

<b>Title:</b> Downstream Oil Supply Resilience Bill - Final Impact Assessment <b>IA No:</b> BEIS008(F)-18-CNRD <b>RPC Reference No:</b> <b>Lead department or agency:</b> Department for Business, Energy and Industrial Strategy. <b>Other departments or agencies:</b>	<b>Impact Assessment</b>			
	<b>Date:</b> 01/03/2020			
	<b>Stage:</b> Final			
	<b>Source of intervention:</b> Domestic			
	<b>Type of measure:</b> Primary legislation			
	<b>Contact for enquiries:</b> James Steel			
<b>RPC Opinion:</b> Fit for purpose				

## Summary: Intervention and Options

Cost of Most Likely Option (2019 prices 2020 present value)			
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2019 prices)	Business Impact Target Status
£ 21.7m	-0.4m	£0.05m	Qualifying provision

### What is the problem under consideration? Why is government intervention necessary?

There is a risk of disruption to the UK fuel supply market from the sudden loss of any one of a number of critical supply infrastructure sites. In recent years there have been operational and financial events leading to sudden closures or disruptions at UK oil refineries, terminals and pipelines. The risk of market disruption has increased with the closure of commercially redundant assets, which reduces the ability of the market to replace lost supplies. In 2020, the sector was significantly impacted by the Covid-19 pandemic putting operational and economic strain on all downstream oil operators. Market failures in the sector prevent consumers from fully insuring themselves against fuel supply disruptions and limit the incentives on suppliers to mitigate these risks. The assessment is that the magnitude of the risk requires government action.

### What are the policy objectives and the intended effects?

The objective is to improve the resilience of the downstream fuel supply market and reduce the risk of disruption to economic activity from the loss of fuel supplies. The package of measures will improve the ability of government and industry to manage these risks. Mandating the provision of information to government will allow better risk assessment and design of mitigating measures. Change of ownership (the control test) and direction powers will enable the government to facilitate or intervene where supply resilience is compromised and industry is unwilling or unable to take action.

### What policy options have been considered, including any alternatives to regulation?

Government has explored the scope for encouraging voluntary action by the sector but there is insufficient support from market participants, as the necessary spend would not have a commercial return. This reflects the market failures in the sector. The government also explored options like full regulation of the downstream oil sector with a licensing regime and a new regulatory body to enforce standards and mandate resilience solutions, similar to the model applied to gas, electricity, telecoms and water sectors among others. Unlike these networked sectors, there is no natural monopoly in the downstream oil sector and therefore the government considers that the underlying rationale for an economic regulator is missing and that such a regime would be disproportionate to the risk. The Preferred Option is a package of measures that enables the government to collect evidence on the fuel supply risks and, subject to individual value for money assessments, take action to mitigate these when required. The package will complement existing resilience measures to reduce the risk of failure in major infrastructure nodes, such as the lease contract for the reserve tanker fleet and a programme to provide military drivers for fuel tankers.

**Will the policy be reviewed?** It will be reviewed. **If applicable, set review date:** December/2025

Does implementation go beyond minimum EU requirements?		N/A		
Are any of these organisations in scope?	<b>Micro</b> Yes	<b>Small</b> Yes	<b>Medium</b> Yes	<b>Large</b> Yes
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)	<b>Traded:</b> N/A		<b>Non-traded:</b> N/A	

***I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.***

Signed by the responsible Minister:

..... 

Date: .....26.05.2021.....

## Summary: Analysis & Evidence

**Description:** Enable government to collect evidence on risks to fuel supply chain and take action to mitigate these. Costs and benefits expressed relative to *do nothing*.

### FULL ECONOMIC ASSESSMENT

Price Base Year 2020	PV Base Year 2021	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 1.5	High: 46.3	Best Estimate: 22.9

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	<0.02	<0.04	0.3
High	<0.02	<0.06	0.5
Best Estimate	<0.02	<0.05	0.4

#### Description and scale of key monetised costs by 'main affected groups'

Ongoing costs over the appraisal period are small and arise from providing information to the government (<£0.4m) and the cost of undertaking the Control Test (<£0.1m). The one-off transition costs to familiarise and comply with the provision of information and the Control Test requirements have also been estimated (<£0.02m). These costs would mostly fall directly on businesses in the downstream oil industry (above a certain threshold).

#### Other key non-monetised costs by 'main affected groups'

The costs of the Resilience Direction measure have not been included in the NPV because it is designed as a backstop measure, with no immediate intent to use. However, illustrative costs are provided in the main body of the IA. The costs of undertaking the Control Test have been monetised but not any potential wider impacts, due to lack of an appropriate evidence base. However, the policy has been designed to minimise costs to the industry.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0.0	0.2	1.9
High	0.0	5.5	46.6
Best Estimate	0.0	2.7	23.3

#### Description and scale of key monetised benefits by 'main affected groups'

The key benefit is the reduced risk of a loss of fuel supplies for consumers (e.g. for transport purposes) and those who consume oil-intensive goods and services. Petroleum products are essential for UK economic activities, and an indicative monetised impact of disruption has been estimated using a stylised approach based on oil to GVA intensity ratios and adjusted by the annual risk of failure. BEIS estimates that the closure or disruption of a key supply point could lead to a supply shortfall of refined petroleum products to regional markets lasting between 3 to 10 days, and BEIS illustrates the current risk of economic impact arising from the disruption. This framework has been applied to develop a range of benefits arising from the provision of information measures, with the aim of illustrating how even minimal reductions to the duration of a disruption would provide benefits to user that are multiples of the costs of the measures for the industry.

#### Other key non-monetised benefits by 'main affected groups'

The benefits of the Control Test have not been monetised, reflecting the uncertainty of when it would be used. The benefits of the Resilience Direction are not monetised, but the measure would be applied subject to value for money considerations. The benefits of increased public confidence in national fuel supply resilience, which may reduce the risk of panic buying during an incident have also not been monetised.

<b>Key assumptions/sensitivities/risks</b>	<b>Discount rate (%)</b>	3.5
The analytical framework for estimating the economic cost of an oil disruption is stylised and only provides an indicative estimate of the economic impact. Many uncertainties such as scale, duration and frequency of supply disruptions as well as the degree of substitutability must be considered when calculating the scale of the economic impact from a supply disruption. These uncertainties have been factored in by developing high and low estimates based on the most conservative end of the range of benefits - aimed primarily at illustrating how benefits are likely to be a multiple of the costs under all plausible scenarios.		

### BUSINESS ASSESSMENT

<b>Direct impact on business (Equivalent Annual) £m:</b>			<b>Score for Business Impact Target (qualifying provisions only) £m:</b>
Costs: 0.05	Benefits: 0	Net: -0.05	
			0.23

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# 1 RATIONALE FOR THE PROPOSED RESILIENCE MEASURES

## 1.1 Problem Under Consideration

1. The downstream oil sector comprises over 200 companies involved in the refining, importing, distribution and marketing of oil products<sup>1</sup> (particularly transport fuels), with many more involved in retail. The UK market for oil products is a mature market and between 2008 and 2019 demand has fallen by just under 9% and was relatively flat in more recent years. The Covid-19 pandemic led to a sharp temporary decline in demand for oil products as lockdown measures were introduced in the Spring. As these measures were eased over the summer demand recovered strongly.
2. At the UK level, the refining sector is also facing high levels of global competition and has gone through a process of restructuring to stay internationally competitive.<sup>2</sup> To maintain returns on their investments, companies throughout the sector have strived to maximise utilisation of their assets. The consequence has been:
  - fragmented supply chains with major oil companies, which used to run vertically integrated well-to-pump operations, divesting themselves of categories of assets or outsourcing some operations; and
  - relatively high utilisation rates and closures of redundant and inefficient assets. For example, currently there are six UK oil refineries, down from a high of 19 in 1975. UK refining capacity is down nearly one-third compared to 2008.
3. The fall in the number of key UK infrastructure assets has reduced the industry's spare capacity. This spare capacity resulted from historical investments and upgrades which used to be commercially viable but now have become less economical. The spare capacity acted as system resilience, and therefore the rationalisation and efficiency measures to minimise redundancy has increased the risk of a market disruption in the downstream oil sector<sup>3</sup> given the lower capacity to react to sudden supply and demand shocks. Covid-19 has increased spare capacity in the short term but has not removed the medium term challenge.
4. Risks that can lead to supply shocks include: operational accidents, industrial action, security threats including cyber-attacks, insolvency leading to liquidation, and severe weather. Failures of this sort in the infrastructure serving a regional market could be large enough to impact the efficiency of the market mechanism, halting the ability of the system to allocate fuel supplies, and generate substantial economic and social impacts.
5. Infrastructure failures are low-probability, infrequent events (see Section 2) but they could have a large economic impact, as crude oil and oil products support key sectors in the UK. The impact of Covid-19 has increased the commercial pressure on the sector.
6. In 2019, about 44% of the UK's energy consumption was from crude oil or oil products, and petroleum-based fuels provided 96% of the energy for the transport sector, with very limited substitutability. The importance of oil products makes it paramount to achieve an optimal level of supply security. Despite the reduction in demand for oil products during the Covid-19 pandemic, they remain essential to UK economic activity.
7. Owners of key assets take measures to mitigate risks where commercially viable but cannot avoid them entirely. In addition, the market adapts to supply shocks, and can adjust and redirect product flows to ensure delivery to customers. However, the current capacity for immediate response is limited as logistical and contractual constraints may make it impossible for the market to fulfil normal levels of demand. Transporting oil products over greater distances to supply a region where infrastructure has been disrupted can also place increased strain on the supply infrastructure not disrupted elsewhere – for example, if road tankers transporting oil products need to travel further to alternative supply locations,

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<sup>1</sup> [http://www.ukpia.com/industry\\_information/industry-overview.aspx](http://www.ukpia.com/industry_information/industry-overview.aspx)

<sup>2</sup> For example, with regards to competitiveness of the market and retailers passing through changes in crude prices, in January 2013, the Office for Fair Trading published the results of a Call for Information to investigate whether or not competition problems existed in the road fuels market. This included investigating concerns that pump prices rise quickly when the wholesale price goes up but fall more slowly when it drops. Their analysis found very limited evidence of this, and in general found that at a national level competition in the market is working well.

