHS Purvin & Gertz.)

3.4 There is a mismatch between refinery output and demand. UK refineries, in common with those across the EU, produce an excess of petrol and not enough middle distillates like diesel and jet fuel. The shortfall is met by imports. In addition, fuel specification changes such as the MARPOL marine fuel sulphur reduction will increase the demand for middle distillates.

4. What is considered to be the right balance between oil products refined locally and imports and what are the current and future scenarios?

4.1 The IEA model for Short Term Energy Security (MOSES), comparing oil imports to demand, considers 46% import dependence as high risk. The UK is already at a level of 56% imports of jet kerosene and 48% for diesel.

4.2 Under a future UK refinery closure scenario, this import dependence would increase to 78% and 77% respectively for these products by 2030, which would have serious implications for supply robustness of these products.
5. What are the factors, both domestic and international, that will determine the future viability of the UK refining industry?

5.1 Legislators cannot directly influence commercial conditions affecting the refining sector, which in a global market are influenced by a complex number of factors. However, legislative impacts highlighted in 2 above will have a serious impact upon profitability and disadvantage UK refineries against overseas competitors.

5.2 IHS Purvin & Gertz forecast that future UK refining margins are projected to average around $2.5 per barrel of oil. However, over the period 2013 to 2030, the total cost of such legislative items adds up to around $1.85 per barrel, of which only an estimated small proportion might be passed on to the consumer, because of international competition. These legislative requirements would entail capital expenditure of £5.5 billion over the period to 2030, much of which would generate no return on investment.

5.3 This scenario seriously impacts the viability of the refining industry and furthermore, makes it highly unlikely that the estimated £1.5 to £2.3 billion capital expenditure that refineries need to meet changing demand trends would be made.

5.4 IHS Purvin & Gertz commented that “We believe that no industry would bear such an investment burden for no return. It would be highly likely that, when faced with such a large mandatory capital expenditure requirement that provides no return on investment, UK refiners could be forced to close more UK refineries.”

6. What impact would the closure of UK refineries have on (a) energy supply security (b) environmental objectives and (c) the price of petroleum products in the UK?

6.1 The impact of further refinery closures on supply security is highlighted in the response to question 4 above.

6.2 The impact upon UK environmental objectives is difficult to measure. Clearly any emissions generated by the closure of a UK refinery would reduce the UK’s domestic emissions. However, demand for the products previously produced would be met by imports from overseas thus increasing overall global emissions, particularly for CO₂.

6.3 We have no comment on question 6(c) regarding petroleum product prices as it is outside UKPIA’s remit.

7. What would be an appropriate baseline level of refining capacity in order for the UK to remain broadly self-reliant in an emergency?

7.1 Under a number of scenarios IHS Purvin & Gertz conclusions are as follows.

7.2 Under both the steady state scenario (the number of refineries and capacity remains at 2012 level) and the modest investment scenario (investment to upgrade some secondary upgrading processes), the current imbalances in the UK supply demand balance become worse. Under both these scenarios the UK would be in a worse supply position than in 2011 before the closure of Coryton refinery. Exposure to the international refined product markets would remain, with significant imports of diesel and jet fuel required to balance demand (see also response under Question 4).

8. What steps could the UK Government take to maintain an appropriate baseline level of refining capacity?

8.1 As stated previously, UKPIA’s firm view is that a strong and healthy indigenous refining sector ensures the nation’s “base load” of transport fuels, chemical feedstocks and other vital products is maintained. This requires a better balance between energy and environmental policies, both in the UK and at the EU level.

8.2 The UK Government should examine the impacts of UK legislation, particularly Carbon Floor Price, CRC Energy Efficiency Scheme and COMAH containment policy as applied to the storage of fuel products.

8.3 Ideally, these issues should be contained in a policy framework for the sector which we hope will be developed by DECC, informed by the findings of the report from IHS Purvin & Gertz.

8.4 However, the most vital and pressing need is for the UK Government to make urgent representations to the European Commission in regard to the “Fitness Check” process outlined in point 5 in our Summary Views above. The Fitness Checks must include consideration of Fuels Quality Directive Article 7a and the Refinery BREF linked to the Industrial Emissions Directive, and be concluded before the end of 2013 NOT 2014, by which time the crucial legislation under discussion will have been largely implemented.

9. What is the significance and potential future impact of the changing ownership of UK refineries in recent years?

9.1 In any mature industry sector like refining there will be changing ownership due to the strategy and policy objectives of individual companies. Given the global nature of the industry there will be competing investment projects, not just in the downstream sector, but also in upstream exploration.
9.2 In the UK, there has been a change in refinery ownership in recent years with some multi-national integrated oil companies exiting refining, to be replaced by non-integrated companies (i.e. those without involvement in the supply chain from upstream oil exploration through to marketing) with a focus on refining.

9.3 Changing ownership can be a positive factor since it brings in new entrants that may have a different strategy, outlook and investment perspective.

**Background Context**

UK operating refinery capacity is ~1.5 million barrels of crude oil per day (the fourth largest in the EU). Oil currently accounts for around one-third of all the UK’s energy needs and UKPIA’s members supply around 85% of transport fuels used in the UK. (Source: DECC DUKES.)

Two UK refineries have closed between 2009 and 2012, a further two have changed ownership and one refinery remains for sale.

The main markets for products from refining in the UK are:
- Retail (forecourt service stations): ~28.5 million tonnes per year of petrol and diesel.
- Aviation: ~11 million tonnes per year jet kerosene.
- Commercial: ~16.7 million tonnes per year (commercial vehicles, heating fuels and marine).
- Speciality (bitumen, lubricants, LPG, solvents and petroleum coke etc): ~5 million tonnes per year.
- Petrochemicals: ~2 million tonnes per year (Source: DECC DUKES).

UKPIA members also:
- Invested £3 billion in fixed assets over the last five years, much of it to meet tighter fuel and environmental standards and to enhance process safety;
- Operate 36 distribution terminals and 1,500 miles of pipeline;
- Own around 1,600 out of the 8,700 filling stations in the UK (Source: Energy Institute/Catalist); and
- 8,500 jobs in refining support 54,500 jobs in the extended supply chain industries; expenditure by these employees supports a further 25,500 jobs in the wider economy, making an overall total of 88,000 jobs (Source: IHS Purvin & Gertz).

The monetary input of refining to the UK economy in a normal year is estimated at £2.3 billion (Source: IHS Purvin & Gertz 2013) and each large refinery is estimated to inject ~£60 million+ into the local economy where it is located (UKPIA publication “Fueling the UK’s Future”).

The downstream oil sector collected ~£36 billion in duty and VAT on fuels in the last financial year. (Source: DECC DUKES.)

We thank you for the opportunity to contribute to this important debate and would be pleased to elaborate on our views should the Committee so wish.

May 2013

**Supplementary evidence written by Chris Hunt, UK Petroleum Industry Association**

I am writing to follow up on questions asked at the oral evidence session on 11 June, on the following topics which we undertook to answer, together with observations on evidence given at that session. We will be writing separately about the Environment Agency’s submission, published after the first evidence session.

**DECC’s Electric Vehicle Target 2050**

The likely pathway to lower carbon passenger vehicles in the period to 2030 is fairly clear, with much of the reduction expected to come from a combination of improved vehicle efficiency (engines & drivetrains, weight reduction etc) and alternative fuels. Beyond 2030, likely pathways are difficult to predict since so much depends upon the speed of technical developments in battery technology for EVs, performance/cost of ownership of EVs, developments in low carbon power generation and policy direction.

The industry through its own research and review of published work from a wide variety of sources, endeavours to assess the likely future impact of developments in fuel and vehicle technologies. This year UKPIA jointly commissioned with the RAC Foundation an independent report from Ricardo-AEA Technology examining the likely passenger car fuel/technology developments (see summary below).

The study concluded that conventional petrol and diesel will dominate in this sector until at least 2030, with about 60% of passenger vehicles in 2030 likely to be powered, either in part or in full, by internal combustion engines. This excludes the HGV/LGV sector where substitution of fossil derived fuels is likely to be technically more difficult. IEA forecasts in World Energy Outlook 2012 point towards fossil fuels still meeting ~80% of transport needs in the EU in 2030.
“Powering Ahead: The future of low-carbon cars and fuels” (http://www.ukpia.com/files/pdf/poweringahead.pdf), published on 22 April by UKPIA and the RAC Foundation, examines how the challenge of achieving the UK’s legally binding commitment of an 80% reduction in greenhouse gas (GHG) emissions by 2050, relative to a baseline of 1990, is likely to affect the passenger cars and fuels we will use over the next 20 years.

The key conclusions of the publication are:

— Conventional petrol and diesel passenger cars are expected to remain the dominant technology in the overall vehicle fleet until at least 2030.
— Advances in fuel economy will be achieved by means of continuing improvements in existing engine technology and greater focus on vehicle efficiency through reduced weight and drag.
— In the longer term, the likely mix of technologies is extremely difficult to predict: the speed with which plug-in hybrid electric vehicles (PHEVs) and pure hybrid electric vehicles (EVs, both battery and fuel cell) will achieve significant market share is highly dependent on technology development and their total cost of ownership in comparison to that of more conventional alternatives.
— Government policies should be technology neutral.

Global Vehicle Fleet and Predicted Future Market Share of Fuels

At present, the global passenger vehicle fleet is about 1 billion. The International Energy Agency’s (IEA) World Energy Outlook 2012 estimates that the number will rise to almost 1.7 billion by 2035. The International Monetary Fund (IMF) has estimated that three billion cars will be on the world’s roads by 2050 (IMF, 2008). The report suggests that while the strongest growth in future car sales is likely to be outside Europe—BRIC countries are expected to account for 63% of future market growth—many consider it unlikely that markets such as China and India will see the strongest take-up of future low-carbon car technologies and fuels. Instead, the growth in these markets is expected to be primarily in low-cost conventional technologies.

Indeed, whilst the study suggests that, in the years to come, there will be a multitude of options for consumers to choose from and among—both in terms of fuels and powertrains—the most important finding is that conventionally powered petrol and diesel cars will remain with us for a long time yet.

In addition, emissions reductions, in the short to medium term, will come from vehicles improvement through, for example, engine downsizing with turbocharging.

Predicted Future Market Share of Fuels

The expected changes in terms of the fuels which are likely to be used in future vehicles are shown below. These figures show Ricardo-AEA’s assessment of the most likely scenario for meeting EU 2050 carbon reduction targets, based on known measures identified in the European Commission’s 2011 Transport White Paper.

Petrol and Diesel Cars Will Continue to Be the Dominant Form of Powertrain Until at Least 2030

![Graph showing the predicted share of petrol and diesel cars in the vehicle fleet until 2030.](http://www.ukpia.com/files/pdf/poweringahead.pdf)

Source: Ricardo-AEA 2012. Assessment of the most likely scenario for meeting EU 2050 carbon reduction targets, based on known measures identified in the European Commission’s 2011 Transport White Paper and recent concerns about the availability and sustainability of biofuels.

The graphs show that petrol and diesel vehicles are expected to remain the dominant technology in the overall vehicle fleet until at least 2030. In terms of total energy use by carrier, continuing improvements in internal-combustion engines (ICE) vehicle efficiency will result in a reduction of actual quantities of petrol and diesel used.
In Summary

In the near future, the expectation is that conventional petrol and diesel vehicles will continue to dominate the personal transport scene. According to the average market projections, about 60% of passenger vehicles in 2030 are likely to be powered, either in part or in full, by internal combustion engines. Even in the 2050 scenarios the report anticipates that a high percentage of cars will still feature an internal-combustion engine.

The World Energy Council has also published scenarios for the make-up of the overall vehicle fleet in 2050, on the basis of two alternative policy options: the “Freeway” and the “Tallway” scenarios. In the “Freeway” scenario pure free market forces are allowed to prevail and, in Western Europe, as much as 61% of the light duty vehicle fleet remains conventional petrol and diesel vehicles. In the alternative “Tallway” scenario—a more regulated world where governments decide to intervene in markets to promote technology solutions and infrastructure development that puts common interests at the forefront—this figure is estimated at 19%, but with a further 44% still featuring an ICE, albeit 22% being plug-in hybrids (World Energy Council, 2011).

Finally, the factors which appear to have the strongest influence over the predictions are, firstly, future government policy, and, secondly, the likely speed with which breakthroughs in technology—particularly with respect to batteries and fuel cells—will be achieved.

IMO MARPOL V1 Cost Pass Through

The independent report from IHS Purvin & Gertz (published 10 May 2013) commissioned by UKPIA and DECC to help inform DECC’s review of UK oil refining and downstream resilience, made the assumption that the cost of MARPOL VI would be passed through to consumers.