<http://webarchive.nationalarchives.gov.uk/20140402142426/http://www.offt.gov.uk/OFTwork/markets-work/othermarketswork/road-fuel-CFI/>

<sup>3</sup> **Downstream oil sector** refers to any persons involved in any part of the: import, supply, storage, distribution and or retail of crude oil and or oil products, into or within the United Kingdom (UK).

they will take longer to deliver fuel which in turn reduces the amount of tanker capacity available to the rest of the market at that point in time.

### **Current government measures**

8. The Government has analysed the level of resilience provided by the downstream oil sector (see Section 2 for an assessment of the baseline risks) and has already introduced measures to manage fuel supply disruptions.
9. The National Emergency Plan for Fuel (NEP-F) is part of the Government's suite of contingency planning for critical services and mitigates the worst impacts of major and sudden supply disruptions. The Plan sets out the Government's overall approach to maintaining continuity of supplies of fuel, and crisis measures to protect emergency services and other priority users if supply cannot be maintained. Measures that the Government can take to support supply include:
  - relaxing competition rules to enable suppliers to agree collective action, to support the development of alternative supply routes;
  - relaxing limitations on fuel tanker drivers' hours, to increase the capacity of the distribution system;
  - authorising the use of reserve road tankers, to provide extra capacity to the market and enable longer supply routes;
  - ordering the release of compulsory oil stocks during an international shortage of fuel; and
  - as a last resort, deploying military tanker drivers, to maintain fuel deliveries, including to enable use of the reserve tanker fleet if necessary.

## **1.2 Policy objectives and rationale for intervention**

10. BEIS has a primary objective of ensuring that Great Britain<sup>4</sup> has energy supplies that are reliable, affordable and clean. In the downstream oil sector reliable energy supplies translates into ensuring fuel supply resilience, i.e. the ability to i) protect against, ii) react to, and iii) recover from any fuel supply disruption.

### **Market functioning in the downstream oil sector**

11. BEIS has assessed the extent of intervention required to maintain resilience in the downstream oil sector by reviewing the functioning of the market.
12. On the demand side, many consumers cannot effectively express their willingness to pay for secure supplies of fuel. In the UK, more than two-thirds of oil is consumed for transport purposes. Plane operators and large haulage companies can contract on a long-term basis for fuel supplies, and thus express their willingness to pay for secure supplies. However, most owners of private vehicles purchase motor fuel (diesel and petrol) on a "spot" basis, with little incentive or ability to contract long-term at the retail level or to hold stocks for periods of supply disruption.
13. Along the supply chain, wholesale fuel suppliers typically cannot increase prices in the short-term to respond to regional shortages, as their supply contracts are tied to internationally traded prices. Moreover, they can invoke force majeure contract clauses in the event of major disruptions. This limits their liability by enabling them to "walk away" from their supply obligation and consequently reduces their incentive to invest in resilience measures.
14. Fuel retailers may also not expect to capture the full value of scarcity during a disruption, limiting the incentives for them to invest in resilience measures. For example, the more visible players in the sector (e.g. oil majors, supermarkets) might be sensitive to media reporting of price rises and profiteering, which could damage their reputation and limits their ability to increase prices sufficiently in the event of a fuel shortage.
15. The competitive pressure and fragmentation in the retail sector also create barriers to collective action. In earlier stages of policy development, the department explored voluntary measures (see paragraph 20) to obtain regular information from the industry to monitor resilience in the sector. However, the risk

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<sup>4</sup> The Bill provisions will cover the United Kingdom but BEIS has responsibility for fuel supply only in Great Britain.

of incurring extra costs without similar commitments from other companies meant that not all companies were willing to sign up to voluntary measures.

16. BEIS concluded that the level and types of market failures identified in the sector limit the efficiency of the pricing mechanism and the capacity of the sector to provide an optimal level of resilience against fuel supply disruptions.

### ***Resilience improvements***

17. BEIS has identified three themes of solutions to address the risks that have emerged from the evolution of the downstream oil sector over recent years and from the market failures discussed above:
- **Monitor:** allowing BEIS to have information from the downstream oil sector to better understand the impact of potential disruptive events, and to use the information to support industry in improving fuel supply resilience;
  - **Protect:** ensuring that owners of critical fuel infrastructure are financially sound and operationally capable, to align this sector with protections that apply in other critical service sectors; and
  - **Insure:** working with industry to develop their ability to maintain fuel supply in case normal supply arrangements are seriously disrupted.
18. BEIS has considered different approaches to implementing these solutions and has used minimising any disruption to market functioning as a key criterion to assess them.

### ***Option considered: Full regulation of the sector***

19. BEIS considered full regulation of the downstream oil sector, with a licensing regime and new regulatory body to enforce standards and mandate resilience solutions. This is the model which applies to gas and electricity, telecoms and water sectors among others. Unlike these networked sectors there is no natural monopoly in the downstream oil sector and the underlying rationale for an economic regulator of this type is missing. A regulatory regime did not therefore seem proportionate or appropriate to the level of risk and types of market failures in the sector.

### ***Option considered: Voluntary action***

20. BEIS analysed and explored whether the resilience of the downstream oil sector could be improved with voluntary action, but found insufficient support from market players, suggesting it would not be effective.

#### ***Monitoring fuel supply resilience with voluntary action***

21. Several companies reported that they would comply with regulation but would not provide information to monitor supply resilience on voluntary terms. Lack of collective action across the sector would prevent BEIS from systematically identifying critical points, developing contingency plans or supporting decision making during an emergency.

#### ***Insuring and protecting fuel supply resilience with voluntary action***

22. BEIS has explored whether it could promote investment on a voluntary basis in fuel supply resilience across the downstream oil sector. BEIS found that stakeholders were reluctant to incur additional costs on a voluntary basis, due to strong competition. BEIS concluded that a voluntary agreement would be unstable, as operators could avoid the additional costs, but still benefit from the increased resilience. For instance, if some operators fund an emergency tanker fleet on a voluntary basis, other operators not participating in the scheme would also benefit from the release of reserve tankers during a supply disruption.
23. The proposed Control Test could not be replaced by voluntary action, as this is a principal agent problem, with the agent (in this case the company owning the infrastructure asset) able to make decisions that expose the principal to risk (in this case the fuel security of society at large).

### ***Evolution of the Preferred Option***

24. In October 2017, BEIS consulted on a draft proposal supported by an Impact Assessment (hereafter “the Consultation IA”)<sup>5</sup>. During the formal consultation, BEIS provided an initial view of the expected costs and benefits of each intervention. BEIS then published a Government consultation response

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<sup>5</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69758/1779-downstream-oil-short-term-resilience.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69758/1779-downstream-oil-short-term-resilience.pdf)

setting out its thinking. Since then, BEIS has continued to engage with stakeholders, to develop its policy proposals and how they would be implemented. BEIS has considered calls from the industry for a light-touch approach and has designed solutions that align with the structure of the fuel supply market and minimise any impacts on market dynamics or competitiveness.

25. The most significant change resulting from this work is that BEIS no longer intends to use this Bill to take forward the measures relating to ‘industry schemes’. In the consultation document and government response, the lead scheme proposed under this power was the transfer of the costs and management of the Reserve Tanker Fleet (RTF) from government to industry. BEIS has concluded that the complexities and additional costs of setting up an industry-run scheme currently outweigh the benefits and it is more appropriate for BEIS to continue to lease and manage the RTF capability at this time.
26. The refinement in how the framework is applied and the government’s decision to maintain public funding of the RTF has substantially reduced the scope of the regulatory intervention, so the range of benefits estimated differs substantially from that estimated in the Consultation IA (see a summary in Section 6).
27. Having assessed how the downstream oil sector market works and alternative approaches to improve fuel supply resilience, BEIS considers that the best option to Monitor, Protect and Insure the sector is to introduce the following regulatory measures and powers:
  - i. **Monitor:** Enhance information reporting to government to monitor fuel supply resilience (“**Information Reporting**”);
  - ii. **Protect:** Enact a power to conduct Control Tests on new buyers of downstream oil sector infrastructure, to ensure that they are financially sound and operationally capable (“**Control Test**”);
  - iii. **Protect:** Enact a power that allows government spending to support supply resilience improvements (“**Government Spending**”);
  - iv. **Insure:** Enact a power to direct individual companies to take action that may be necessary to support resilience (“**Resilience Direction**”).
28. The Preferred Option at this stage is to introduce all the measures as a package in the form of a new primary legislation: the “Downstream Oil Resilience Bill” (hereafter the Bill). The Bill will apply to all operators and infrastructure in the Downstream Oil Sector with a supply handling capacity above the thresholds outlined in the Bill. The Bill will provide Government with the tools to identify fuel supply risks and support industry in ensuring fuel supply resilience, with further backstop powers to protect fuel supply resilience when required. BEIS will continue to work with industry to refine the proposed measures, so that the disruption to market functioning is minimal.
29. This final version of the Impact Assessment (hereafter the Final IA) outlines BEIS’ final thinking on the rationale underpinning the Bill and the analysis of the potential impacts. The Government Spending power would come into place only under certain conditions, for example in conjunction with issuing a Resilience Direction, and the backstop nature of this spending direction means that the measure is not separately assessed in this Final IA.
30. The analysis begins by assessing the baseline risk, expressed as a risk- adjusted<sup>6</sup> economic impact arising from a disruption of fuel supplies to final customers. The costs and, where they can be quantified, benefits of the various measures are then assessed in turn with an overall summary of cost and benefits finally provided<sup>7</sup>. As detailed in the following sections, BEIS concludes that the costs of the regulatory intervention are well below the possible economic benefits of reducing disruptions to fuel supplies.

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<sup>6</sup> The risk adjusted impact is the annual economic impact obtained by adjusting the full impact of a single disruption according to the probability of occurrence.

<sup>7</sup> This Impact Assessment analyses only the Regulatory measures and does not further assess the Government Spending measure proposal, although it forms part of the Preferred Option. For further information about the Government Spending proposal, refer to the Consultation IA or to the Government Response to stakeholder comments.

## 2 REVIEW OF BASELINE LEVELS OF RISKS AND IMPACTS

31. BEIS considers that the benefits of improved resilience in the downstream oil sector arising from implementing the Preferred Option can be measured in terms of a lower economic impact caused by a fuel supply disruption event. BEIS has assessed the baseline level of risks of supply disruption following a three-step methodology that estimates:
1. The likelihood of a sudden interruption to fuel supplies or closure of key infrastructure due to operational or financial risk;
  2. The volume and duration of fuel supply disruptions; and
  3. The estimated economic impact of a given supply disruption.
32. The analytical framework to assess the monetary impacts of a disruption is based on the methodology that Deloitte developed in their "Downstream oil - short term resilience and longer-term security of supply" report.<sup>8</sup> BEIS considers the Deloitte based methodology the best approach available to provide a stylised, indicative assessment of the range of economic costs of disruption with an analytical effort proportionate to the intervention. Deloitte's methodology was also used in the Consultation IA to produce initial estimates of economic impacts and has been refined following feedback from stakeholders (see paragraph 49 onwards for details).
33. The measures in the Preferred Option will complement the benefits of the existing measures, and for this reason BEIS illustrates the baseline risk of disruption before any intervention of government. Similarly, BEIS estimates the benefits by considering how each measure can reduce the baseline level of risk on its own and by operating in parallel with other measures.
34. The key sources of evidence used to estimate the baseline risks<sup>9</sup> are:
- Statistical data collected by BEIS on the supply chain through surveys (some on a statutory basis, some voluntary);
  - Data from external commercial providers;
  - External expert reports, such as the Deloitte study of the UK petroleum retail market;<sup>10</sup>
  - Information submitted to BEIS through the industry consultation.

### 2.1 Step 1 - Identifying the likelihood of a fuel supply disruption

35. Disruption events in the downstream oil sector vary significantly. Often there are small scale disruptions that the industry can cover by drawing on spare asset capability and/or stocks to avoid a disruption to consumer supplies. These buffers can delay and often completely absorb fuel supply disruptions, and are referred to as "**Operational Disruption Events**". These types of disruptions are excluded from any estimation of risk, as the supply to consumers is unaffected.
36. For the purposes of this IA, only large unplanned disruptions of assets lasting for three weeks with no operational capability during the disruption have been included. Following Deloitte's approach,<sup>11</sup> these are referred to as "**Consumer Disruption Events**", i.e. where there is not enough spare capacity in the sector to cover the supply shortfall, leading to a market disruption<sup>12</sup>. The constraint in responding to these incidents relates to supply logistics within the UK meaning there are risks of regional shortages. Given oil product markets are global in scope, with diverse sources of supply, it is judged that there is no plausible prospect of shortage of fuel available for import to the UK.
37. The main disruption events in the sector include:
- **Major operational incidents** e.g. there have been fires at four refineries as well as the Buncefield oil terminal over the last 18 years. The Buncefield fire disrupted fuel supply to

<sup>8</sup> <https://www.gov.uk/government/publications/downstream-oil-short-term-resilience-and-longer-term-security-of-supply>

<sup>9</sup> For more information on data sources see Annex A, "Data Sources".

<sup>10</sup> "Study of the UK Petroleum Market", Deloitte, 2012 <https://www.gov.uk/government/publications/study-of-the-uk-petroleum-retail-market>

<sup>11</sup> Deloitte approach considers "an *unscheduled disruption to the entire refining unit caused by mechanical failure. As part of this scenario, [...] the pipeline and docking facilities are unaffected to isolate the impact of a loss in refining capacity. [...] The disruption is assumed to last three weeks, although the duration of an unplanned shutdown due to significant mechanical failure could be much longer. Although this is a comparatively short disruption, this would be considered a major infrastructural event*"

<sup>12</sup> see more details in "Annex C, Estimating supply shortfalls: Methodology"



Heathrow for months and while the airport has multiple supply routes and suppliers were able to find work-rounds over time, there was an estimated cost to the aviation industry of £250m.<sup>13</sup> The 2007 fire at Coryton refinery on the Thames estuary (which closed in 2012) reduced fuel throughput by >50% and led to local shortages. The 2018 fire at the Shell Higher Olefin plant;

- **Financial failure (insolvency)** e.g. Petroplus, which led to Coryton refinery's closure in 2012 (without supply disruption);
- **Malicious/criminal disruption**, including cyber and conventional attack, control by unfriendly states and illegal pipeline tapping. The cyber threat is currently being assessed - risks are low but can change. Tappings<sup>14</sup> have become more frequent, although there is some indication that rapid detection due to new industry investment in leak detection systems has started to reverse this trend and none have yet led to major incidents; and
- **Industrial action**<sup>15</sup> e.g. tanker drivers. This has been the major cause of supply disruption in recent years. As part of its contingency planning, the Government is working with the downstream oil industry, including haulage companies, to maintain a capability within the Armed Forces to make fuel deliveries in the event of a serious disruption to normal deliveries due to industrial action by fuel tanker drivers.<sup>16</sup>

38. These risks include accidents, industrial action and maintenance overruns, and are referred hereafter as "operational failures". This IA also assesses the risk of financial failure of the operating company, followed by an inability to maintain supply, which could cause a significant market disruption, as both operational and financial failure could lead to a Consumer Disruption Event.

*Estimating the likelihood of operational and financial failure leading to a loss of supply*

39. BEIS has assessed the evidence on the likelihood of both operational and financial failure. The assessment distinguishes between refineries, terminals and jetties and involved consulting the Health and Safety Executive as well as officials across BEIS (see Table 1 for a summary)<sup>17</sup>.
40. The risks of operational failure are based on the best available evidence. This considers historical reporting of significant incidents as well as stakeholder views. The probability assessment also reflects the increased risk arising from the closure of commercially redundant assets in recent years, which has reduced the ability of the market to replace any lost supply (i.e. probabilities do not entirely reflect the historical occurrence of disruption events). The likelihood of a loss of operations incident leading to loss of supply is 1 incident every 10 years, spread across the 6 UK refineries (see Table 1). This means that the probability of a major disruption at each individual refinery is 1 in 60 years on average.
41. The corresponding estimates for a financial failure leading to loss of supply across UK refineries is 1 in 25 years (see Table 2). Estimates of the risk are lower for smaller fuel terminals used for storing and loading fuel and jetties (ports) used for loading/unloading fuel to/from tanker ships. For the risk of financial failure, a key uncertainty is future changes to market conditions. North-Western European refineries are known to be under financial pressure due to international competition; aging assets now producing a mix of fuel products which does not match demand; falling demand in recent years; and tighter environmental standards. Future oil prices and refining margins are uncertain and hard to predict, but increased volatility may increase the risk of insolvency. The long-term trend of decreasing oil demand<sup>18</sup> could lead to short-term increases in spare capacity (reducing risk). However, under-utilised infrastructure ceases to be economical and tends to be closed relatively quickly, either through managed closures or insolvency.
42. To estimate the expected annual risk of a supply disruption, the probabilities of operational and financial failure have been combined to calculate the probability of exactly one Disruption Event (either

<sup>13</sup> <http://www.hse.gov.uk/comah/buncefield/miib-final-volume1.pdf>

<sup>14</sup> Hot tapping, or pressure tapping, is the method of making a connection to existing piping without the interruption of emptying that section of pipe or vessel.

<sup>15</sup> The Trade Union Act 2016 introduces a 40% support requirement in important public services, which includes "transport services". This does not necessarily mitigate the risk of disruption. It does however include provisions to extend the notice period ahead of industrial action to 14 days, which allows increased time for contingency planning in response.

<sup>16</sup> <https://www.gov.uk/guidance/preparing-for-and-responding-to-energy-emergencies#downstream-oil>.

<sup>17</sup> Annex B "Likelihood of Loss of operations and Financial Failure" contains further details about the BEIS analysis.

<sup>18</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/541332/LONG\\_TERM\\_TRENDS.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/541332/LONG_TERM_TRENDS.pdf)

operational or financial) occurring in any given year.<sup>19</sup> This was then weighted by the number of assets that if disrupted would lead to a supply shortfall (e.g. for terminals and jetties, the majority of assets could close, and the intra-regional infrastructure would have sufficient spare capacity to maintain supplies). This creates a combined national risk for one Consumer Disruption Event of:

- around 1 in 7 years or 13% for refineries on the basis that each refinery would lead to a supply shortfall if disrupted; and
- around 1 in 50 years or 2% (average) for terminals and jetties.<sup>20</sup>

**Table 1: National Likelihood of Loss of Operations leading to a Consumer Disruption Event**

Asset type	National Risk 1 in X years*	Evidence
Refinery	10	Table 1, Summary of interruption scenarios, Deloitte 2010 Report, <sup>21</sup> and historical experience.
Terminal	115	Terminals should be lower risk than refineries as they avoid the high-temperature and high-pressure refining processes and are typically smaller, with less product on site. It is judged that the national risk of loss of operations to be every 1 in 25 years, but that this will only lead to a loss of supply in around 22% of cases as in most cases alternative supply sources would have the capacity to completely mitigate the disruption. Therefore, the national risk loss of supply from terminals is 1 in 115.
Jetties	Immaterial	Judgement informed by stakeholder feedback.

\*Equals the probability of loss of operations multiplied by the proportion of the asset population that would could create a supply shortfall if disrupted (see Annex B and C).

**Table 2: National Likelihood of Financial Failure leading to a Consumer Disruption Event**

Asset Type	National Risk 1 in X years*	Evidence
Refineries	25	Judgement informed by stakeholder feedback. Aggregate assessment as ownership patterns and structures vary across the sector.
Terminals	92	Terminals should be lower risk than refineries, as they are not exposed to refining margins, and critical supply terminals are likely to have healthy throughput volumes. It is judged that the national risk of financial failure to be every 1 in 20 years, but that this will only lead to a loss of supply in around 22% of cases, in most cases alternative supply sources would have the capacity to completely mitigate the disruption.
Jetties	Never	Typical owners e.g. ports are unlikely to be at risk of sudden insolvency and liquidation.