PGI’s estimate of the cost to UK refineries in the period 2013-30 was: capital cost £905.9 million and operational cost £1.7 billion, a total of over £2.6 billion (equivalent to $0.42 per barrel impact upon gross refining margin).

Given the large investments needed in an industry with a low return on average capital employed, PGI considered it unlikely that this level of investment would be supported by UK refiners. However, this would be a matter for individual UKPIA members to decide upon based upon commercial judgment.

In terms of compliance, it is possible that most vessels working globally might have on-board treatment technology installed as 0.5% sulphur fuel may not be available at every port. Smaller ships in defined operating areas may use gasoil. The solutions adopted by ship owners’ would be based upon commercial and operational factors.

Sources of Crude Oil and Balance between “Sweet” Crude and Heavier Blends

The Downstream Fuel Association in their written evidence (and repeated in oral evidence) stated that:

“...UK refineries are constrained in their crude intake to sweeter crudes which are more expensive and represent a modest percentage of globally extracted oils... and in times of constrained supply, UK refineries cannot tap into the marginal crude supplier for relief.”

This is a generalisation. Some UK refineries have been moving away from a diet of predominantly sweeter North Sea crudes in recent years in response to market conditions. The changing market for crude oils partly because of the USA’s greater self-sufficiency, means that other sources of sweeter crude oils should still continue to be available to UK refiners.

DECC’s Digest of UK Energy Statistics (DUKES) data for 2010 and 2011 (latest year available) indicates that the proportion of North Sea crudes processed in UK refineries has been declining, down from over 80% in 2010 to 73% in 2011 (most recent data available). This is in response to the widening price gap between sweet North Sea crude blends and alternative medium to heavier crude oils. In the Oral evidence session, Petroineos confirmed that Grangemouth refinery now processes around 40% North Sea blend. Similarly another member company, represented at the Oral evidence session, in publicly available sources has stated that sources of their crude oil have also changed, with North Sea blends accounting for under a third and more being sourced from North and West Africa.

Growing Import Dependence and IEA “Moses” Model

The market in crude oil and refined products is a global one but that for crude is larger with greater resilience and flexibility, and less potential for major disruption to refinery operations and product supply.

Import of refined products, mainly middle distillates such as diesel and jet fuel, will be an important part of the UK’s supply balance but the growing risks need to be analysed. The factors that may lead to further UK refinery closures would also lead to closure of refineries elsewhere in Europe. The size and liquidity of the traded products market in NW Europe would then decline rapidly as the market sought to cover the total lost refinery production, not just the volume traded in the finished products market.

The IEA model for Short Term Energy Security (MOSES), comparing oil imports to demand, considers 46% import dependence as high risk. The UK is already at a level of 56% imports of jet kerosene and 48% for diesel.
The model’s initial step to assess a country’s resilience level, is based on the number of refineries it has. The model makes the assumption that the more refineries a country has, the better placed it is in terms of resilience. Refinery flexibility is also taken into account as a separate measure of resilience.

DFA in their written submission make a wrong assumption between import infrastructure and resilience of products:

"...the resilience of UK’s oil product import infrastructure is deemed as ‘high’, giving correspondingly high marks to the resilience of the petrol and middle distillates total flows".

Import infrastructure refers to the number of pipelines and ports a country has. In the UK, oil products pipelines are mainly owned either by refiners or the Government (GPSS) rather than importers. The “high marks” given to the resilience of the petrol and middle distillates are only as a result of low import levels. The following are based on 2010 data used by IEA:

- Petrol is classed as having “no” deficit due to UK having a surplus amount and therefore high resilience.
- Middle distillates deficit 23.2% and classed as “low” in terms of risk. Middle distillates broken down however tell quite a different story (as PGI report concludes):
  - Diesel 30% deficit, “medium” risk.
  - Aviation 51%, “high” risk.
  - Burning oil 31% “medium” risk.

The UK had “high” overall oil product security resilience in 2010 due its existing refining industry meeting most of the model’s resilience parameters. For example, “number of refineries” HIGH; “flexibility of refining infrastructure” MEDIUM/HIGH; “crude oil security” (based on level of domestic crude) HIGH; “import infrastructure” (based on number of ports and pipelines) HIGH; “average storage levels of products” (majority of which come from the refiners) LOW/MEDIUM.

In fact, it is the level of imports that threatens UK oil products security, and could do so in the future as oil product imports increase (as reiterated in the PGI report). The MOSES model puts emphasis on a country being self-sufficient and with reliance upon imports at a minimal level.

Under PGI’s UK refinery closure scenario (two to three refineries closing), this import dependence would increase to 78% and 77% respectively for jet fuel and diesel by 2030, which would have serious implications for supply robustness, both from the perspective of greater dependence upon specific regions from where these products would most likely be sourced (Russia and the Middle East), the longer supply chain and associated risk of transport disruption, and the fact that most EU countries will be facing a similar scenario with refinery closures across the EU.

We do not support the DFA’s contention that there is no need to worry about the UK’s increased need for these products as they can be met by imports. We feel that a focus of DECC’s Call for Evidence should be upon identifying and mitigation of the risks associated with this greater import dependence.

June 2013

**Supplementary written evidence submitted by Chris Hunt, UK Petroleum Industry Association**

I am writing to comment on the written submission from the Environment Agency (EA) to the Energy and Climate Change Select Committee call for evidence on “UK Oil Refining”, which was published on 13th June.

**Reduction in Sulphur Dioxide Emissions**

As identified in its written submission, the Environment Agency (EA) regulates refineries in England under the European Union Integrated Pollution Prevention and Control Directive (IPPCD), which is transposed into law in England by the Environmental Permitting (England and Wales) Regulations 2010 (EPR). Similar regulatory regimes are also present in Scotland and Wales. The EA has stated that the conditions “set within permits are based on an assessment of the Best Available Techniques (BAT) available to the operator" and that this assessment is “informed by an EU-wide assessment of what represents BAT for a particular sector”.

Under the current IPPCD regime, this assessment of BAT is documented in the Refinery BREF document published in February 2003, which forms part of a series presenting the results of an exchange of information between EU Member States and industries concerned on BAT, associated monitoring, and developments in these areas. It is published by the European Commission in accordance with Article 16(2) of the Directive, and must therefore be taken into account as required by Annex IV of the Directive when determining BAT and provides reference information for the permitting authority to take into account when determining permit...
conditions. However, under the IPPCD, the BREF documents are purely advisory, although the EA has also developed sector specific and cross-sector guidance, which is more prescriptive.

During the permitting process carried out at the end of 2007, the EA established reduction in sulphur dioxide ($SO_2$) emissions to air as a priority, requiring a 50% reduction in emissions on 2004 levels (69.2kt for UKPIA member companies). This target was set without reference to BAT and, although UKPIA member companies are on target to achieve the required reduction, very significant investment has been required in $SO_2$ abatement at a time when refinery profitability has been poor, with two refineries closing during this period (Petrotus Coryton and Petrotus Teesside). Refineries have operated under constraints on crude selection and throughput rates as a result of the emissions limits and increasingly challenging fuel sulphur specifications, compromising refinery economics in comparison to EU and non-EU refineries subject to less challenging requirements.

With the replacement of the IPPCD by the Industrial Emissions Directive (IED) and revision of the Refinery BREF, where publication the Commission Implementing Decision on BAT Conclusions is anticipated in early 2014, the legislative requirements become even more challenging. IED Article 21(3) requires that within four years of publication of the Commission Implementing Decision, emissions permits must be revised by the Competent Authority and operators must meet any revised emissions limits.

This represents a major challenge for the refining sector due to the planned frequency and timing of turnaround cycles (typically four to five years) and the additional investment costs likely to be required outside normal budget planning cycles. Further reductions in $SO_2$ emissions will be required, along with reductions in nitrogen oxide ($NO_x$), particulate emissions and other pollutant emissions. The investment cost to meet these requirements have been estimated at around £900 million, with increased operating costs of around £57 million/year; as annualised costs, these represent a significant proportion of net cash margins, which were negative in 2011 (-£490 million, equivalent to around £320 million) before annualised turnaround costs (ie periodic major maintenance and inspection shutdowns) and depreciation are taken into account. The EA approach to assessment of affordability using gross margin—the EA submission states that the cost of improved $SO_2$ emissions abatement were about 0.2% of gross margins at the time—is invalid and grossly misleading.

**COMAH Containment Policy**

The EA has referred to the COMAH Competent Authority Policy on Containment of Bulk Hazardous Liquids at COMAH Establishments (CP) in its written submission. This was developed in response to the Buncefield fuel storage depot incident in December 2005 and applies to the bulk storage of hazardous liquids at sites which are subject to the Control of Major Accident Hazard (COMAH) Regulations 1999, including refineries and fuel storage sites. The Policy was introduced following consultation with the industry in February 2008 as a risk-based approach to the general improvement of containment measures.

UKPIA and the Tank Storage Association (TSA) raised a number of concerns over the implementation of CP with the EA in June 2011. By this date, industry had carried out significant improvement works, in particular to primary containment measures for petrol storage tanks, learning from the Buncefield incident. However, during the intervening period, the industry also gained a much better understanding of the issues associated with upgrading secondary containment to the standards set out in the Policy. As a result we identified a number of issues to the EA:

- The affordability of implementing the CP in full for all in-scope tanks, particularly where it has been seen that the policy has been interpreted by the EA as a minimum standard, regardless of risk. Recognised that affordability should also be considered in the context of significant cost pressures from other legislation and from falling demand.

- Our experience of the cost of implementation of secondary containment and the number of in-scope tanks far exceeded that recognised in the original Regulatory Impact Assessment (RIA) completed in 2007. The total estimated number of storage tanks affected by the Policy was underestimated—the RIA assumed 220 category 1 tanks, whereas in practice the number proved to be well in excess of 500. The estimated cost per tank was also underestimated; for example, the original RIA quoted an average figure of £720k per tank for secondary containment improvements, whereas experience shows a figure in the region of £400k to over £6 million depending on the size of the tank, with a significant number of larger tanks present. The total cost has now been estimated at some £687 million, although this does not include all tertiary containment costs, as this is highly site specific depending on the topography and geology of the site.

- Technical issues relating to the mechanisms by which environmental risk can be robustly assessed, along with the tolerability criteria of those risks. Doubts were also expressed concerning the lack of information available regarding the performance and longevity of materials used to effect improvements in secondary containment. This has required development of new methodologies and test methods for risk and performance assessment, some of which remains on-going.

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3 See IHS Purvin and Gertz report “The role and future of the UK refining sector in the supply of petroleum products and its value to the UK economy” made available as part of the UKPIA written submission.
1. We understand the Committee is concerned by recent UK refinery closures and seeks to understand the impact this may have on UK security of supply and resilience.5

2. In considering this issue, it is relevant to note that recent refinery closures are in the context of declining demand for fuels in the UK through several factors, including: more efficient vehicles; the displacement of conventional fuels by, for example biofuels; and declining car sales. In addition, these closures have taken place within a highly competitive global oil and products market, where UK refining is mid-tier in terms of its competitiveness (17th in Europe).i UK refineries are older and as a result require significant investment, a more expensive crude diet and are geared towards making petrol, a product which is oversupplied in Europe. As a result the UK is not currently balanced in terms of supply and demand, importing diesel (where we have a "short") and exporting petrol (where we have "length").

3. Recent refinery closures reflect the changing supply and demand balance, and do not indicate a concern for energy security. If there were further refinery closures in the UK this would affect the economics of those which remain as over capacity is reduced, making it less likely there would be multiple further closures.

4. The UK’s security of supply is ultimately a function of its ability to pull crude and products from the global market, rather than having a set level of domestic refining capacity. Through this lens, infrastructure plays a critical role. The UK as an island has resilience and security of supply through good access to local and international product via; numerous import terminals, good inland infrastructure, in terms of road and rail, and multiple domestic hauliers. There are regions of the UK which are predominantly and successfully supplied through imports, which challenges the assumption that importing leads to issues for resilience or security of supply.

5. Any intervention in the market to deliver “an appropriate baseline” could impact prices for the consumer.

Q1. What are the factors that have lead to closures of UK refineries? Why is production increasing overseas?

6. There are several factors which have led to the closure of UK refineries. Firstly, there is an imbalance between supply and demand for oil products in Europe (and globally) due to refining overcapacity and declining demand for conventional fuels.ii This reduces UK refinery profitability as utilisation declines and the value of the product declines as it is more difficult to find a consumer.

7. Secondly, UK refining is mid-tier in Europe in terms of competitiveness as our aging refinery portfolio requires significant investment, the refineries are generally geared to run light sweet crude (typically the most expensive crude) and produce mogas (petrol) which is currently oversupplied in Europe.

5 Throughout this response, “resilience” will be used to mean short term ability to cope with disruption, “security of supply” to mean longer term supply options which enable the UK to meet domestic demand for products.
8. At a global level demand for refined products is increasing fuelled by emerging markets where increased car ownership by a burgeoning middle class increases the demand for fuels. Production increases are typically found in geographies where a refinery has a structural advantage either through a favourable tax system (e.g., Russia) or proximity to abundant crude supply sources.

Q2. What impact (if any) has UK and EU regulation had on the UK refining industry?

9. EU directives that seek to reduce greenhouse gas emissions, such as the Renewable Energy Directive (RED) and Fuels Quality Directive (FQD) directly impact European refining. The RED requires 10% renewable energy content in transport by 2020, and the FQD requires a 6% reduction in greenhouse gas emissions in transport. Both of these directives are essentially mandating a level of displacement of conventional fuels. This demand reduction has an impact on UK refinery profitability. When a refiner has a smaller domestic market, more product is exported at a lower netback, making them less profitable.

10. UK industrial competitiveness is further affected where the UK implements policy which overlaps with EU policy; an example of this is the recent introduction of the UK’s carbon price floor on top of the existing EU Emissions Trading Scheme (ETS). National fragmentation of policy is best avoided to ensure an efficient and competitive sector.

Q3. What part will refined oil products play in the UK’s energy requirements and transport in particular to 2030 and beyond? What mix of products is likely to be required and how well does this match with current UK refining capacity?

11. As noted in response to question one, there is a structural decline in demand for conventional fuels in the UK, in addition to declining new car sales. There will be further erosion in demand through increased sales of new vehicle types (i.e., hydrogen and electric vehicles). However, in the period to 2030, we expect to see continued strong demand for conventional liquid fuels. The RAC Foundation suggests that 60% of UK vehicles in 2030 will be fuelled by the internal combustion engine and Shell’s latest scenarios indicate that by 2030 over 80% of the global passenger kilometers will still be fuelled by hydrocarbons (−10%), electric mobility and hydrogen (collectively 7%).

12. The UK does not currently meet domestic demand through domestic refining. The UK is long in petrol and short in diesel and jet. The products market is global, hence refiners export their “length” and suppliers import the “short”. In the future these imbalances will continue to change, those refiners who are not able to sustain acceptable profitability in this changing environment will cease production and either close or be converted to import terminals. We expect some refiners will adapt to the changing external environment by improving their relative global competitiveness.

Q4. What is considered to be the right balance between oil products refined locally and imports and what are the current and future scenarios?

13. The definition of the right balance would depend upon the end goal being sought; whether it is to deliver supply security and resilience, create jobs or ensure affordability. Both refining and importing provide supply security and resilience. Both are susceptible to problems in the international markets, such as a crude shortage or product shortage. A prolonged structural product shortage is unlikely, as generally the world has more than enough refining capacity and connected via shipping.

14. Leaving the market to find the right balance between refining and importing is a robust way of creating efficiency and competition and thus providing the lowest cost to the consumer.

Q5. What are the factors, both domestic and international, that will determine the future viability of the UK refining industry?

15. Reference our response to question 1.

Q6. What impact would the closure of UK refineries have on (a) energy supply security b) environmental objectives (c) the price of petroleum products in the UK?

Energy supply security

16. The oil and products market is a global market and adjusts to make up any shortfall from closures. UK refineries will only close if they are uneconomic and if one were to close, this would help the margins for those who remain, making subsequent closures less likely. In the event of a refinery closure, we could expect a short-term supply disruption. In the recent case of the Petroplus Coryton refinery closure, there was limited supply disruption. The Coryton refinery is being converted into a new deep draft terminal, which will deliver supply security by connecting the UK directly to the international market. It would not appear that the closure has not resulted in any negative impact on supply security.

Shell supports reform of the EU ETS through backloading of EU ETS allowances and longer-term introduction of an auction reserve price for Phase IV of the EU ETS.
17. There are regions of the UK where a refinery closure would have a larger impact on resilience due to high demand and limited alternative supply options (eg nearby import capacity).

Environmental objectives

18. In relation to the impact on environmental objectives if a refinery closes in the UK and product is sourced in Europe, the EU ETS will act to ensure refiners operate within an overall ETS emission cap.

19. It is difficult to speculate on product flows, however newer more efficient overseas refineries which could supply the UK in the event of domestic closures may have a lower GHG footprint than those in the UK.

Price

Any intervention in the market could affect prices for the consumer.

Q7. What would be an appropriate baseline level of refining capacity in order for the UK to remain broadly self-reliant in an emergency?

20. If self-reliance is defined as a having a match between domestically refined product and domestic demand the UK is not self reliant today. It is difficult to envisage an emergency which could be mitigated by having a set baseline level of domestic refining capacity. In the case of an international incident such as the closure of the Straits of Hormuz, there could be a global shortage of crude which could impact all refiners. In case of a domestic supply disruption, refineries pose a higher risk of long term disruption than importing.

21. The UK’s Compulsory Stocking Order (CSO) aims to mitigate the impact of global supply shocks. CSO requires all refiners and importers to hold stocks or tickets to provide cover in case of supply disruption in the market. With the introduction of an agency to centrally manage these stocks, as is currently proposed by DECC, we believe this is a robust system to provide mitigation for disruption.

Q8. What steps could the UK Government take to maintain an appropriate baseline level of refining capacity?

22. Reference our response to question 4. Any consideration on an appropriate “baseline” should be taken within the context that a significant proportion of domestic supply comes from imports and that resilience is also a function of critical infrastructure such as pipelines, terminals, jetties etc. Intervention in the market could impact the price for the consumer.

Q9. What is the significance and potential future impact of the changing ownership of UK refineries in recent years?

23. UK refineries all have different international operators. The change in ownership that we have seen in recent years from integrated IOCs (ie those who have an interest in the whole supply chain) to specialist refining companies reflects a trend which we are seeing across Europe and the US.

Shell Footprint

Shell operates three refineries in Europe; Pernis in The Netherlands, Rhineland in Germany and Federicia in Denmark and in the UK downstream Shell owns a jet fuel import terminal in the Thames; joint ventures in pipelines and logistics, a main fuels import terminal (a joint venture with Vopak and Greenenergy) at the former Coryton refinery (currently under conversion) and a significant presence in the retail sector with over 1,000 retail sites.

May 2013

References

i Wood Mackenzie Report on UK Downstream oil infrastructure, 2009

ii There is a decline in demand for petrol and a slight growth in demand for diesel to reflect the changing vehicle pool. Overall for transport fuels the trend is a decline in demand. (Wood Mackenzie Report on UK Downstream oil infrastructure, 2009)

iii A summary of all the costs associated with bringing one unit of oil to the marketplace, and all of the revenues from the sale of all the products generated from that same unit. The netback is calculated by taking all of the revenues from the oil, less all costs associated with getting the oil to a market. These costs can include, but are not limited to, importing, transportation, production and refining costs, and royalty fees.

iv IPPR Decoupling oil and transport, 2011

v RAC foundation report on low carbon cars and fuels, 2013

vi Shell New Lens scenarios: A shift in perspective for a world in transition
The Environment Agency issues environmental permits to oil refinery operations as required by EU and domestic legislation. The conditions we set within permits are based on an assessment of the Best Available Techniques (BAT) available to the operator. This is informed by an EU-wide assessment of what represents BAT for a particular sector.

Our last periodic review of the overall environmental standards required of oil refineries was carried out at the end of 2007. The permits we issued at that time identified the environmental improvements required between 2007 and 2016. Reductions in the releases of sulphur dioxide were a key issue for oil refineries.

The Environment Agency has worked closely with the UK Petroleum Industry Association and its members to achieve required reductions in sulphur dioxide emissions proportionately and cost effectively.

The Environment Agency works closely with individual refineries to ensure that any site-specific issues they have can be accommodated, whilst achieving the same environmental outcome. Our response focuses on the Committee's question: what impact (if any) has UK and EU regulation had on the UK refining industry?

Our evidence demonstrates that the implementation of the European Union's Integrated Pollution Prevention and Control Directive (IPPCD) should not have had a detrimental impact on the viability of the sector.

1.0 Environment Agency's Role

1.1 The Environment Agency regulates refineries in England under the European Union Integrated Pollution Prevention and Control Directive (IPPCD), which is transposed into law in England by the Environmental Permitting (England and Wales) Regulations 2010 (EPR). We also administer the EU Emissions Trading System and, in England, form part of the Competent Authority with the Health and Safety Executive to deliver the environmental aspects of the Control of Major Accident Hazards regime.

2.0 Environmental Permitting of Oil Refineries in England

2.1 The EPR and predecessor legislation requires operators of industrial installations, including oil refineries, to apply to the Environment Agency for an environmental permit. In deciding whether to grant or refuse a permit, the Environment Agency is required to assess the environmental impacts of the operation and to set any conditions, such as emission limits, necessary to ensure appropriate protection for people and the environment.

2.2 The conditions we set within permits are based on an assessment of the Best Available Techniques (BAT) available to the operator. This is informed by an EU-wide assessment of what represents BAT for a particular sector. For new plants, operators must meet these standards from the start. For existing operations, which includes all of the oil refineries in England, operators agree to an improvement programme which brings their installations up to BAT within a specified timescale, taking into account the costs.

2.3 Our last periodic review of the overall environmental standards required of oil refineries was carried out at the end of 2007. The permits we issued at that time identified the environmental improvements required between 2007 and 2016. Reductions in the releases of sulphur dioxide were a key issue for oil refineries.

2.4 We worked with the UK Petroleum Industry Association (UK PIA), to demonstrate that:
   - Reductions in sulphur dioxide (SO₂) emissions to air should be a priority.
   - The techniques for reducing SO₂ are available. Subsequently, each refinery assessed all available abatement techniques for cost effectiveness and suitability.
   - The balance of costs and benefits is reasonable. The total industry wide annualised cost for reducing SO₂ by 35 kilotonnes is approximately £27 million. Using a range of accepted environmental damage costs for sulphur dioxide, this results in a cost:benefit ratio in excess of 2.5:1.
   - The affordability of these improvements was assessed against refinery margins. The costs of the identified improvements were about 0.2% of gross margins at that time.

2.5 UK PIA members agreed the overall objective to reduce emissions of sulphur dioxide to air and they are on target to achieve it.

2.6 Since 2007 we have, in some cases, reconsidered the requirements. Some operators have proposed alternative improvements to those originally identified which we have assessed and accepted if the environmental outcome is equivalent. Some have implemented additional improvements where it suits their business. In addition, there has been a gradual move across the sector to more gas firing rather than oil which has operational, financial and environmental benefits.
2.7 The standards required to be met by refineries beyond 2016 will be driven by the Industrial Emissions Directive (IED) which replaces the IPPCD. The European Commission is expected to publish next year its revised conclusions on Best Available Techniques (BAT) for the refineries sector.

3.0 Control of Major Accident Hazards (COMAH) Regulations

3.1 The Health and Safety Executive, NRW (Natural Resources Wales since April 2013) SEPA (Scottish Environment Protection Agency) and the Environment Agency are the joint Competent Authority (CA) under the Control of Major Accident Hazards Regulations 1999 (COMAH). We work closely with operators to demonstrate the risk is adequately controlled.

3.2 The Environment Agency’s focus has been on the CA’s Containment Policy (CP). The Environment Agency accepts that the process of upgrading bulk storage tanks at refineries is complex. That is why the policy envisages a 20-year timescale for completion. However, a Regulatory Impact Assessment [http://www.environment-agency.gov.uk/business/topics/oil/145808.aspx] showed that upgrading facilities to containment policy standards did not involve grossly disproportionate cost for the sector (refineries and distribution terminals). COMAH aims to reduce the risks of incidents such as Buncefield where an explosion at oil storage facility led to, reportedly, £1 billion in costs.

3.3 In recent years there have been considerable efforts to improve for COMAH customers the consistency and coordination between Environment Agency and HSE colleagues.

3.4 The Environment Agency is encouraging the UK Petroleum Industries Association (UKPIA) and Tank Storage Association (TSA) to raise concerns and proactively discuss issues arising from implementation of the Containment Policy. The Competent Authority recognises that costs and benefits are site-specific and discuss required requirements at each site with the operator. Where costs are significant, such as at refineries, we have spent several years working with operators to ensure risks, costs and benefits are properly assessed so only essential investment is required. Our senior team has created a mechanism to understand better local constraints and to offer to review cases where these are raised.

4.0 Conclusions

4.1 The Environment Agency has worked closely with the UK Petroleum Industry Association and its members to achieve the required reductions in sulphur dioxide emissions proportionately and cost effectively.

4.2 Our evidence demonstrates that the implementation of the IPPCD should not have had a detrimental impact on the viability of the sector.