\*Equals the probability of financial failure multiplied by the proportion of the asset population that would create a supply shortfall if disrupted (see Annex B and C).

## 2.2 Step 2 - Identifying the duration and the volume disrupted

### *Estimated volume of a supply shortfall*

43. For UK refineries, the immediate term supply shortfalls to their regional supply envelopes have been estimated. Allowing for the variation between refineries, BEIS estimates that the immediate supply shortfall which could not be compensated for by the surrounding infrastructure averages 6-7<sup>22</sup> million

<sup>19</sup> BEIS has looked at the probability of “at least one” Consumer Disruption Event and “exactly one” Consumer Disruption Event. BEIS choses to use “exactly one” as the difference between the two probabilities is very small, and because this provides a useful modelling simplification.

<sup>20</sup> An average for terminals and jetties has been used to protect commercially sensitive data.

<sup>21</sup> Deloitte 2010 report, section 4.2.6 - Downstream oil – short term resilience and longer terms security of supply. <https://www.gov.uk/government/publications/downstream-oil-short-term-resilience-and-longer-term-security-of-supply>

<sup>22</sup> All BEIS calculations use 6.5m, the midpoint between the two estimates.

litres/day (2 to 3%<sup>23</sup> of total daily supply to the UK market). In the short-term these estimates could differ due to the reduction in fuel demand caused by the Covid-19 pandemic, but BEIS expects that in the medium term the magnitude of disruption will revert towards the pre-Covid level. Due to the commercially sensitive nature of the information, BEIS cannot disclose the individual sites or the impacts by region<sup>24</sup>.

44. BEIS also estimates that the intra-regional infrastructure would have sufficient spare capacity to maintain supplies in most cases of terminals and jetties closure. Only a minority of assets could generate a shortfall of supply and for these sites, BEIS estimates that the immediate impact would average around 3 million litres/day.
45. For each category of assets in the downstream oil sector, the estimated volume of supply disruption per day has been adjusted for the likelihood of a Consumer Disruption Event at each asset (see Table 3), to derive an quantitative impact adjusted for its probability (often referred to as “risk-adjusted” impact).

**Table 3: Annual risk adjusted supply disruption per day**

	<b>Annual risk adjusted supply disruption (million litres per day)</b>
<b>Refinery</b>	<b>0.86</b> [(1/10 years + 1/25 years probability) x 6.5 million litres/day]
<b>Terminals and Jetties</b>	<b>0.06</b>

Duration of a supply shortfall

46. “Duration” for the purposes of this IA is defined as: the period of adjustment following a Consumer Disruption Event before a functioning fuel market is re-established. Duration does not necessarily imply supply of fuel is restored to pre-disruption levels by that point, but that a functioning fuel market has been re-established.
47. Reflecting the uncertainty around the duration of a Consumer Disruption Event, an illustrative range has been created to outline the possible lengths of supply disruptions that consumers could face:
  - **3 Days** – Based on a very rapid response by the hauliers to re-optimize and re-allocate tankers from other areas in the UK, leading to a very diffuse supply shortfall spread out across the whole of UK. The supply chain is assumed responsive and wider logistics infrastructure is favourable while prices might ration demand quickly without there being an extended disruption.
  - **6 days** – Hauliers and other suppliers take a couple of days to react and then re-optimize the supply chain, as logistics slows changes to delivery arrangements. As a result, prices take longer to fully adjust and ration demand.
  - **10 Days** – Industry response is focused on using resources local to a discrete failure and supply chain adjustment is unwilling to compromise existing delivery patterns in other regions or is constrained by other logistical factors. Supply chain is unresponsive, and prices cannot adjust sufficiently to avoid an extended disruption.
48. BEIS recognises the stylised and indicative nature of these ranges but for the purposes of this IA they are considered a reasonable representation of how the downstream oil sector could react to a Consumer Disruption Event. There are commercial incentives to bring additional supply into tight local markets as soon as possible. However, retailers are only able to price in part the scarcity of supplies, and panic buying could run down stocks quickly, so rationing could last longer even with the best efforts of downstream oil sector operators. The range also reflects the variation in disruption volume and local factors, such as the availability of road fuel tankers to supply current volumes from alternative supply points.<sup>25</sup>

<sup>23</sup> Total daily supply to the GB market averaged about 240 million litres/day in 2019  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/540915/DUKES\\_3.2-3.4\\_alternative\\_units.xls](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/540915/DUKES_3.2-3.4_alternative_units.xls)

<sup>24</sup> Annex C “Estimating Supply Shortfalls: Methodology”, describes in more detail the approach that BEIS followed.

<sup>25</sup> More details about BEIS assessment are contained in Annex D, “Market Response to a Supply Disruption”.

## 2.3 Step 3 – Estimating the economic impact of a disruption

49. BEIS estimates the economic impact of a disruption using the concept of “oil intensity”, based on the oil product intensity methodology developed in a report by Deloitte.<sup>26</sup> Oil Intensity applies the concept of energy intensity (which expresses the quantity of energy required to produce a unit of economic output), to estimate the economic output arising from each unit of oil. Oil Intensity is defined as the ratio (Ratio A) between refined oil product demand and economic output as measured by the Gross Value Added (GVA)<sup>27</sup>:

$$\text{Oil Intensity} = \left( \frac{\text{Oil product demand}}{\text{GVA}} \right) \quad \text{Ratio A}$$

50. BEIS considers it plausible to assume that Oil Intensity is fixed in the “immediate term” (the days following an oil supply disruption), given the lack of available substitutes for oil products, especially in the transport sector. On this basis it is reasonable to expect that a fall in available refined oil products will impact economic activity in proportion to the (inverse) oil intensity of output:

$$\text{Ratio B (Inverse of Oil Intensity)} = \left( \frac{\text{GVA}}{\text{Oil product demand}} \right)$$

51. This approach implies that all economic activity requires some oil product consumption (either directly or indirectly) in fixed proportions, and that there is limited or no scope to i) replace oil with other energy sources, and/or ii) reallocate oil product stocks to economic activities with the highest value. A shortage in product available will reduce economic activity, and we define the impact as a function of the volume of oil disruption and of the amount of economic activity restricted per volume.

$$\text{Volume of oil disruption} \times \text{Ratio B (Inverse of Oil Intensity)} = \text{Economic Impact}$$

52. In the Consultation IA, the “best estimate” of economic impacts was assessed assuming that directly and indirectly all economic activities are disrupted by a Consumer Disruption Event – i.e. if 1% of oil product demand is disrupted then 1% of total economic activity is disrupted. This value was driven by the need to illustrate the order of magnitude of the potential risks that underpin the rationale for intervention.
53. Stakeholders suggested that the potential fuel supply disruptions could unfold in many ways and therefore the range of economic impacts is wide and uncertain. BEIS has carefully considered stakeholders’ feedback and has incorporated their points by expressing the economic impacts as a range that reflects the most plausible scenarios. Additional consideration has also been given to the essential nature of fuel for economic activity, with adjustments made for sectors that are less reliant. Also, where BEIS estimates benefits of reduced disruption using this framework (see Section 3), it relies on the low end of the range for the economic impact per litre of product disrupted, to illustrate with a stylised approach how the benefits are multiples of the costs under any plausible range of assumptions. These additional considerations implicitly factor in the variation in the substitution of oil demand in each sector; the seasonality of oil consumption; the day of the week; the weather; the region impacted (among other factors) and other uncertainties that could vary the impact of a Consumer Disruption Event.
54. This refined approach confirms that even in a very cautious scenario of impacts, the order of magnitude of the economic benefits (adjusted for their probability) is a multiple of the costs of the intervention. Where BEIS has enough evidence of the potential improvements to resilience, it has developed a range of benefits expressed as a reduction in the economic impact.
55. Stakeholders could not suggest an alternative robust methodology and whilst BEIS acknowledges the limits of the methodology we still consider it to be the most valid and proportionate approach for the purposes of illustrating the magnitude of impacts and demonstrating that the benefits of reducing oil disruptions are multiples of the costs to the industry.

<sup>26</sup> Deloitte 2010 report - Downstream oil – short term resilience and longer terms security of supply.

<https://www.gov.uk/government/publications/downstream-oil-short-term-resilience-and-longer-term-security-of-supply>

<sup>27</sup> Gross Value Added (GVA) is the value generated by any unit engaged in the production of goods and services. GVA plus taxes (less subsidies) on products is equivalent to Gross Domestic Product (GDP). The main input datasets for regional GVA include administrative data and data from structural surveys.

56. Table 4 below shows UK GVA and oil consumption split by sector<sup>28</sup> and is used to inform considerations of which sectors are most impacted by a fuel disruption. The transport sector consumes the most oil in the UK and is a factor in virtually all other economic activity. In the UK, about 71% of commuter journeys<sup>29</sup> use modes of transport that rely on fuels derived from oil, such as cars and buses. Similarly, about 79% of domestic freight goods are moved by road.<sup>30</sup> This demonstrates that oil is an essential input into a portion of economic activities far larger than the 38% of energy consumption provided by oil.

**Table 4: UK GVA by sector and oil consumption**

Sector	GVA (% UK)	Oil Consumption (% UK)
<b>1. Energy Industry Use</b>	3.2%	6.8%
<b>2. Transport</b>	2.1%	72.3%
<i>Of which air transport</i>	0.3%	18.1%
<i>Of which other Transport</i>	1.9%	54.2%
<b>3. Industrial</b>	16.4%	3.1%
<b>4. Public Administration</b>	18.7%	1.0%
<b>5. Commercial</b>	58.6%	2.1%
<b>6. Agriculture</b>	0.7%	1.2%
<b>7. Other</b>	0.3%	13.4%

Source: Dukes 3.2 Commodity balances 2019 <https://www.gov.uk/government/statistics/digest-of-uk-energy-statistics-dukes-2020> and Office for National Statistics Gross Value Added by Industry (recategorized to match as practically as possible the industry categories used in the Dukes table) <https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalandrealregionalgrossvalueaddedbalancedbyindustry>

57. BEIS has used this evidence to adjust the Ratio B calculation and obtain an illustrative range of impacts (see Table 5). The low estimate relaxes the assumption of no substitution across the economy by removing the economic output (GVA) generated by sectors that are likely to be less oil dependent. The “commercial” and “public administration” sectors have a low share of oil consumption relative to their share of GVA and for simplicity it is assumed “air transport” could refuel at alternative locations – the GVAs of these sectors are therefore assumed unaffected.<sup>31</sup> This leaves only around 23% of UK GVA affected. It is then assumed that the remaining sectors are completely dependent on oil consumption. The high impact estimate replicates the approach followed in the Consultation IA and assumes that at worst, no economic activity could happen across all sectors (e.g. because of their dependence on transport) if oil consumption was completely disrupted.