4.3 The Environment Agency has also worked closely with individual refineries to take account of any specific business needs whilst ensuring the environmental outcome is equivalent.

June 2013

Written evidence submitted by Channoil Consulting Ltd

Current Scenario

Margins

Refining margins under severe pressure in Europe. This is due to oversupply of gasoline and a mismatch in the capability of refineries to maximise diesel and jet fuel. Also regulatory pressures in Europe are much higher than East of Suez refineries. The effect of this has been demonstrated by the failure of Petroplus and the constant reduction in capacity by the major refiners. We can only assume that the majors saw the oversupply of refining capacity earlier in the cycle and their disposals now look timely. Another reason is the forecast tightness in crude oil availability. When the majors were over producing crude oil it was necessary for them to have control of the markets, to ensure that they pushed through the maximum amount of crude oil into the consumer markets. Now they are confident that they can sell every barrel of crude oil they produce.
It can be seen from the above slides that, as capacity utilisation falls, then margins collapse. From 2007 there has been a steady decline in worldwide refinery utilisation rates; and correspondingly, except for US based coking refineries that benefited from the spread in the sweet light and heavy sour differential, there has been a steady erosion of margins. Gross margins of $US3–5 per bbl will not cover operating and capital costs.

We will discuss the reason behind this drop in utilisation later but for now suffice it to say that there is no immediate light at the end of the tunnel. If anything there will have to be a lot more substantial shutting-in of capacity before margins recover. This is clear from the number of new complex refineries being built or proposed in the Middle East, India and China.
Table 3
REFINERY DISPOSALS AND CLOSURES IN EUROPE 1974–2012

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>CDU capacity</th>
<th>Current status</th>
<th>New Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITED KINGDOM</td>
<td>BP</td>
<td>150 KBPD</td>
<td>Closed -new port</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Isle Of Grain</td>
<td>150 KBPD</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Llandarcy</td>
<td>80 KBPD</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grangemouth</td>
<td>180 KBPD</td>
<td>Operating Ineos/Petrochina</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Belfast</td>
<td>80 KBPD</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>Shell</td>
<td>Shellhaven</td>
<td>180 KBPD</td>
<td>Closed- New Container terminal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teesport</td>
<td>80 KBPD</td>
<td>Closed- New Container terminal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ardrossan</td>
<td>Closed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stanlow</td>
<td>240 KBPD</td>
<td>Operating Essar Energy</td>
<td></td>
</tr>
<tr>
<td>Esso</td>
<td>Milford Haven</td>
<td>100 KBPD</td>
<td>Closed-dismantled</td>
<td></td>
</tr>
<tr>
<td>Chevron/Gulf</td>
<td>Milford Haven</td>
<td>210 KBPD</td>
<td>Operating Valero</td>
<td></td>
</tr>
<tr>
<td>Murco</td>
<td>Milford Haven</td>
<td>120 KBPD</td>
<td>Converting to terminal</td>
<td></td>
</tr>
<tr>
<td>Petroplus</td>
<td>Teeside</td>
<td>80 KBPD</td>
<td>Closed- Oil terminal</td>
<td></td>
</tr>
<tr>
<td>Petroplus</td>
<td>Coryton</td>
<td>220 KBPD</td>
<td>Closed-Terminal</td>
<td></td>
</tr>
<tr>
<td>FRANCE</td>
<td>BP</td>
<td>100 KBPD</td>
<td>Closed dismantled</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dunkirk</td>
<td>80 KBPD</td>
<td>Closed dismantled</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strasbourg</td>
<td>80 KBPD</td>
<td>Closed dismantled</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Dunkirk</td>
<td>156 KBPD</td>
<td>Closed -Terminal</td>
<td></td>
</tr>
<tr>
<td>Petroplus</td>
<td>Petit Couronne</td>
<td>162 KBPD</td>
<td>Bankrupt</td>
<td></td>
</tr>
<tr>
<td>LyondellBassel</td>
<td>Berre</td>
<td>105 KBPD</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>BELGIUM</td>
<td>Petroplus</td>
<td>108 KBPD</td>
<td>Restarted by Gunvor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Antwerp</td>
<td>112 KBPD</td>
<td>Closed Terminal</td>
<td></td>
</tr>
<tr>
<td>GERMANY</td>
<td>Shell</td>
<td>110 KBPD</td>
<td>Closed-Terminal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Harburg</td>
<td>105 KBPD</td>
<td>Closed-Gunvor possible restart</td>
<td></td>
</tr>
<tr>
<td>Petroplus</td>
<td>Ingoldstadt</td>
<td>105 KBPD</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>ITALY</td>
<td>Tamoll</td>
<td>80 KBPD</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>ERG Total</td>
<td>Civita Vecchia</td>
<td>86 KBPD</td>
<td>Closed</td>
<td></td>
</tr>
<tr>
<td>ENI</td>
<td>Gela</td>
<td>105 KBPD</td>
<td>Closed for 12 months</td>
<td></td>
</tr>
<tr>
<td>API</td>
<td>Falconara</td>
<td>83 KBPD</td>
<td>Closed for 12 months</td>
<td></td>
</tr>
<tr>
<td>ERG Total</td>
<td>Priolo</td>
<td>360 KBPD</td>
<td>80% sold to Lukoil</td>
<td></td>
</tr>
</tbody>
</table>

Since early 2000 we have seen a number of refinery closures or sale with no new replacement of primary distillation capacity. Most new additions to refineries were in upgrading and desulphurising plant. For upgrading plant, the investments have paid off handsomely and will continue to do so but these units have been subsidising the primary distillation units. So much so, that demand for atmospheric residue and VGO have never been higher and the premia paid are considerable, reflecting both the refining economics but also the competition for the grades.

Over 1 million BPD of refining capacity has closed in Europe since 2009 and if one goes further back this is just the tip of the iceberg. A further 1.0 million bpd has had an ownership transfer mainly from the major oil companies to independent traders or non European refiners.

Of the 1.0 million bpd of closures since 2008, about 800 kbpd of refining capacity has been converted into oil terminal capacity resulting in around 3 million cubic meters of additional storage capacity.
The following table shows the most recent closures and changes:

<table>
<thead>
<tr>
<th>Country</th>
<th>Refinery/owner</th>
<th>Capacity 000bpd</th>
<th>Status</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>Antwerp/Gunvor</td>
<td>108</td>
<td>Restarted</td>
<td>May</td>
</tr>
<tr>
<td>Czech Rep</td>
<td>Paramo/Unipetrol</td>
<td>20</td>
<td>Closed down</td>
<td>May</td>
</tr>
<tr>
<td>France</td>
<td>Petit Couronne/Petroplus</td>
<td>162</td>
<td>In Administration</td>
<td>June</td>
</tr>
<tr>
<td></td>
<td>Berre/Lyondell/Basel</td>
<td>105</td>
<td>Closed down</td>
<td>January</td>
</tr>
<tr>
<td>Germany</td>
<td>Hamburg/Shell</td>
<td>110</td>
<td>Convert to Storage</td>
<td>June</td>
</tr>
<tr>
<td></td>
<td>Ingoldstadt/Gunvor</td>
<td>100</td>
<td>Restarting</td>
<td>Q4</td>
</tr>
<tr>
<td>Italy</td>
<td>Gela/ENI</td>
<td>105</td>
<td>closed 12 months</td>
<td>June</td>
</tr>
<tr>
<td></td>
<td>Rome/ERG-Total</td>
<td>86</td>
<td>Convert to storage</td>
<td>Q3</td>
</tr>
<tr>
<td></td>
<td>Falconara/API</td>
<td>83</td>
<td>closed 12 months</td>
<td>December</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Cressier/Vitol</td>
<td>68</td>
<td>Restart</td>
<td>August</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Coryton/Petroplus</td>
<td>220</td>
<td>Convert to storage</td>
<td>July</td>
</tr>
</tbody>
</table>

**Changes**

What has brought about this change in refining margins and utilisation? The main reason is the reduction in demand:

*Fig 1 shows the changes in demand for ground transportation fuels; this being the most significant market for petroleum products, which is impacting on refinery revenues. Jet fuel is another, but that is another story.*

It can be seen that in Europe and Eurasia the demand for gasoline has been falling steadily whilst diesel has been growing, however the total demand shows a reduction since 2006.

The actual reduction in demand is 1.3 million bbls per day. This reduction in demand is continuing and we will deal with demand forecasts later.
However there has also been an increase in capacity which has reduced refinery utilisation. As with all capital intensive industries if the plant is not run at full capacity the unit costs increase dramatically.

Table 6

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>Expected</th>
<th>2015 Consumpt.</th>
<th>% of total</th>
<th>% of total</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe &amp; Eurasia</td>
<td>24,624</td>
<td>24,435</td>
<td>24,570</td>
<td>510</td>
<td>25,080</td>
<td>14,814</td>
<td>27.08%</td>
<td>-2.08%</td>
</tr>
<tr>
<td>Africa</td>
<td>3,012</td>
<td>3,192</td>
<td>3,317</td>
<td>770</td>
<td>4,087</td>
<td>3,336</td>
<td>4.07%</td>
<td>3.31%</td>
</tr>
<tr>
<td>Middle East</td>
<td>7,819</td>
<td>7,923</td>
<td>8,011</td>
<td>1,235</td>
<td>9,246</td>
<td>8,076</td>
<td>9.21%</td>
<td>8.60%</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>27,685</td>
<td>28,405</td>
<td>29,135</td>
<td>2,820</td>
<td>31,955</td>
<td>28,301</td>
<td>31.84%</td>
<td>30.44%</td>
</tr>
<tr>
<td>N America</td>
<td>21,127</td>
<td>21,008</td>
<td>21,382</td>
<td>420</td>
<td>21,802</td>
<td>23,156</td>
<td>21.72%</td>
<td>23.23%</td>
</tr>
<tr>
<td>S &amp; C America</td>
<td>6,679</td>
<td>6,653</td>
<td>6,590</td>
<td>1,595</td>
<td>8,185</td>
<td>6,241</td>
<td>8.16%</td>
<td>7.34%</td>
</tr>
<tr>
<td>Total</td>
<td>90,946</td>
<td>91,616</td>
<td>93,005</td>
<td>7,350</td>
<td>100,355</td>
<td>83,924</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: BP Statistical review 2011

The table 6 above shows the effect of new capacity and it is also compared with demand for 2011. It can be seen that the spare capacity at present is almost 9 mbpd and demand will have to increase by a further 16.4 mbpd if spare capacity is to be fully utilised. I think it would take a brave man to forecast that this increase is likely to be maintained.

We have calculated that the demand growth by 2015 will reach 85.2 mbpd, but this leaves an amazing large gap in spare capacity of 16.4 mbpd. The consequences of this spare capacity will be more closure of old inefficient and high cost refineries.

The most likely target for refinery closures has to be Eurasia with some 10 mbpd of spare capacity.

We have looked at demand growth in the world and the following table 7, shows that the even without allowing for the unknowns, such as the penetration of hybrids and liquid renewable fuels, the growth in Europe and Eurasia is not going to reduce the surplus refining capacity currently installed.

Table 7

<table>
<thead>
<tr>
<th>GDP%</th>
<th>20%</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe &amp; Eurasia</td>
<td>1.5%</td>
<td>0.30%</td>
<td>14,858</td>
<td>14,903</td>
<td>14,948</td>
</tr>
<tr>
<td>Africa</td>
<td>2.5%</td>
<td>0.50%</td>
<td>3,353</td>
<td>3,369</td>
<td>3,386</td>
</tr>
<tr>
<td>Middle East</td>
<td>2.5%</td>
<td>0.50%</td>
<td>8,116</td>
<td>8,157</td>
<td>8,198</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>5.0%</td>
<td>1.00%</td>
<td>28,584</td>
<td>28,870</td>
<td>29,159</td>
</tr>
<tr>
<td>N America</td>
<td>3.0%</td>
<td>0.60%</td>
<td>23,395</td>
<td>23,435</td>
<td>23,575</td>
</tr>
<tr>
<td>S &amp; C America</td>
<td>2.5%</td>
<td>0.50%</td>
<td>6,272</td>
<td>6,304</td>
<td>6,335</td>
</tr>
<tr>
<td>Total</td>
<td>84,479</td>
<td>85,038</td>
<td>85,601</td>
<td>86,168</td>
<td></td>
</tr>
</tbody>
</table>

Terminals

The conversion of redundant refineries to oil terminals continues apace and the effect of this, is that the terminals that have been converted usually have larger tank sizes and deeper water jetties. This in turn facilitates the importation of ever larger parcels of clean products. We are all aware of the export of heavy fuel from Europe/Caribbean to the Far East in VLCC’s but we are now starting to see the importation of larger, up to Suezmax, size parcels of clean fuels being imported into Europe. It is expected that European product imports from the Middle East will rise to about 160 million tonnes by 2015 from around 120 million tonnes today.

This will have the effect of increasing the scrapping rates for VLCC and reduce the demand for new buildings, but will also keep rates depressed for some time to come.

As this process accelerates it will interesting to watch what the Governments of Europe will do when the concept of strategic interest begins to be debated.
One of the major issues that refineries in the developed world have to face is regulations. These regulations range from:

- Health and Safety.
- Emissions Controls.
- Specification tightening.
- Labour laws.
- Human Rights Laws.
- Land Pollution laws.
- And a host of others.

These regulatory restrictions cost refiners anywhere up to $2.00 per bbl, however it is unlikely that these costs can be recovered in the marketplace as the competition will not necessarily be confined to refineries within the same regulated geographical area. Due to the nature of free market arrangements through organisations such as the WTO and the European Union, no anti-competitive tariff can be imposed. Thus imports of clean fuels from places such as the Middle East Gulf and India can be imported unrestrictedly if the excise duty is overcome; this is relatively small in most cases.

The tightening of specifications is a major cause of cost to a refinery. Stringent limits on sulphur, benzene and others have required a substantial investment in refinery equipment and furthermore the reduction of sulphur and benzene results in even greater use of energy. This gives rise to more emissions of $\text{CO}_2$, $\text{NO}_x$, and $\text{SO}_x$. All these pollutants are regulated and thus more cost is incurred in containing them.

The latest IMO regulation that bunker fuel in Emission Control Areas are subject to a maximum limit of 0.1% sulphur content is likely to have a major impact on refining margins. Up to now bunker fuel has been the main outlet for heavy fuel production in European refineries. This limit is unlikely to be achieved by desulphurisation of the residual fraction. Therefore it can only be met by increased production of Marine Gas Oil. This is the major constraint on refineries at present and Europe is importing middle distillate, mainly from the FSU but also from India and the Middle East. Any further increase in demand will only exacerbate an already fragile situation.

Competition

Size and efficiency.

A part from the Russian refineries, there are no truly massive scale refineries in Europe. The large refineries are in the Middle East, The Americas and the Far East. You will note that the largest European refinery is the Shell Pernis facility in Rotterdam at 406,000 bpd.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Owner</th>
<th>Location</th>
<th>Crude Capacity bpd</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliance</td>
<td>Jamnagar, India</td>
<td>1,241,000</td>
</tr>
<tr>
<td>2</td>
<td>Paraguna</td>
<td>Venezuela</td>
<td>940,000</td>
</tr>
<tr>
<td>3</td>
<td>SK</td>
<td>S. Korea</td>
<td>817,000</td>
</tr>
<tr>
<td>4</td>
<td>LG</td>
<td>Yosu, S Korea</td>
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</tr>
<tr>
<td>5</td>
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<td>Singapore</td>
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<td>7</td>
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<td>Ras Tanura, S Arabia</td>
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<td>18</td>
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<td>Rabigh, S Arabia</td>
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This gives the clear picture that efficiency and scale are considerable players in the market.
Operating Costs

Size and efficiency generate lowest refining unit cost. This, plus the burden of regulation has been the major cause of the closures of the European refineries. It is axiomatic that within a refining cluster, the refinery with the lowest cost will dictate the margin. With variable operating costs of around $2-3 per barrel for the most efficient refineries, it is clear that this is what is happening and that refining margins are being driven down towards the lowest variable refining cost. Any refinery that now wishes to upgrade, cannot possibly recover the capital costs with the current spare capacity in the system.

Demand

We have touched on demand earlier, but this is the critical area for the future direction of refining margins.

Road Transport Fuels

There has been a dramatic change in automotive engine efficiency in the last ten years and it is unlikely to stop here. New technologies are constantly being developed on the Formula 1 circuit. This work has led to VVT, EGR and a whole host of developments driven by the holy grail of increasing MPG or Litres per 100 kilometer.

We have also witnessed the current political obsession with replacement of petroleum with so-called renewable fuels. This is driven by Directives that have as an objective 10% of all transport fuels to be from these renewable sources by 2020. This is only likely to happen in the developed economies, i.e Europe and N. America. However, as we are concentrating on Europe, it will have the largest effect on refinery output.

During the 80's and 90's we saw a massive shift from gasoline to diesel in the road transport sector, we expect a similar shift to hybrids in the next two decades.

These will not necessarily be just electric/gasoline hybrids but more significantly we see a shift to CNG/gasoline hybrids. We have already seen a deep penetration of CNG in the mass transit and local Government owned bus fleets in Europe and this will accelerate as new and cheaper sources of gas are discovered.

We do not believe that electric cars are the future. They are simply not flexible enough. In fact on 28 September the FT announced that Toyota had stopped all development work on purely electric cars. Electricity is an energy that is good for transmission but not for traction.

All this activity will have one major effect, which is to change the shape of the barrel and to put more capital expenditure demand on refineries to meet this changed barrel.

Primary Crude Oil Demand

Starting with primary demand for crude oil we have used projected GDP growth and then applied a 20% energy efficiency factor to arrive at primary crude oil demand. Table 9 below shows that growth in crude oil demand may be a lot less than previously forecast, the reason for this is the substitution by gas and alternatives.

Global demand is already tailing off in the thermal demand for oil and this is due to the increased capacity in shale gas and coal. The result has been the collapse in the price of gas and coal.

Table 9
Putting this into numerical context it can be shown that global demand will remain largely flat with most of the growth in demand being in the Asia Pacific region and a corresponding flat demand in the rest of the world.

### Table 10

<table>
<thead>
<tr>
<th>Year</th>
<th>S &amp; C America</th>
<th>N America</th>
<th>Asia Pacific</th>
<th>Middle East</th>
<th>Africa</th>
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<td>23,295</td>
<td>28,584</td>
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<td>2013</td>
<td>6,291</td>
<td>8,141</td>
<td>23,365</td>
<td>28,670</td>
<td>14,903</td>
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<td>23,435</td>
<td>28,756</td>
<td>14,918</td>
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<td>8,190</td>
<td>23,505</td>
<td>28,842</td>
<td>14,993</td>
<td>84,000</td>
</tr>
</tbody>
</table>

The alternative to capital expenditure in upgrading in Europe is to move refining capacity to where it is cheaper to operate and under less strict regulatory regimes.

Furthermore, as the product tanker and its concomitant reception facilities improve, the economics of refining will be critical in the winner of the battle between long haul crude oil versus product movement from less costly refining centres.

The shift from Europe to the Middle/Far East of refining capacity will also have a major effect on the demand for VLCC's, with a resultant increase in the demand for Suezmax and Aframax product carriers.

The latest IMO regulations for 0.10% Sulphur content in ECA's also means that shipping companies are looking for alternatives to heavy fuel oil as a means of propulsion. These alternatives can be LNG and or nuclear. If this comes to pass and we have already seen Shell launch a LNG powered barge on the Rhine, then the heavy end of the barrel will become more distressed than it already is and that would sound the death knell for those refineries without cokers.

**The Future**

So what is the future for refineries in Europe?

Firstly they are certainly not going to be relieved from depressed margins for some time soon. Even though margins are attractive at the moment, due to special circumstances; refinery fires and the depression of sweet crude prices due to the increase in light sweet increased availability in the US from shale oil discoveries.

If they cannot compete on margins at this level, there will be no investor appetite for further capital expenditure.
The sale or closure of refining and marketing systems by the major oil companies in Europe is a pointer as to where the market is headed.

The predicted pressure point in the future will be crude oil production, not refining capacity. Therefore margins will revert to type.

Refined products demand may change further if gas makes big inroads into the automotive and marine propulsion industry.

Will the political masters change all this by giving oil refineries strategic protection from imports?

No matter what politics dictates, the economic pressure will ultimately win through as subsidies cannot last forever.

The answers lie in the future but for the time being there is no clear way forward for the European refiners.

April 2013

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Written evidence submitted by Christopher Fox

1. The secure supply of energy at competitive prices is of vital importance to the economy of any country. In the UK the supply of gas and electricity (and in the past, coal) has always been considered of strategic importance and not considering liquid hydrocarbon fuels in a similar vein would be perverse. Liquid hydrocarbon fuels, which are almost entirely produced in oil refineries, are predominantly used as transport fuels and non-availability of even a small portion of demand will have a major impact on the functioning of the economy and the ability of the population to engage in many of their normal activities. Supply of transport fuels is relevant to almost all economic activities and to the general welfare of the population.

2. It is clearly evident from a number of past events that the short term demand for liquid hydrocarbon supplies is inelastic and hence any reduction (or expected reduction) in supply, including supply of refinery feedstock (crude oil) leads to a rapid increase in price.

3. In the UK there are presently seven oil refineries which together are able to provide around 90% of UK demand for refined liquid hydrocarbon fuels. The balance is made up by imports, including import of bio-fuels. In the last decade, the demand for refined product has declined slowly by around 1% per annum. Further detailing of this overall demand and supply is essential in order to understand potential future needs in regard to securing supply. UK refineries presently have:
   - A considerable surplus in capacity (vs. UK demand) for the production of Gasoline. At present approx. 30% of production is exported mainly to North America.
   - A deficit in capacity (vs. UK demand) for the production of Diesel fuel. The deficit (approx 10%) is imported from continental Europe and the Middle East.
   - A substantial deficit in capacity (vs. UK demand) for production of Jet/Kerosene fuel. Approx 30% of demand is imported mostly from the Middle East and Asia.

4. In Europe generally there is presently no overall deficit in refining capacity, there is however a broadly similar imbalance in that there is a substantial surplus capacity for Gasoline production and a substantial deficit for production of Jet/Kerosene.

5. For the last two decades profitability of UK refineries has been poor, with only modest profits in good years offset by losses on poor years. This, together with declining overall demand and the belief that this situation will continue, has led to a significant reduction in the number of refineries (and hence capacity) in the UK. Those remaining have seen only limited investment in modernisation and upgrading to meet mandatory tighter fuel specifications. There has been very little investment aimed at meeting the increasing demand for Diesel and Jet/Kerosene fuels. Simply there has not been enough profitability in the business to justify any major discretionary investment given that the oil companies and other fuel distributors are able to import fuels at fully competitive prices.

6. Overseas refineries, especially in the Middle East and Asia, are generally modern and therefore more efficient. Growing local demand allows for their continuing upgrading and the construction of new refineries. Especially in the Middle East, governments ensure a favourable financial regime both in terms of project financing and subsequent taxation, ensure provision of very low priced energy to the refineries and actively support export of refinery products as a means adding value to their crude oil. Additionally, refineries in the UK (and parts of continental Europe) face tougher environmental regulations and charges.

7. In the period up to 2030 most forecasts indicate that for the UK (and elsewhere) liquid hydrocarbon fuels will remain the dominant source of energy for road transport, though this will include many hybrid vehicles. There is however some scope for the use of gas (CNG and LNG) for the powering of large commercial road vehicles and small scale trials are already in progress. For aircraft fuel there will be negligible use of other fuels. UK Rail transport will become progressively more electric powered and there is potential for some shipping to use LNG as fuel. It must however be noted that rail and shipping represent only a very small
8. Beyond 2030, it is almost impossible to make any forecasts in respect of road transport as there are so many technologies under development, any or several of which have the long term potential to replace hydrocarbon fuel. However at this time none of them are even close to being commercially attractive other than for some limited very specific duties. All that can be said is that it is more likely than not that a significant portion of road transport will move to alternative fuels in the period beyond 2030. For aircraft fuel any move to alternative fuels will almost certainly be well beyond 2030 as presently there are no alternatives (other than bio-fuel addition) which are even at the demonstration stage.

9. Hence in the period from now to 2030, the prospects for UK oil refining do not appear to be favourable unless steps are taken to significantly improve their financial position. A number of factors are relevant.

10. The changing ownership of UK refineries reflects the fact that the integrated “Oil Majors” all have taken the view that they should focus their capabilities and capital into areas which will provide them with assured future long term profitability, namely large scale exploration and production with refining only in advantaged parts of the world such as the Middle East (favourable energy and feedstock costs) and Asia (rapidly growing demand). As a result refineries in the UK and elsewhere in Europe and North America have either been closed, converted to import terminals or been sold to the smaller oil companies who are focussed solely on refining. The smaller oil companies are likely to provide some revival of interest in upgrading their newly acquired refineries as they represent their core business. However these companies, almost by definition, are less financially robust and are therefore limited by their balance sheet, both in the short term and longer term. Hence such companies have a much higher risk of financial distress and even insolvency as was the case with Petroplus which led to the closure of both Teesside and Coryton refineries in the UK.