**Table 5: Calculating the oil intensity ratio**

	Ratio B (2020 Values) (£m)
<b>High</b>	$\frac{\text{GVA}}{\text{Oil Product Demand}} = \frac{\text{£1,767,646m}}{73,110,550 \text{ TOE}} = \mathbf{0.02}$
<b>Low</b>	$\frac{23\% \text{ of GVA}}{\text{Oil Product Demand}} = \frac{\text{£402,757m}}{73,110,550 \text{ TOE}} = \mathbf{0.006}$

58. Ratio B is used to assign a monetary value to the risk adjusted volume of disruption per day, the (inverse) oil intensity ratio and the duration of disruption (see Table 6). Taking the high and low estimates of Ratio B, an illustrative example of the range of the economic impacts of a supply disruption

<sup>28</sup> For an explanation of the approach used, see Annex E: Approach to grouping GVA and energy demand by sector

<sup>29</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/905988/nts0409.ods](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/905988/nts0409.ods)

<sup>30</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/669313/tsqb0401.ods](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/669313/tsqb0401.ods)

<sup>31</sup> In the air transport sector, it was assumed that, as the market for jet fuel is national rather than sub-national, planes should be able to refuel in alternative locations if necessary and the cost of these is likely to be relatively marginal. In practice this will vary depending on location, and for example, the mix of short and long-haul flights with refuelling in alternative locations more practical for short haul flights.

in 2021<sup>32</sup> has been provided. BEIS estimates that the risk-adjusted range is around £15m-£210m in 2021 or a cumulative £140m-£2bn (discounted) over the period 2021-2030.

**Table 6: Baseline Economic Impact of a Consumer Disruption Event in 2021 (£m, 2020 prices, 2021 PV, discounted)**

	Risk adjusted Volume disrupted (million litres/day)	Inverse Oil intensity ratio (Ratio B) (2020) <sup>33</sup>	3 day disruption (£2020m)	6 day disruption (£2020m)	10 day disruption (£2020m)
Refinery	0.86	0.006 – 0.024	$(0.86 + 0.03) \times$ conversion factor to TOE $\times$ (0.006 or 0.024) $\times$ 3 days = £15m – £65m <sup>34</sup>	$(0.86 + 0.03) \times$ conversion factor to TOE $\times$ (0.006 or 0.024) $\times$ 6 days = £30m – £125m	$(0.86 + 0.03) \times$ conversion factor to TOE $\times$ (0.006 or 0.024) $\times$ 10 days =£50m – £210m
Terminal or Jetty	0.03				

59. The Preferred Option will provide benefits by reducing the baseline economic impact of a supply disruption. The baseline economic impact that BEIS illustrates here can be lowered in any given year through a combination of reducing the risk (i.e. the probability) of a disruption, the volume disrupted and/or the duration of a disruption. The potential for measures set out in the Preferred Option to reduce these impacts are considered in the next sections.

<sup>32</sup> All 2021 impacts are discounted to 2020 values.

<sup>33</sup> UK GVA and oil product demand grow at different rates and therefore the oil intensity ratio changes each year. BEIS have modelled the growth in GVA and oil product demand across the appraisal period. Oil product demand as estimated in the 2019 BEIS Energy and Emissions projections. Real GDP data for 2001-2019 is from the Office for National Statistics (ONS) time series ID ABMI. Growth rate projections for 2020-2024 are from the Office for Budget Responsibility (OBR) July 2020 Fiscal Sustainability report central scenario – Table 2.2. Growth rate projections for 2025-2035 are from the OBR March 2019 Long-term economic determinants report accompanying excel workbook.

<sup>34</sup> Values are rounded to the nearest £5m

## 3 MONITORING FUEL SUPPLY RESILIENCE (INFORMATION AND DATA REPORTING)

### 3.1 Description of Preferred Option

60. BEIS will introduce a power to request additional information in eight main areas<sup>35</sup>:
- a) Monthly, quarterly and annual surveys;
  - b) Provision of Daily Forecourt Wet Stock Management Data; and
  - c) Other data provision.
61. BEIS will reduce the burden on Small and Micro businesses by exempting operators that supply less than 50,000 tonnes/annum from the monthly survey (see detailed discussion in section 6.4). Forecourt owners with no monitoring technology currently installed will not have to provide daily wet stock management data to BEIS.

### 3.2 Rationale

62. Information and data reporting will enable BEIS to collect, compile, retain and share (with other government departments only) information from the downstream oil sector for the purposes of fuel supply resilience (refer to Section 1 of the consultation document for a detailed description of the proposed regulatory intervention).
63. BEIS needs to look at the aggregated supply requirements across all medium and large companies, to understand the ability of infrastructure assets to increase or maintain supply in the event of a disruption event. The current level of information provided is insufficient to achieve a complete, accurate and holistic view of the downstream oil system, and prevents the government from supporting industry in responding to a disruption in an effective and timely manner. Information will be used to identify critical points which may give rise to disruptions, develop contingency plans and support decision making during an emergency.
64. BEIS has assessed the proposals for new surveys so that they minimise the burden placed on businesses. BEIS has looked at information that is already collected under existing legislation and worked to ensure that additional requests are proportionate to risks.

### 3.3 Costs

65. BEIS has drawn on the UK Statistics Authority's (UKSA) Code of Practice<sup>36</sup> for survey control and on the GSS's recommended methodology for estimating the cost of complying with data reporting requirements.<sup>37</sup> BEIS has also considered cost estimates of familiarising with the new requirements. For the purposes of this IA, BEIS has assumed that the regulatory requirements and the relevant costs would be applied from 2021.
66. Feedback from industry stakeholders expressed at the consultation stage has also been considered. Some expressed concern that our assumed wage rates were too low, or failed to take account of non-wage costs, such as employer costs etc. This Final IA has responded to stakeholder feedback by uplifting wages by 30%, in line with recommendations (see Table 7).
67. The calculated compliance costs combine estimates of the time taken to complete similar existing surveys with estimates of the opportunity cost of that time, which is based on the wage (excluding overtime) and

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<sup>35</sup> Annex A of the consultation document contains more detail about the proposals.

<sup>36</sup> <https://gss.civilservice.gov.uk/wp-content/uploads/2012/12/Code-of-Practice-for-Official-Statistics.pdf>

<sup>37</sup> Further details can be found at <https://gss.civilservice.gov.uk/policy-store/monitoring-and-reducing-responder-burden-2/>

non-wage cost of workers of different skills/functions, using data published in the Annual Survey of Hours and Earnings<sup>38</sup> (ASHE; Table 14.6a).

**Table 7: Occupation SOC10(4) Table 14.6a – Median Hourly Pay Excluding Overtime for Full-Time Employees**

Occupation	ASHE Employment Description	2019 rate (£/hr)	2019 rate with 30% uplift (£/hr)	Uprated to 2020 nominal rate (£/hr) <sup>39</sup>
Director	Directors and chief executives of major organisations (code 1115)	46.13	59.97	62.20
Senior Manager	Managers and Senior Officials (code 1)	22.18	28.83	29.91
Middle Manager Junior Manager	Associate Professional and technical occupations (code 3)	16.29	21.18	21.96
Clerical	Administrative and secretarial occupations (code 4)	12.03	15.64	16.22

### ***Monthly, Quarterly and Annual Surveys***

#### *Monetised Costs:*

68. The costs of complying with data reporting obligations have been estimated by considering the minutes needed to respond to each return and the hourly wage rates of the employees that are expected to compile and review the information. BEIS has then estimated the total additional time (minutes) and the full annual cost to complete the return by looking at the amount of information required and the frequency of each return. The indicative wage rate per hour is based on ASHE data (see Table 7) and is converted into real wages using real product wage growth projected by the OBR.
69. BEIS has also considered familiarisation costs arising from this measure. It is assumed that in the first year of this measure, it will take 50% longer to understand the reporting requirements and provide the required information. The standard time requirements for each element of the proposed measure are outlined in Table 8. Familiarisation costs are therefore calculated by estimating the cost of the additional time to comply in the first year.
70. For the annual survey on infrastructure and logistics, it has been assumed that there will be a reduction in the time taken to fill out the annual survey after the first year. This reduction reflects that the survey is asking about infrastructure, and participants responses will not change significantly over time, allowing respondents to use their previous responses to the survey.
71. After calculating the compliance cost in year one, annual costs have been calculated (see Table 8) out to 2030. BEIS does not consider that there are any significant non-monetised costs.

<sup>38</sup> ASHE Table 14.6a.