11. The loss of further refining capacity in the UK will have a number of consequences. These include:

   - Increased risk of shortage of supply of oil products. This could occur due to a political crisis (especially if related to the Middle East) or a temporary shortage due to refinery outages around the world. Whilst the UK holds some stored reserves it is likely that any disruption extending beyond two to three weeks would require government imposed measures to conserve remaining stocks. It is to be noted that the ability to obtain alternative supplies of oil products is, in case of failure of normal supply, far more restricted than alternative supply of crude oil.

   - Whilst in normal supply conditions it is probable that the cost of imported liquid hydrocarbon products would be no higher than those supplied from UK refineries, there is, for the reasons stated above an enhanced risk of price spikes in the event of shortages.
— There would be a need to increase the level of reserve stock holding as a contingency for non-supply of imports. Simply to comply with existing EU rules would necessitate moving from current approx. 2mth supply to 3mth supply if all products were to be imported. This has a cost in terms of capital tied up.

— If all oil products were to be imported, there would be an adverse impact on Trade Balance typically in the range £1-1½ billion. per annum.

— If all refineries were to be closed there would be a loss of employment (direct & indirect) probably in the range of 15–20,000.

— LPG is a relatively small, but valuable product from refining of crude oil, which is used in industry, transport and for domestic heating. It would be possible to import this, but it would require the construction of additional specialised ship offloading and storage facilities. Ship transportation costs are relatively high and therefore it is almost inevitable that cost to the consumer would rise.

— Much of the chemical industry uses certain refinery products as feedstock. In most cases this could be supplied by importing, though this would probably result in some increase in cost which could make UK companies less competitive in world markets. For certain products (eg Polypropylene requiring Propylene feedstock) the unit cost of importing feedstock is likely to be significant to the extent that there is a probability that UK production would cease.

12. There are a number of measures which UK government should consider in order to secure the medium term (to at least 2030) future of existing refining capacity in the UK. Listed below are some possible measures which could be considered. It is unlikely that any one alone would be sufficient to achieve full retention of refining capacity. These include:

— Offer soft loans to refineries specifically to invest in processing units needed to increase the proportion of Diesel and Jet/Kerosene product relative to Gasoline. The amount of investment needed would be substantial, certainly well in excess of £1 billion. if a significant step change is needed. It would of course be essential for the recipients to guarantee to produce the additional fuel over a period of years.

— Offer soft loans to allow upgrading of existing Diesel production to Jet fuel. Given that Jet fuel is of a very similar composition to Diesel, the cost of required processing units is much less than for conversion from Gasoline production (per above).

— Provide incentives for owners of large commercial vehicles to purchase vehicles powered by gas (CNG or LNG) instead of Diesel. Such vehicles are already technically proven and already in use on a limited scale. They presently have a higher capital cost than diesel vehicles but are cheaper to operate and have a significantly lower level of CO₂ and other harmful emissions. This would require the establishment of an adequate chain of gas fuel stations around the country, but the scale of this chain can be significantly less than that needed for cars to be gas powered. Also there are issues related to weight of gas fuel tanks on cars.

— Extend the existing scheme for purchase of low emission urban buses. Urban buses are particularly suited to use of hybrid power systems which offer fuel savings of 15–20%.

— Provide incentives for car owners to switch to gasoline instead of diesel fuel. At present fuel duty on diesel and gasoline for road vehicles is at the same rate per unit volume. However diesel fuel generates approx 15% more CO₂ emissions than gasoline fuel on an equivalent volume basis. It therefore may be reasonable to adjust duty rates to provide equivalence based on emissions. This would encourage a switch back to gasoline fuel reversing the trend of the last 20 years and reduce the present imbalance between refinery output and domestic demand.

— Ensure that environmental regulations and taxes applying to UK refineries are not significantly more onerous than those imposed elsewhere.

— If no steps are taken to retain present refining capacity, then it is almost inevitable that further closures will occur. If this “no action” approach is to be taken, then a contingency plan must be developed in order to minimise the economic and other impacts of closures.

13. A detailed analysis of the issues related to the UK refining sector is provided by the report prepared for DECC by Purvin & Gertz June 2011 “Developments in the International Downstream Oil Markets and their Drivers, Implications for the UK Refining Sector.”

May 2013
1. Introduction

1.1 This response is submitted by Unite the Union, the UK’s largest trade union with 1.5 million members across the private and public sectors. The union’s members work in a range of industries including manufacturing, financial services, print, media, construction, energy generation, chemicals, process, transport, local government, education, health and not for profit sectors.

2. What are the factors that have led to closures of UK refineries? Why is production increasing overseas?

2.1 The UK refining industry has faced years of continuing fragmentation. The more profitable areas, such as oil exploration, have been bought or maintained by the major oil companies, while deregulation and privatisation has led to the separation and isolation of the refining sector from the wider industry. By 2012 all major oil companies had left the UK with the oil refineries themselves now owned by smaller companies. The number of major oil refineries in the UK has fallen from a high of 18 in 1975 to the seven that are still in operation today.

2.2 In addition to competition from Russian refineries, new refineries are coming on stream in India and the Middle East that have been designed to meet EU specifications. These refineries are more modern and have been purpose built rather than converted to their current functions. They are, therefore, more efficient and are not subject to the same regulatory regimes as the EU. Although imports into the EU and UK are currently relatively small, the production advantages of these new sites and the ability of Rotterdam and Antwerp to act as import terminals means the proportion of imported fuel could increase sharply. The transportation costs of refined products are also relatively low compared to their value so will not act as a barrier to an increase in imports.

3. What impact (if any) has UK and EU regulation had on the UK refining industry?

3.1 Environmental legislation is increasingly complex and rigorous, including soil, water and waste, air quality, climate change and fuel products legislation, all of which put pressure on the running of plants as well as on the products they produce. Of particular relevance to the refining sector is the European and UK legislation aimed at reducing Carbon Dioxide emissions in order to move towards an environmentally friendly, low carbon and sustainable economy.

3.2 EU climate and environment policies, such as the raising of the EU carbon price; tougher best available technology requirements under the Industrial Emissions Directive (IED); and the EU plans to go beyond internationally agreed restrictions to limit marine sulphur emissions (IMO); are collectively increasing pressure on EU refineries.

3.3 In addition to the EUETS that covers all EU Member States and therefore all of the EU’s 98 refineries, the seven remaining UK refineries face an additional environmental legislative challenge that refiners in other EU countries do not—namely the “Carbon Price Floor” for the power generation sector as revealed by Chancellor George Osborne in the Government’s 2011 budget.

3.4 What this effectively means is that the UK is taking unilateral action to embed the price of carbon, and in the process is putting the UK far out in front of EU counterparts and other countries. Without more government assistance the economic pressure on UK based companies due to the carbon floor tax could well result in these companies relocating away from the UK and even the EU to locations where there are less strict controls. Tragically, although such developments would have no impact whatsoever on the overall level of global carbon emissions, they could potentially cost thousands of UK jobs and move the UK one step closer to losing its entire refining capacity.

3.5 Given the lack of concrete research into the effect these costs might have on pay and conditions and levels of employment, UNITE is calling for the UK Government and the EU to commission much more comprehensive studies as to the likely impact on employment in the refining sector of carbon leakage.

4. What part will refined oil products play in the UK’s energy requirements and transport in particular to 2030 and beyond? What mix of products is likely to be required and how well does this match with current UK refining capacity?

4.1 The issue of security of energy supply is critical to the future of the UK refining sector and cannot be overstated. Although North Sea Oil is running low and is predicted to run out in the coming decades, there is still a serious need to maintain a refining capacity in the UK—not only in order to refine and finish products for export, but to maintain a secure supply.

4.2 Crude oil is often located in highly volatile and politically unstable areas of the globe, such as the Middle East, North Africa and Russia. If the UK should lose its ability to refine and become over reliant on a very restricted set of suppliers the entire UK economy and society would be extremely vulnerable to sudden political
changes or out breaks of conflicts. It is therefore extremely important that the UK not only avoids becoming reliant on too restricted a selection of countries for its supply, but also that it maintains its own capacity to refine in case geopolitical changes suddenly render the country vulnerable.

4.3 Maintaining and developing the UK’s refining capacity not only offers protection during political/supply crisis, it also means the UK can maintain its place as a net exporter of refined products on a commercial and industrial basis during periods of stability.

4.4 The main consumer demand in the UK has changed over time and moved away from gasoline towards diesel and jet fuel, and the overall outlook in demand for road transport fuels is flat with a possibility of further decline and competition from other areas such as the development of bio-fuels.

5. What are the factors, both domestic and international, that will determine the future viability of the UK refining industry?

5.1 In a report published in June 2012 the KPMG Global Energy Institute identified a number of major challenges that the EU refining industry faces, these challenges included:

- falling demand;
- rising imports;
- increasing European legislation;
- competition from emerging markets; and
- eroding margins and a growing imbalance between gasoline and diesel.7

5.2 The UK sector faces all of these challenges and a number of additional ones as well, most notably the introduction of the UK’s Carbon Floor regulations and the historical fragmentation of ownership structures in the sector during the last few decades.

6. What impact would the closure of UK refineries have on (a) energy supply security (b) environmental objectives and (c) the price of petroleum products in the UK?

6.1 The long term management and development of the Oil Refining Sector is of national strategic importance, both in terms of its relationship to the wider chemicals and manufacturing sectors and the UK economy as a whole. It is also vitally important in terms of protecting and maintaining the security of the UK’s energy supply.

6.2 It is clear that the impact of environmental transition on employment will vary between sectors, with energy-intensive, and heavier, more traditional, industries being hardest hit. It is in these high energy companies—such as oil refineries—that the solutions for a sustainable future must be found, and it is crucial that solutions are found that not only make a difference to the environment but also benefit workers and society through the creation of sustainable jobs. If this transition is not handled correctly it risks being used as an excuse for cost and job cutting or becomes nothing more than a vehicle for exporting jobs abroad. The concept of a “just transition” is one in which the costs and benefits of decisions made in the public interest—including those necessary to protect the environment—should be shared fairly and progressively.

7. Executive summary

7.1 UK oil refining sector is a critical sector and contributes some £60 billion to the UK economy with the downstream sector accounting for some £37 billion of tax and VAT revenues. There are currently seven Oil Refineries in the UK employing some 150,000 workers directly and indirectly, many of whom are highly skilled workers.

7.2 The long term management and development of the Oil Refining Sector is of national strategic importance, both in terms of its relationship to the wider chemicals and manufacturing sectors and the UK economy as a whole. It is also vitally important in terms of protecting and maintaining the security of the UK’s energy supply. Given its critical strategic importance, UNITE is calling for a government review of the refining sector with a view to identifying the country’s requirements for the coming 20 years.

7.3 Despite the fact that EU competition legislation is often cited as a reason why the UK Government cannot take a strategic approach to the sector, other EU governments manage to do just this in order to protect and develop their oil refining sectors. A thorough review of the ability of governments to act in order to safeguard national interests needs to be conducted.

7.4 The overwhelming body of evidence demonstrates that the increasing fragmentation of the sector over the last 3 decades has made the refineries much more vulnerable, while changing patterns of demand for different fuels has posed other challenges.

7.5 New more modern refineries are being built in developing countries, such as India, and this presents more long term challenges for the UK and European oil refinery industry as these countries change from being refined product importers only to being potential exporters.

7 KPMG global energy institute—the future of the European refining industry, June 2012
7.6 Environmental legislation and the need to reduce CO₂ emissions is also having a significant impact on the sector. Although the EU legislation is the same for all refineries in the EU, it does put EU refineries at a disadvantage relative to those outside the EU where environmental legislation is not so stringent. In addition to the fear of job losses through “carbon leakage”, UK refineries have the additional pressure of the exclusively UK “Carbon Floor” legislation. An urgent study into the likely impact of the legislation is needed.

7.7 Given the challenges that the refining sector currently faces in the UK, and the very real existential danger that the sector finds itself in, UNITE insists that the current UK government—and any future governments—must have a serious policy aimed at the maintenance of a viable, competitive and efficient refining sector. That policy must be built around a number of key factors, namely:

— Commitment to UK energy security.
— Recognition of the added value the sector brings to the UK economy.
— Critical place of the sector in a broader UK and EU Industrial Strategy.
— Government with a strategic approach.

May 2013

Written evidence submitted by Total Lindsey Oil Refinery Limited

1. What are the factors that have led to the closure of UK refineries? Why is production increasing overseas?

The key factors that are widely accepted as having led to the closure of UK refineries are: weak refining margins and the huge investment demands associated with legislative compliance; flat or reducing demand for transport fuels; and competition from overseas refineries and supply sources.