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/occupation4digitsoc2010ashtable14>

<sup>39</sup> 2019 ASHE prices with a 30% mark-up have been converted to nominal 2020 wages. These were estimated using a GVA deflator based on ONS data (series ID: ABMM) and the growth in the real product wage (OBR, Supplementary economy tables 1.6, March 2020)



**Table 8: Summary of Monitoring Fuel Supply Resilience Survey Assumptions and costs (£k, 2020 prices, 2021 PV)**

		No. of Survey Returns	Additional Time (Mins) per reply	Level of Respondent completing Survey	Total annual hours required <sup>40</sup>	Total annual hours required in year 1 <sup>41</sup>	Total annual hours required all in year 2 onwards <sup>42</sup>	Approximate annual cost in first year (£2020 prices, 2021 PV) <sup>43</sup> (£k)
Survey on Supply and Demand	<b>Monthly Reporting</b>							
	Refiners	8	210	Middle Manager 60%,	$(8 \times \frac{210}{60}) \times 12 = 336$	$336 \times 1.5 = 504$	336	$504 \times [(0.6 \times 22.30) + (0.4 \times 16.47)] = 10$
	Large Importers / Wholesalers	20	105	Clerical 40%	420	630	420	13
	Large Importers / Wholesalers	10	42		84	126	84	3
	Commercial Resellers	20	105		420	630	420	13
	<b>Quarterly Reporting</b>							
	LPG (supply, distribution and/or retail)	26	0 <sup>44</sup>	Middle Manager 60%,	$(26 \times \frac{0}{60}) \times 4 = 0$	0	0	0
	Commercial Resellers	38	60	Clerical 40%	38	57	38	1
	<b>Annual Reporting</b>							
	Refiners	8	120	Senior Manager 80%,	$(8 \times \frac{120}{60}) \times 1 = 16$	24	$16 \times 0.5 = 8$	1
Import Terminals	36	120	Middle Manager 20%	72	108	36	3	
Inland Terminals	19	120		38	57	19	2	
Regional Depots	10	240		40	60	20	2	
Pipeline Operators	10	120		20	30	10	1	
Airports	26	120		52	78	26	2	
Hauliers (includes. LPG & Commercial)	20	180		60	90	30	3	
<b>Total</b>								<b>£51</b>
<b>Total (excl. year 1 familiarisation costs)</b>								<b>£34</b>

<sup>40</sup> This is our baseline estimated total amount of hours required to complete each survey.

<sup>41</sup> In the first year it is assumed that it will take 50% longer than the baseline to complete the survey.

<sup>42</sup> After the first year, it is assumed that the time per reply reduces by 50% for the annual survey, as respondents will not have to significantly amend responses submitted the previous year.

<sup>43</sup> The uplifted wage rates from 2019 (Table 7) have been uplifted by the real product wage. £22.30 = 2021 Adjusted real wage of middle manager in 2020 prices. £16.47 = Adjusted real wage of clerical staff.

<sup>44</sup> The companies that will be caught by the new legislation are already reporting all the information on a voluntary basis (co-ordinated by their trade association UKLPG), so there will not be an additional reporting burden.

## **Provision of Daily Forecourt Wet Stock Management Data (WSMD)**

### Monetised Costs:

72. Some operating companies/suppliers/owners outsource the management of their wet stocks to third-party wet stock management companies. BEIS has already developed specific secure data feeds with these companies on a voluntary basis to supply data daily and in an emergency. As this measure is not being imposed on operators who do not have this technology installed, it is considered that downstream operators with this technology would incur negligible additional costs to meet the proposed Wet Stock Management Data (WSMD) reporting obligation, so costs have been assumed to be zero.
73. There are three main providers of wet stock management systems in the UK. Currently, two of these providers share daily anonymised feeds to BEIS, which typically covers over 50% of UK sites (4,500 out of 8,380) and over 65% of fuel throughput volumes. The remaining operator has agreed with its customers to provide data during a disruption only. Introducing this measure would reduce the risk that companies no longer supply voluntary data and increases the daily data coverage reported to BEIS. It is estimated that these measures would increase coverage to around 60-65% of retail sites and 80-85% of national throughput, which is expected to continue to increase over our appraisal period as more companies choose to install wet stock management systems.
74. Forecourt owners and operators without the wet stock monitoring technology will be exempted from the information reporting. High throughput sites in major locations will more likely have invested in wet stock management systems than more isolated or rural locations, which may lead to better coverage on trunk roads and urban areas. However, requiring all forecourt owners to provide daily WSMD would have significantly increased the costs, as each forecourt without the monitoring technology would be required to purchase it annually with a cost of around £10,000.

### **Other data provision.**

75. There are two key data provision requirements contained in this category:
- Provision 7, which relates to obtaining information from the downstream oil sector in case of an actual or threatened fuel disruption; and
  - Provision 8, which implements the Security of Network and Information System Regulations (NIS Regulations) 2018 for the oil sector which aims to achieve a high common level of network and information security across the EU<sup>45</sup>.

**Table 9: Summary of monetised costs, Monitoring Fuel Supply Resilience (£m, 2020 prices, 2021 PV)**

<b>The Preferred Option</b>	<b>Sum-Present Value (2021 – 2030) £m</b>
Monthly and Annual Surveys	0.30
Provision of Daily Forecourt Wet Stock Management Data	0.00
Familiarisation Costs	0.02
Total PV of costs	0.31
EANDCB (2021-2030) (2019 prices, 2020 PV)	< 0.05

### Monetised Costs:

76. The burden of Provision 7 will depend on the nature of the downstream oil event, which is uncertain. The time taken to comply could be substantial in absolute terms but BEIS consider that it would be negligible relative to the counterfactual, since in an actual or threatened emergency the downstream

<sup>45</sup> The UK approach to implement the NIS Directive has been prepared by the Department for Digital, Culture Media and Sport (DCMS). The final IA for the NIS directive is available at <https://www.gov.uk/government/publications/nis-regulations-impact-assessment>

oil sector would collect this information to monitor risks as part of internal business contingency planning. On this basis, it is considered that the cost to share this information with BEIS is negligible. summarises the total costs of all the data measures over the ten-year period from 2021 to 2030 are estimated at around £300k in discounted present value terms (see Table 9).

### **Benefits**

77. BEIS considers that the benefits of the provision of information regulation will arise from improving government’s capacity to identify potential supply outages, and target emergency response measures. Benefits will also arise from improving the effective enforcement of the other regulations on downstream oil resilience. For example, improved information will allow BEIS to reduce the likelihood of a disruption, and/or the volumes affected, and/or the duration of a disruption by:
- optimising the capability of the Reserve Tanker Fleet, ensuring that it is has the appropriate number of vehicles to mitigate the major risks and provides best value for money for the tax-payer;
  - identifying where infrastructure is of national or regional importance, and assess how disruption at these sites could impact security of supply – this will help government and industry design and implement more effective mitigation strategies;
  - identifying risks in advance and ensuring that government and industry can implement effective and proportionate contingency plans as early as possible.
78. BEIS considers that clearer, timely and more comprehensive information could reduce the duration of a Consumer Disruption Event in the downstream oil sector by up to one day. The disruptions to economic activities could vary significantly, and so more comprehensive information could bring benefits within a wide range
79. BEIS has considered the impacts on economic activity using the framework discussed in Section 2, which concludes that a disruption to fuel supplies could impact between a quarter (23%) and all economic activity. A reduction of one day would bring annual benefits (risk adjusted) of around £5m-£21m when compared to the baseline economic impacts set out in Table 6.
80. Costs are estimated at about £0.05m – less than 1% of the lower end of the benefits range. Even if better information reduces the duration of a disruption by a fraction of a day the benefits would be multiples of the annual costs. Given the uncertainties, BEIS has derived the low estimate as a nominal reduction of an hour and has derived the Best Estimate as a half a day impact. As the results show, even the most cautious estimate produces benefits that are multiples of the costs of the measure.

**Table 10: Illustrative reduction in cost of expected annual disruption, Monitoring Fuel Supply Resilience (£m, 2020 prices, 2021 PV)**

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>High estimate</b>	4.7	4.8	4.8	4.7	4.7	4.7	4.6	4.5	4.5	4.5
<b>Low estimate</b>	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
<b>Best estimate</b>	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.3

## 4 PROTECTING FUEL SUPPLY RESILIENCE: CONTROL TEST

### 4.1 Description of Preferred Option

81. The Control Test involves a power for government to require information from potential investors in the downstream oil sector, and to intervene for the protection of fuel supply, where operators or owners (and others with >25% control over the asset) of critical downstream oil infrastructure do not meet levels of financial soundness or operator competence. The “Control Test” would require investors to pass basic thresholds of financial soundness or operational competence before acquiring control of an asset that handles more than 500,000 tonnes of crude oil and/or oil products per year (see section 2.1 of the consultation document for a full description of this measure).

### 4.2 Rationale

82. Government aims to protect the UK’s most critical assets and services, whilst remaining open for business. Financial failure and insolvency are challenges that face the downstream oil sector. This measure seeks to protect against the risks of supply disruption that changes in ownership could cause by affecting financial or operator competence, whilst not imposing any disproportionate burden on industry.
83. The risk of insolvency in the sector is material and the UK fuel supply sector has seen a number of actual and near-miss disruptions over the past few years. An example of the risk is illustrated by the sudden 2012 insolvency of Petroplus, the owner of Coryton refinery on the Thames. Fuel suppliers can invoke force majeure contract clauses in the event of major disruptions enabling them to “walk away” from their supply obligation. Limited liability and the limited residual economic value of some older assets in the sector limits incentives to mitigate disruption, for example in scenarios when the assets will have zero value. The probabilities will be greater if key assets are owned by poorly capitalised entities at greater risk of insolvency, or if opaque financial structures make insolvency risk difficult to assess.
84. The Control Test will help BEIS to have better sight of insolvency and financial risks to operations, so that government can prepare better contingency plans, and/or potentially intervene, mitigating risks to supply. This measure would enable government to intervene for the purposes of downstream oil resilience if commercial activity (for example, change in ownership) is deemed to be against UK downstream resilience interests.

### 4.3 Costs

85. Government intends to intervene only where changes of control or ownership pose a risk to UK fuel supply resilience. This implies that there are no immediate costs on normal downstream oil sector business activities. All business impacts would be considered ahead of any interventions, and any government intervention would need to be fair, reasonable and proportionate.
86. There is uncertainty as to the full scale of the burden placed on industry from the Control Test at the primary legislative stage, because the reporting requirements will be defined in further regulation and/or guidance which is still under development. It is expected that any information required to satisfy the Control Test will have already been produced by the investor as part of their due diligence, so the direct additional burden to businesses of this measure is expected to be minimal.
87. In the Preferred Option, the scope of the Control Test has been limited to companies in the downstream oil sector that carry out an essential function, defined as a company that handles more than 500,000 tonnes of crude oil and/or oil products per year.
88. Discussions with industry during the consultation period focussed on the importance of minimising impacts on the market and the attractiveness of the sector as an investment opportunity. The information required for the Control Test will already be available to investors impacted by this measure although time may be needed to repackage this information into the format required by BEIS.
89. The calculated compliance cost uses estimates of the time taken to collect and repackage the required information, with estimates of the opportunity cost of that time, which is based on the wage

(excluding overtime) of workers of different skills/functions using data published in the Annual Survey of Hours and Earnings.<sup>46</sup> Following the consultation stage, BEIS has uplifted wage costs by 30% to bring them in line with costs provided by industry during the consultation.