Production overseas is increasing, for example in the Middle East and Asia, because of the proximity of refineries in these regions to rapidly growing markets, more attractive investment returns on large new complex refineries with the flexibility to better meet current product demand split and a less challenging legislative background.

2. What impact (if any) has UK and EU regulation had on the UK refining industry?

For Total Lindsey Oil Refinery, UK and EU regulation has had a significant impact and we have recently completed the following significant investments of approximately £450 million in order to meet legislative requirements: we’ve invested in a new Hydrogen Desulphurisation complex to meet ultra low sulphur specifications and have received approval for our first flare gas recovery project to reduce SO₂ emissions.

The key UK, EU and international legislation impacting upon the sector is listed by UKPIA in its submission.

IHS Purvin & Gertz estimate the required refinery capital and operating expenditure in the period 2013–30 to be £11.4 billion just to meet UK and EU legislative measures alone. This figure excludes the legislative impacts such as Fuels Quality Directive and Energy Efficiency Directive as yet these are not fully defined and thus uncosted.

3. What part will refined oil products play in the UK’s energy requirements and transport in particular to 2030 and beyond? What mix of products is likely to be required and how well does this match with current UK refining capacity?

IHS Purvin & Gertz forecast that oil product demand will increase in the UK from 74.3 million tonnes in 2010 to 75.2 million tonnes in 2030.

Within the transport sector, a combination of fiscal and energy efficiency factors has encouraged a shift towards diesel powered vehicles as a result of which petrol demand has declined from a market share of 73% in 1990 to around 41% in 2012 (18 billion litres). Diesel now accounts for 59% (26 billion litres).

The main fuels required in the future will be petrol, diesel, gas oil and kerosene mainly for aviation. In addition, other products from refining like LPG, bitumen and feedstock for the petrochemical industry will continue to be important. Future road fuel demand is forecast to remain flat but diesel demand is likely to continue growing slightly while petrol will continue to decline but more slowly than in recent years. There will be continued market pressure and reducing demand for heavy fuel oil in the UK which will increase pressure to find alternative export markets. Demand for aviation fuel is closely linked to future recovery in GDP.

There is a mismatch between refinery output and demand. UK refineries generally produce an excess of petrol and not enough middle distillates like diesel and jet fuel, even after the investment in new desulphurisation capacity at Total LOR which has increased production of ultra low gas oil (see point 2). This is exacerbated by the disadvantages that a refiner is subject to compared to an importer (see later comments on compulsory stock and duty costs under question 8). In addition, fuel specification changes associated with the UK’s Renewable Transport Fuel Obligation and MARPOL marine fuel sulphur reduction will increase the demand for middle distillates even more.
4. What is considered to be the right balance between oil products refined locally and imports and what are the current and future scenarios?

The IEA model for Short Term Energy Security (MOSES), comparing oil imports to demand, considers 46% import dependence as high risk. The UK is already at a level of 56% imports of jet kerosene and 48% for diesel.

According to UKPIA, under a future UK refinery closure scenario, this import dependence would increase to 78% and 77% respectively for these products by 2030, which would have serious implications for supply robustness of these products.

Total LOR support the UKPIA comment and believe the market for the supply of petrol, diesel and jet kerosene in the south of the UK are already and would become even more vulnerable.

5. What are the factors, both domestic and international, that will determine the future viability of the UK refining industry?

Refining is a highly complex sector, with a large number of factors impacting on its profitability and future viability in the UK. These include economic factors such as product demand (which has eroded in Europe and the UK in recent years); the cost of a barrel of oil; and UK and European economic growth and inflation. Legislative factors requiring mandatory capital expenditure, which often provides no return on investment, impact negatively and will continue to determine the future viability of the sector.

IHS Purvin & Gertz forecast that future UK refining margins will be significantly eroded over the period 2013 to 2030. These legislative requirements would entail capital expenditure of £5.5 billion over the period to 2030, much of which would generate no return on investment.

This scenario seriously impacts the viability of the refining industry and furthermore makes it highly unlikely that the estimated £1.5 to £2.3 billion capital expenditure that refineries need to meet changing demand trends would be made.

IHS Purvin & Gertz have commented that “We believe that no industry would bear such an investment burden for no return. It would be highly likely that, when faced with such a large mandatory capital expenditure requirement that provides no return on investment, UK refineries could be forced to close more UK refineries.”

Indeed, the long term future of the refinery could be in jeopardy from 2018 onwards as Best Available Technique Reference Documents (BREF) legislation, more onerous European Union Emission Trading Scheme (EUETS) levies and doubling of taxation such as Carbon Price Support (CPS) will be implemented which require significant capital investment as well as increasing ongoing operating costs. Additional investment and increasing operating costs could be unsustainable for the refinery.

A further example of the changing production balance is firstly, the United States shale oil and gas revolution and the impact that this will have on the UK market when the US will begin exporting gasoline this year and secondly, the increasing import of diesel from Russia to N.W Europe.

Concerns around the technical skills available to the industry also pose a threat to the business. During the 1960s and 1970s large organisations such as the CEGB, ICI, GKN and Rolls Royce trained a huge volume of craft apprentices each year. Once qualified, many of these tradesmen moved around the country working for the large contracting organisations as an “itinerant workforce”, supporting the UK power station and refinery construction programme, as well as outages (shutdowns).

In the 1980s and 1990s there was a downturn in UK engineering, and construction industry (ECI) work combined with a general shrinkage of the UK manufacturing base led to many organisations stopping their apprentice schemes. During the late 1990s the loss of effective ECI supervision and increasing age profile of the workforce became apparent. The large skills gap cannot be closed by the apprentice route alone, and government withdrawal of funding for “programme led” apprenticeships has had a negative impact and remains a concern for the industry.

As a result maintenance intervention costs become more and more expensive compared to the continent.

6. What impact would the closure of UK refineries have on (a) energy supply security (b) environmental objectives and (c) the price of petroleum products in the UK??

In the event of the future closure of UK refineries, there would be a serious impact on the security of energy supply. As noted in response to question 4, in this scenario, import dependence for jet kerosene and diesel would increase significantly, which would have serious implications for supply robustness of these products; especially in case of a crisis.

The impact upon UK environmental objectives is difficult to measure. Clearly any emissions generated by the closure of a UK refinery would reduce the UK’s domestic emissions. However, demand for the products previously produced would be met by imports from overseas thus increasing overall global emissions, particularly for CO₂.

Further refinery closures is likely to lead to higher priced petroleum products, due to higher costs associated with import dependence.
7. What would be an appropriate baseline level of refining capacity in order for the UK to remain broadly self-reliant in an emergency?

IHS Purvin & Gertz concludes that under both the steady state scenario (the number of refineries and capacity remains at 2012 level) and the modest investment scenario (investment to upgrade some secondary upgrading processes), the current imbalances in the UK supply demand balance are critical.

Total’s Lindsey Oil Refinery is a well balanced flexible refinery with a capacity for processing 220,000 barrels per day, importing crude oil from a wide variety of regions including North Sea, Russia, Persian Gulf and Africa. The refinery has a product portfolio with a range of over 50 products capable of being distributed throughout the UK via a strong logistics infrastructure including pipeline to the greater London area, road, rail loading facilities as well as access to jetty facilities. The refinery therefore contributes significantly to the UK’s security of supply, compared to pure import facilities.

8. What steps could the UK Government take to maintain an appropriate baseline level of refining capacity?

At Total Lindsey Oil Refinery, we concur with UKPIA’s view that a strong and healthy indigenous refining sector ensures the nation’s “base load” of transport fuels, chemical feedstocks and other vital products is maintained. This requires a better balance between energy and environmental policies both in the UK and at the EU level.

The UK Government should examine the impacts of UK legislation, particularly Carbon Floor Price, Carbon Reduction Commitment (CRC) Energy Efficiency Scheme and containment policy proposals as applied to the storage of fuel products.

Ideally, these issues should be contained in a policy framework for the sector which we hope will be developed by DECC informed by the findings of the report from IHS Purvin & Gertz.

At present, there is a pressing need for the UK Government to review before implementing any further environmental legislation and make urgent representations to the European Commission in regard to the Fuels Quality Directive Article 7a and the Refinery BREF linked to the Industrial Emissions Directive.

The current regulations on Compulsory Stock Obligations do not provide for a level playing field between refiners and importers. UK refiners are required to store 67.5 days of “supply” to the market; whereas an importer must store 58 days worth. This difference results in an additional cost to the refiner in the order of $1.2 for every tonne of product supplied to the UK inland market. The government should require refiners and importers to store equal quantities of stock for the market, therefore creating a level playing field to support refining capacity.

Additionally, due to the current duty point (ie duty is paid on product at the refinery or coastal terminal exit); Total Lindsey Oil Refinery is not able to compete to supply product in areas such as the Thames. This is because product is transported from the refinery duty-paid. Product from the refinery has higher transportation costs, higher cost on losses and a higher capital employed due to the transportation and storage of duty-paid product. For a UK refiner, this is a clear disadvantage and represents a penalty of $5 to $8/t compared to product imported from other EU countries. We propose that the government changes the point at which duty applies to allow refiners to supply product competitively throughout the UK.

9. What is the significance and potential future impact of the changing ownership of UK refineries in recent years?

In any mature industry sector like refining there will be changing ownership due to the strategy and policy objectives of individual companies.

I hope that I can count on you to strongly back the UK refining industry at this critical juncture, in order to safeguard a cornerstone sector of the UK economy, to protect jobs and to conserve the UK’s future security of energy supply.

May 2013

Written evidence submitted by Valero Energy Ltd

VALERO ENERGY LTD SUBMISSION TO THE ENERGY AND CLIMATE CHANGE COMMITTEE INQUIRY: “UK OIL REFINING”

Valero Energy owns and operates the 220,000 barrel-per-day Pembroke refinery in south west Wales. We also own and operate six terminals in the UK, as well as the Mainline Pipeline which links Pembroke refinery with Manchester and Kingsbury terminals. Valero markets fuel in the UK and Ireland under the Texaco brand. There are around 800 independently owned and operated Texaco-branded service stations in the UK. We employ approximately 820 people in the UK and support several thousand other jobs at the refinery, terminals and service stations.

Valero Energy welcomes the opportunity to respond to this call for evidence.
GENERAL COMMENTS

Our industry faces huge challenges in meeting the UK’s energy needs in a sustainable and secure way. Ultimately this can only be achieved by a better alignment between energy and environment policy. Our industry is working with DECC to develop a policy framework for UK refining and this is a positive step.

While these are very difficult times for our business, we should stress that, given a level legislative playing field with EU and global refineries, we believe we can remain competitive. We are not advocating government hand-outs or subsidies.

The European Commission has now established a permanent Refining Forum, and this is recognition of the value of the refining industry and the significant challenges it faces. One of the key outputs of this forum has been the decision to conduct “fitness checks” to examine the cumulative effect of EU legislation on our sector. While this is a positive step, we were extremely concerned to hear at the Refining Forum meeting on 12 April 2013, that this fitness check would only be retrospective and would not include current legislation, notably Fuel Quality Directive Article 7a and the Refinery BREF (linked to the Industrial Emissions Directive), both of which could have a significant impact on the refining sector. Furthermore the fitness check is not scheduled to be completed until the end of 2014, by which time these two pieces of legislation will have been implemented. It has always been our understanding that the fitness check would look at all EU legislation, and therefore we are calling for the planned pieces of legislation to be temporarily held-up pending the outcome of the fitness check.

Throughout our response we refer to the IHS Pervin & Gertz 2013 report “The role and future of the UK refining sector in the supply of petroleum products and its value to the UK economy”, published on 10 May 2013. We will refer to this as the “IHS Pervin & Gertz report”.

RESPONSES TO QUESTIONS

1. What are the factors that have lead to closures of UK refineries? Why is production increasing overseas?

The past few years have been characterised by weak refining margins and by the substantial levels of investment required to comply with legislation. Demand for transport fuel continues to decline, predominantly as a result of legislation aimed at reducing greenhouse gas emissions from the transport sector, as well as improvements in vehicle energy efficiency and technology.

Meanwhile we are facing increasing competition from overseas refineries, notably in Asia and the Middle East, where their proximity to developing markets makes investment more attractive. These large new refineries have the flexibility to better balance their product slates to meet current demands, while operating in a less challenging legislative environment.

2. What impact (if any) has UK and EU regulation had on the UK refining industry?

UK and EU legislation continues to have a significant impact on our industry, currently these include:

EU:
- EU Emissions Trading Scheme.

UK:
- Containment policy.
- CRC Energy Efficiency Scheme.
- Compulsory Stock Obligations.

The IHS Purvin & Gertz report into the refining industry has estimated that the required 2012–13 capital and operating expenditure required just to meet existing EU/UK legislation is approximately £11.4 billion, and this excludes the potentially huge impact of the Fuel Quality Directive and Industrial Emissions Directive, which have yet to be defined.