**Table 11: Occupation SOC10(4) Table 14.6a – Median Hourly Pay Excluding Overtime for Full-Time Employees**

ASHE Employment Description	2018 rate (£/hr)	2018 rate with 30% uplift (£/hr)	Upated to 2020 nominal rate (£/hr)
Directors and chief executives of major organisations (code 1115)	47.80	62.14	66.67
Financial Manager/Director (code 1131)	33.17	43.12	46.26
Legal professionals (code 241)	26.04	33.85	36.32

*Monetised costs:*

90. The cost of complying with the Control Test will not place additional burden on firms operating in the downstream oil sector. Potential investors operating or looking to enter the sector would be required to adhere to the test when purchasing an asset in the sector. The cost of complying with the Control Test will therefore be made up of the cost of familiarising with the legislation and the cost of repackaging information and submitting it to BEIS.
91. BEIS has monetised the cost of meeting the Control Test by estimating the time required to familiarise and comply with the requirements. Given the uncertainty about the reporting requirements required for the Control Test at this stage, BEIS has estimated a high and low cost of compliance and has used the mid-point of the range as a best estimate.

**Table 12: Summary of Monetised costs, Control Test (£k, 2020 prices, 2021 PV, discounted)**

Option 2	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Best Estimate	11	11	10	10	10	10	10	10	10	9
High (consultants)	19	18	18	18	17	17	17	17	17	16
Low (internal)	3	3	3	3	3	3	3	3	2	2
<b>Sum-Present Value (2021 – 2030, 2020 prices, 2021 PV)</b>									<b>100</b>	
<b>EANDCB (2021-2030, 2019 prices, 2020 PV)</b>									<b>10</b>	

92. The familiarisation is assumed to take two days of a legal professional's time. Transactions of the scale required for the Control Test would be considered at senior levels within the industry. Using industry experts, it is estimated that it could take up to a maximum of five days to collate the required information, with an additional half day required for director level sign off.
93. BEIS considers that this work could also be commissioned to consultants or legal/financial advisers. It is assumed that the daily rate of up to £2,500 per day<sup>47</sup> and that the amount of time would be similar if this work was contracted out. The Best Estimate is the midpoint between the Low and the High.

<sup>46</sup> ASHE Table 14.6a

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/occupation4digitsoc2010asheta/ble14>

<sup>47</sup> 2015 wage, uplifted to 2020 using nominal wage growth data

94. To calculate the annual cost of the Control Test, BEIS has multiplied the estimated cost per case of complying with the Control Test by the average annual number of changes of ownership between 2014 and 2017 (1.25 per year).

*Non-monetised costs*

95. There are several wider costs that BEIS could not monetise at this stage. Given the significant uncertainties in Control Test requirements at this stage, BEIS has only been able to do an initial assessment of some theoretical impacts on market competition that could arise from applying the Control Test (see section 6.7).

#### **4.4 Benefits**

96. The benefits of this measure have not been quantified due to uncertainty about impact on fuel supply resilience. However, reducing the probability of sudden closure of key downstream oil infrastructure due to financial risk will reduce the risk of oil supply disruption. The wider sector will also benefit from increased assurance of the financial and operational capability of key infrastructure, resulting in greater confidence in the stability of the supply chain.

## 5 INSURING FUEL SUPPLY RESILIENCE: RESILIENCE DIRECTION

### 5.1 Description of Preferred Option

97. The Resilience Direction is a backstop measure that gives BEIS the power to direct downstream oil sector companies to achieve an outcome or take specific action to bring risks to fuel supply to acceptable levels. The use of the Resilience Direction would be specific to fuel supply resilience, and government intervention would need to be fair, reasonable and proportionate.
98. As previously noted, the Government Spending power would come into place only under certain conditions, for example in conjunction with issuing a Resilience Direction and is therefore not assessed separately.

### 5.2 Rationale

99. The Resilience Direction power would provide government with the tools to address the market failures in the sector identified in this IA, which are a serious concern given the scale of the potential impact on the economy. This measure is designed as a backstop power to address extreme circumstances.

### 5.3 Costs

100. The nature of the Resilience Direction brings uncertainties around its costs. BEIS expects a limited use of the power, given the backstop nature and the lack of government intention to use it immediately. If the government intends to use the power, it has to demonstrate that any Resilience Direction is fair, reasonable, proportionate, and does not result in undue impacts to market competition. These requirements limit the potential impact of the Resilience Direction. Government may put more reliance on using the proposed power to provide financial assistance to the downstream oil sector to ensure resilience measures are implemented. Any Resilience Direction will also be case specific and it is therefore difficult to determine an average annual cost.
101. Due to the considerable uncertainties, BEIS has not quantified costs for this element of the proposals in this IA and, instead, has provided two illustrative examples (not included in the overall NPV) to show the magnitude of potential interventions. These examples were developed from discussions with industry during the consultation workshops.

#### *Additional Jet Fuel Loading Rack*

102. Scotland has one major jet fuel supply point which has sufficient capacity to meet demand. Supply from (smaller) alternatives are less commercially viable, therefore over time these facilities have been rationalised as jet fuel facilities have been taken out of service. It is possible that further rationalisation or risks to fuel supply could lead government to consider working with industry to build resilience at alternative supply points. The costs would not be prohibitive (£50,000 to £100,000) but would not offer sufficient commercial return as they would be unlikely to offer lower cost supply than the incumbent supply point.

#### *Pipeline Interconnection*

103. In the UK, there are several examples of where pipelines run close to terminals, but no connection exists to allow the terminal to be supplied from the pipeline. Most often this is due to the owners of the pipeline not having any ownership interest in the terminal or the terminal having the ability to receive supply from another pipeline that the terminal owner has equity in. In these cases, there is limited commercial drive to install a new pipeline connection, as the pipeline owner may prefer to sell product to their own terminal rather than one belonging to a competitor. However, if supply from the one pipeline was disrupted, or rack capacity (the ability to load fuel into tankers for distribution) at a terminal lost, it would increase resilience to have the additional flexibility to supply between the different pipelines and terminals. The cost for these connections will vary depending on how close the pipelines are to the terminals and the pipeline receipt infrastructure already in situ. Given this

range of uncertainty, costs could range from as low as £50,000 but could also be as high as £1,000,000 per connection.

## **5.4 Benefits**

104. The Resilience Direction would only be used if it is deemed necessary and proportionate. The use of this power will be as a last resort and consideration would be given to the value for money case. Benefits in the form of increased resilience in the sector would be considered against the costs of the direction, and the outcome of this assessment would form part of the decision to issue the direction.
105. In general, the downstream oil sector will benefit from increased resilience in a number of ways such as, but not limited to: reduced risk of incurring unexpected and significant costs from responding to disruption, reduced risk of failure to fulfil supply contracts, greater public confidence in the sector, and reduced risk of panic buying leading to surges in demand.



## 6 SUMMARY OF ANALYSIS AND SPECIFIC TESTS

### 6.1 Summary of Costs and Benefits

106. BEIS has assessed the Preferred Option detailing as much as possible the costs and benefits of each measure. The level of analysis provided for each measure is outlined in the Table below.

**Table 13: Summary of costs and benefits of the Preferred Option (£m, 2020 Prices, 2021 PV, discounted, appraisal horizon 2021-2030)**

	THE PREFERRED OPTION			
	Level of analysis	Familiarisation costs	Total costs (incl. familiarisation) to industry	Benefits to society
Information and data reporting	The costs have been monetised, and a range of benefits have been estimated from the conservative end of the range	0.02	0.3	23.3
Resilience Direction	It is not possible at this stage for the IA to monetise the costs and benefits because this is a backstop power with government having no immediate intention for use. However, an illustrative example has been provided.	Not estimated	Not estimated	Not estimated
Control Test	The costs of supplying information for the Control Tests have been monetised. Wider costs on competition and the benefits of the Control Test have not been monetised.	£0.01m	£0.03m to £0.17m	Not estimated
Total cost/benefit	Low	0.02	0.3	1.9
	Central	0.02	0.4	23.3
	High	0.02	0.5	46.6
Net Benefit (NPV)	<b>Low</b>			<b>1.5</b>
	<b>Central</b>			<b>22.9</b>
	<b>High</b>			<b>46.3</b>

#### ***Non-Monetised Costs***

107. BEIS has provided some illustrative examples of the potential costs of the Resilience Direction, which are not included in the final NPV because the measure is intended as a backstop measure, with no immediate intent to use. BEIS has monetised the costs to business of the Control Test but has not monetised the wider impacts on competition, due to lack of access to an appropriate evidence base. However, the policy has been designed to minimise costs to the industry.

#### ***Non-Monetised Benefits:***

108. Reflecting the approach to assessing costs, it has not been possible to quantify all the potential benefits of the new powers. For example, increased public confidence in national fuel supply resilience may reduce the risk of panic buying during an incident but this has not explicitly been monetised.

## 6.2 Businesses Directly Impacted (following BIT methodology)

109. The Preferred Option will generate direct costs and benefits for businesses in the downstream oil sector. Each regulatory proposal in the Preferred Option impacts a different range of operators, depending on the size and on the activity undertaken. The businesses impacted directly by the information and data reporting proposal include: refiners, importers/wholesalers, commercial resellers, firms supplying/distributing/retailing LPG, import terminals, inland terminals, regional depots, pipeline operators, airports, hauliers and port authorities.