3. What part will refined oil products play in the UK’s energy requirements and transport in particular to 2030 and beyond? What mix of products is likely to be required and how well does this match with current UK refining capacity?

The International Energy Agency forecasts that oil will continue to be a major source of energy until 2030 and beyond, accounting for over 80% of EU transportation fuel. While the IHS Purvin & Gertz report suggests that oil product demand will increase from 74.3 million tonnes in 2010 to 75.2 million tonnes by 2030.
Within the transport sector DECC/DUKES data shows that gasoline demand has decreased from a market share of 73% in 1990 to 41% in 2012, while diesel demand has increased from 27% in 1990 to 59% in the same period.

We expect the output/demand imbalance between diesel and gasoline to increase. UK refineries, and for that matter EU refineries as well, have historically produced more gasoline than diesel/jet fuel. However, a combination of fiscal incentives and energy efficiency measures, have seen an increase in diesel powered cars. This growing disparity is being met by increasing levels of middle distillate imports. In addition, this imbalance is set to increase because of fuel specification changes linked to the Renewable Transport Fuel Obligation (RTFO) and MARPOL marine fuel sulphur reduction, which will increase the demand for middle distillates.

4. What is considered to be the right balance between oil products refined locally and imports and what are the current and future scenarios?

The IEA model for Short Term Energy Security (MOSES) suggests that for a country to import more than 45% of its refined product demand would be a high risk. In 2013 the UK is expected to import 47% of its diesel and 55% of its jet fuel demand.

However given that the report estimates that UK refiners would need to invest between £1.5 and £2.3 billion simply to keep pace with current demand trends, it is inevitable that the UK will have to continue to rely on increasing levels of diesel and jet imports.

The IHS Pervin & Gertz report has looked at a number of scenarios for the UK refining sector, including the potential closure of more refineries. It suggests that under the refinery closure scenario, the UK’s dependence on imports could increase to 78% for jet fuel and 77% for diesel by 2030.

At this time the UK does benefit from a robust and diverse logistics infrastructure which is able to efficiently import and distribute fuels within the UK.

5. What are the factors, both domestic and international, that will determine the future viability of the UK refining industry?

We believe that a strong and healthy refining sector is important to the UK economy, and that this can only be achieved by a better balance between energy and environmental policies in the UK and EU.

The IHS Pervin & Gertz report suggests that future UK refining net margins will be around $2.50 a barrel. However it goes on to state that the cost of legislation between now and 2030 will be around $1.85 per barrel, of which only a proportion might be passed to consumers because of international competition. It estimates the capital investment required of our industry up to 2030 to be in the region of £5.5 billion, most of which would generate no return on investment. These estimates do not include the cost impact of upcoming legislation such as the Fuel Quality Directive and Industrial Emissions Directive, as these have yet to be finalised. These are unsustainable levels.

Furthermore, the report estimates that a further £1.5 to £2.3 billion of investment is required over the next 20 years, just for UK refiners to keep pace with current demand trends.

Refining in the EU has also suffered from the unintended consequences of free trade agreements with other countries. Notably the recent EU/Korea free trade agreement, has led to large numbers of “duty free” crude cargos, at one point estimated to be a quarter of Forties production, heading to South Korea. The result of this crude leaving the region, in a market that is traditionally short, is that crude prices went up and refiners were forced to look outside the region for more competitively priced crudes. The additional freight costs of shipping products from north or west Africa led to higher prices, while the extra ship movements increased emissions. These consequences should have been properly considered in the impact assessment.

The duty recently imposed on US ethanol imports into the EU is also hurting demand and investment, and increasing the cost of meeting the RTFO targets.

6. What impact would the closure of UK refineries have on (a) energy supply security (b) environmental objectives and (c) the price of petroleum products in the UK?

(a) This is already covered in question 4. The Pervin & Gertz report suggests that even under a steady state scenario, diesel and jet fuel imports will increase.

(b) We can provide no specific data to respond to this question; however clearly if more refineries were to close this would reduce the UK’s domestic emissions. The product shortfall would have to be met by increased overseas imports, which in turn would increase global emissions.

(c) UK refineries are long on gasoline and the IHS Pervin & Gertz report suggests that if one or two refineries were to close, the gasoline cover would still be close to 100%. However, the closure of two refineries could move the UK market pricing for gasoline to import parity which, the report suggests, could see gasoline prices increase by $10/tonne. Diesel imports would have to increase and this could lead to market volatility due to shortage of supply and the change in supply/shipping dynamics.
7. What would be an appropriate baseline level of refining capacity in order for the UK to remain broadly self-reliant in an emergency?

This is covered in question 4. The Pervin & Gertz report suggests that even under a steady state scenario, diesel and jet fuel imports will need to increase to meet demand. It is difficult to comment on specific situations, as it would depend on the nature of the emergency.

What steps could the UK Government take to maintain an appropriate baseline level of refining capacity?

We believe that a strong and healthy refining sector is important to the UK economy and that this can only be achieved by a better balance between energy and environmental policies in the UK and EU.

We would welcome a comprehensive and joined-up review of the impact of UK legislation affecting our industry. We are aware that DECC is already considering the development of a policy framework for our sector, as a result of the findings of the IHS Pervin & Gertz report.

We believe that the UK government could play a key role on the EU front by supporting calls for Fuel Quality Directive Article 7a and the Industrial Emissions Directive (refinery BREF) to be included in the planned “fitness check” of refining legislation, and for this work to be completed earlier than late 2014, as currently scheduled.

8. What is the significance and potential future impact of the changing ownership of UK refineries in recent years?

It is difficult to comment on this question. Over the past few years there has been a shift of ownership of UK refineries from fully integrated energy companies, with both upstream and downstream interests, to independent refiners. Independent refiners are completely dependent on making a refining margin to stay in business and do not have other business interests to sustain them when refining margins are eroded.

We thank you again for allowing us to contribute to this important inquiry.

May 2013

Written evidence submitted by the Health and Safety Executive

1. Are the costs of COMAH similar for oil refineries and storage facilities?

No, the costs for oil refineries which always include storage facilities are likely to be higher than for stand alone storage sites. This reflects the significantly higher hazards associated with the complex processing activities taking place at refineries and the wider range of dangerous substances involved in these processes, and hence the additional regulatory activity refineries will receive.

The COMAH Competent Authority (CA) has developed methodologies to ensure its regulatory activities are proportionate to the hazards and risks posed on and off site, are targeted at critical control measures, take into account an operator’s performance, and are consistent across the CA regulatory partners.

As the CA recovers the cost of its regulatory activity directly from individual operators on an hourly basis, the regulatory costs to refineries will be higher than to simpler storage sites.

Refineries will incur higher costs for capital expenditure, maintenance of plant and equipment, and employing suitably skilled personnel. Such measures are intrinsic to running complex and high risk processes and are not necessarily a cost of COMAH in their own right.

2. Are there different risks associated with oil refineries and storage facilities?

Yes, the key difference is complexity and hazard profile. Oil refineries perform complex processing tasks using heat and pressure to break down crude oil into its constituent components such as gasoline, diesel fuel and Liquefied Petroleum Gas. Storage facilities involve much less complex plant and very little, if any, chemical processing.

Oil refineries are typically large sites with extensive piping linking separate chemical processing units. Large quantities of flammable and toxic substances are stored, transported and processed using sophisticated plant and equipment.

3. There is concern from the refining and importing industry that legislation is too prescriptive and changeable. For example, Okios said:

We had put the very latest, highest standard of safety overflow devices on the tanks, but they [HSE] insisted we put an overflow on those tanks. Less than a year later, they are now giving guidance out that you do not necessarily need to put the overflows on these tanks. Now, I suspect Greenergy and us incurred—certainly we incurred—over £250,000 just on that piece of kit that they have now identified that they do not think they need.
The COMAH Regulations are goal-setting in nature and have changed little since they came into force in 1999 and the subsequent amendments in 2005.

Although there has been no change in policy, as a response to lessons learnt following the Buncefield explosion, the refining and fuel storage sector together with the CA, agreed there was a need to have clearer standards for the sector. An industry group—the Process Safety Leadership Group (PSLG)—chaired by a refinery manager and which included representatives from the CA, worked together to produce new standards that were published in 2009. Industry representatives sought clarity and certainty over control of major hazards and it was largely industry’s direction that resulted in the level of detail. The PSLG publication makes its status as guidance clear and that alternative means to comply with COMAH may be taken.

The situation that Oikos refers to was not in relation to this standard or COMAH but to a site specific set of circumstances relating to its plans for growth. The site proposed a change that significantly increased risk to the surrounding population. In order for the change to be implemented and to maintain previous levels of risk to the local population, HSE advised that this could be achieved by installing the additional overflow. In this way the twin objectives were met: of Oikos’s business needs and growth; and the needs for protection of the local population. In different circumstances eg if the changes to plant did not significantly affect off site risk, HSE would not have advised on the need for overflow. This in line with HSE’s principle of enabling high hazard activities and requiring measures which are proportionate to the risk.

4. The Phillips 66 stated:

4. The Phillips 66 stated:

We are very supportive of the new direction and legislation that is coming out of the Buncefield incident. What we would argue is that it is being crafted in a way that is too prescriptive. Rather than setting a target for the reducing risk and allowing each business to risk-assess how best to reduce that risk, it is being rather prescriptive in saying, “You must install this type of equipment”, which is not necessarily the most cost-effective way of reducing the risk.

What are your views on this? Why does the HSE take a prescriptive approach?

The response above is also relevant to this question. The CA welcomed industry’s involvement in developing the guidance and the approach taken after Buncefield. Nevertheless, the position remains that it is for industry, as duty holders who come under the scope of COMAH, to demonstrate that they comply with the Regulations. Whilst guidance is available to advise them on reliable routes by which they can do that, the option remains for industry to show compliance with the law by other risk assessed means—which is the position set out by Phillips. This combination of goal setting law backed by more detailed guidance provides clarity for those businesses that wish to follow the guidance, and flexibility for those who wish to develop their own tailored solutions that meet the goals laid down in law.

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Background Notes

COMAH stems from the Seveso Directive (currently 96/82/EC) that concerns the control of major accident hazards involving dangerous substances. The Directive aims to prevent major accidents, ie low frequency but high consequence events, and limit the consequences to people and the environment of any that do happen. It applies where large volumes of dangerous substances are present, or may be produced, and has two levels—“lower tier” and “top tier” with additional obligations for the more hazardous sites. Oil refineries will nearly always be top tier sites whereas storage facilities could be top tier, lower tier or even outside the scope of COMAH, depending on inventories. At all COMAH sites there will be potential for a major accident that could affect both workers at the site as well as the surrounding population, and the environment both on and off site. Examples of major accidents in the oil refining and storage sector are explosions and fires at the Chevron Pembroke refinery in june 2011 that killed four workers and seriously injured another, Texas City, USA, in 2005 where 15 workers were killed and around 170 injured and the Buncefield oil storage depot in December 2005 where there were over 40 minor injuries and significant environmental impact, nevertheless the scale of the incident was such that if it had happened during working hours, then there would have been many fatalities.

In Great Britain, COMAH is made under the Health and Safety at Work etc Act 1974. The land use planning aspects of the Seveso Directive, addressing both the location of major hazard sites as well as the development of land around them, are made under the Town and Country Planning Act 1990. The Department for Communities and Local Government, the Scottish Government and the Welsh Government are responsible for land use planning legislation which puts into effect the Directive.

COMAH is enforced by a joint Competent Authority (CA) comprising HSE and the Environment Agency in England, the Scottish Environment Protection Agency in Scotland and Natural Resources Wales in Wales. The COMAH regulatory regime places statutory duties on COMAH sites to take all measures necessary to
prevent major accidents and limit their consequences. The CA has a statutory responsibility to provide regulatory oversight of COMAH sites through, for example, conducting site inspections and investigation work, and assessing safety reports for the higher hazard “top tier” sites. The CA is required by COMAH to recover the costs of its regulatory activities from COMAH duty holders, based on the principal that the tax payer should not have to pay. The CA’s site prioritisation methodology is available at: http://www.hse.gov.uk/comah/guidance/site-prioritisation-methodology.pdf

For making land use planning decisions, local planning authorities have to strike a balance between the needs of industry, the community and the interests of safety. HSE’s role in this process is to provide safety advice to the planning authorities to help them make informed decisions.

Following the Buncefield incident a Process Safety Leadership Group Guidance was established comprising industry, trades union and CA members that subsequently published guidance “Safety and Environmental standards for Fuel Storage Sites” available at: http://www.hse.gov.uk/comah/buncefield/fuel-storage-sites.pdf

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