### ***Direct costs***

110. The costs of information and data reporting have been estimated using the standard methodology used across government to estimate compliance costs. The compliance cost estimates account for the time taken to complete surveys and for the opportunity cost of that time, which is based on the wage (excluding overtime) and non-wage cost of workers of different skills/functions.
111. The costs of complying with the Control Test requirements are based on the estimated compliance costs of this measure. The calculated compliance costs combine estimates of the time taken to repackage existing information into a suitable format for government with the estimates of the opportunity cost of that time and the number of ownership changes per year. This is based on the wage (excluding overtime) and non-wage cost of workers of different skills/functions and the cost of contracting out the task.

### ***Direct benefits***

112. The policy will produce direct benefits to businesses in the downstream oil sector in terms of continued sales which would otherwise have been lost by a disruption, these have not been calculated directly with the principal benefits given in terms of the indirect effect on businesses who directly or indirectly rely on fuel supply.

## 6.3 EANDCB position

113. The total direct impacts for businesses are estimated using the Equivalent Annual Net Direct Costs to Business (EANDCB) calculation methodology. The calculations are based on deflated prices for 2019 and on a present value for 2020, to account for the deregulatory targets of the government. For this policy the EANDCB is calculated using the appraised direct costs and benefits over ten years. A breakdown of the EANDCB is provided in Box 1 below.

### **Box 1: Equivalent Annual Net Direct Costs on Business (2019 prices, 2020 NPV) (£m)**

	<b>Costs</b>	<b>Benefits</b>	<b>Net:</b>
	<b>0.05</b>	<b>0</b>	<b>-0.05</b>
Of which costs of data and information reporting	<i>0.04</i>		
Of which costs of Control Test	<i>0.01</i>		

## 6.4 Contribution Towards Deregulatory Targets

114. The policy is a domestic regulatory provision and as such the EANDCB will count towards the Business Impact Target (BIT), the deregulatory commitment of the government. The current estimate of the EANDCB results in a £0.23m contribution against the BIT.

## 6.5 Small and Micro Business Assessment

115. BEIS expects that only the provision of information measure of the Bill will impact some Small and Micro Businesses. The Control Test will apply only to companies handling more than 500,000 tons of fuel, and BEIS considers that this is above the handling volume of any Small and Micro business. If including Small and Micro businesses would be necessary for resilience purposes, a direction to lower or eliminate the threshold could be done only through further regulation.

### ***Information and data reporting for Small and Micro businesses***

116. BEIS expects Small and Micro businesses will be largely exempted from the costs of the surveys, as regulations will apply only to businesses that supply at least 50,000 tonnes of product per year. The regulation also exempts forecourts that do not have wet stock monitoring capability already installed.

**Table 14: Number of Small and Micro businesses obligated in the Preferred Option**

<i>Note – Figures rounded to the nearest 10</i>	<b>Estimated Number of micro businesses (up to 10 FTE)</b>	<b>Estimated Number of small businesses (up to 49 FTE)</b>	<b>Total Number of businesses to be surveyed</b>
<b>Supply Companies</b>			
Refiners	0	0	<10
Importers / Wholesalers	0	0	<30
LPG Suppliers	<10	<20	<30
Commercial Suppliers	<5	<10	<40
<b>Infrastructure Operators</b>			
Refineries	0	0	<10
Import Terminals	<5	<5	<40
Inland Terminals	0	0	<20
Pipeline Operators	0	<5	<10
Airports	0	0	<30
Hauliers	0	<10	<20
Forecourt Operators	Unknown	Unknown	Unknown

117. The Companies Act 2006 defines a Small and Micro business according to turnover and balance sheet total. Using either of these definitions based on turnover may mean that some companies, particularly infrastructure operators which handle substantial volumes of oil product, would no longer be exempted. However, BEIS considers that the volume of supply handled is a more effective criteria to set the threshold to exempt Small and Micro businesses in a way compatible with the aims of the regulation.
118. BEIS has estimated the number of Small and Micro businesses (defined by employment levels) that handle more than 50,000 tonnes of oil products and will be included in the information and data

reporting measures<sup>48</sup> (see Table 14). This shows that a significant proportion of suppliers of LPG and commercial suppliers have employment levels that classify them as Small or Micro businesses but would be required to meet the reporting commitments.

119. In order to achieve a large part of the aims of the legislation BEIS considers necessary including in the scope of the Bill Small and Micro Businesses that handle more than 50,000 tonnes of product per year. The threshold is designed to capture most fuel supplies in terms of volume in order to monitor fuel resilience consistently across the country. For example, LPG suppliers deliver to remote, off-grid locations, meaning that local and vulnerable populations are reliant on these companies for fuel supplies, and tracking supply information will be essential for improving resilience. BEIS assesses that the frequency and type of data provision requirements makes costs proportionate across businesses.
120. Based on analysis of the number of employees, it is estimated that about 1% of the total annual cost of data collection would be borne by Micro businesses and about 10-15% by Small businesses. Over the appraisal period (2021 to 2030) the total sum of the present value of these costs to Small and Micro businesses is £0.04m.

## 6.6 Distributional Impacts

121. In the Preferred Option the costs of improving fuel supply resilience fall directly on the downstream oil industry but will likely ultimately be paid for by consumers of oil products rather than taxpayers in general. This is in line with the principle that the costs of improving resilience are born by those who consume most fuel.
122. BEIS has considered how this proposal impacts household expenditure on petrol, diesel, and other motor oils as a percentage of total household expenditure. Only households in the bottom percentile of the population spend a markedly higher percentage of their total expenditure on motor oils compared to the national average (see Table 15). However, given the small cost of the preferred option, it is unlikely that any significant impact will arise from the measures proposed.

**Table 15: Petrol, diesel and other motor oils as % of Total Household Expenditure<sup>49</sup>**

All Households	Lowest ten per cent	2 <sup>nd</sup> Decile Group	3 <sup>rd</sup> Decile Group	4 <sup>th</sup> Decile Group	5 <sup>th</sup> Decile Group	6 <sup>th</sup> Decile Group	7 <sup>th</sup> Decile Group	8 <sup>th</sup> Decile Group	9 <sup>th</sup> Decile Group	Highest ten per cent
4.6%	6.1%	5.0%	4.6%	4.8%	4.4%	4.4%	4.4%	4.4%	4.6%	3.3%

## 6.7 Competition Impacts

123. The government is committed to ensuring that the regulatory measures outlined in this IA do not have any disproportionate impacts on competition. Where BEIS anticipates any material impacts, the government would engage closely with stakeholders at the secondary legislative stage and assess in detail if any costs are justified by the need to achieve the fuel resilience goals.
124. The precise impact on competition of the measures is still uncertain because many of the details will be defined in secondary legislation. Using the available evidence, we have completed an initial assessment of each measure:
  - **Monitor:** BEIS have tailored the frequency and depth of the surveys to the type of information and operator, so that no unnecessary information is requested from firms. BEIS is also excluding small and micro businesses to avoid the risk of imposing extra burden on them, unless data provision is material to monitor fuel supply resilience. Additionally, the government has removed the burden for companies to provide wet stock management data if operators do not currently have the technology installed. To avoid the risk of anti-

<sup>48</sup> 1. Data is taken from the FAME database of UK and Irish financial company information and business intelligence provided by Bureau Van Dijk. There are companies where information on the number of personnel employed was not available in the FAME database, for these companies an estimate has been provided.

<sup>49</sup>Source: ONS

competitive behaviours, information collected by government will be held securely and used only for monitoring fuel supply resilience.

- **Protect:** The Control Test has been designed with the industry to minimise market impacts and the attractiveness of the sector as an investment opportunity. BEIS expects that the information required for the Control Test will be available to investors covered by this measure, limiting the direct impact largely to the time to repackage the information into the format required by BEIS. There may be some competition impacts if an investor fails the Control Test, as they could not acquire the downstream asset they targeted. With a potentially restricted pool of eligible buyers, in theory the sale price of a downstream oil asset could be lower than a scenario without a Control Test. However, what is proposed are objective tests that will help protect against changes of ownership that pose a risk to UK fuel supply resilience. The guidance setting out the detail of these tests will be subject to consultation and this will give the Competition and Markets Authority an opportunity to raise any competition concerns before the scheme is implemented.
- **Insure:** If the government intends to issue a Resilience Direction, it must demonstrate that any Direction is fair, reasonable, proportionate, and does not result in undue market competition impacts. These requirements limit the potential impact of the Direction, even where there is a strong value for money case to reduce the risk of fuel supply disruption.

## 6.8 Judicial Impacts

125. BEIS does not expect that the Preferred Option will generate legal challenge in response to any of the proposed measures. The Resilience Direction measure would be the most likely to generate legal challenge, but any proposed interventions using this power would need to be fair, reasonable and proportionate (see Paragraph 104) and BEIS expects that this requirement minimises the risk of legal challenge.
126. With respect to the impact of criminal and civil penalties, BEIS expects that the number of cases per year would be less than 1 case in every 10 years. This is based on experience in i.) collecting data, ii.) directing companies and iii.) the culture in the sector.
127. BEIS assesses that Information on commercial activities in the energy sector has been collected and published without significant issue for over sixty years. There is no record of significant non-compliance with the reporting regime. The government enjoys close working relationship with industry and fora exist in which developments to data collection are discussed.
128. BEIS has also considered that the powers proposed to direct companies working in the oil sector are similar to those used in the UK's Compulsory Oil Stocking (CSO) regime<sup>50</sup>. The CSO policy has been in operation for over forty years and there has not been a court led enforcement action to date. The administration and enforcement provisions allow for official led informal action to resolve issues before a legislative route is pursued. BEIS also notes that no cases have been brought to court under the Offshore Safety Act of 1992, which again directs companies in this sector to behave in certain ways.
129. Finally, BEIS considers that the sector inclines towards compliance. The principal desire is that regulatory obligations apply equally across all companies and that sanctions exist should one company attempt to obtain a commercial advantage through non-compliance. Sector companies have responded well to these proposals, with no indication yet of these measures being significantly controversial
130. Given the internal review process, BEIS considers the likelihood of cases reaching the courts is negligible. Experience shows that reputation is important to sector operators and should be sufficient to ensure compliance or limit the very majority of disputes to Crown Courts.

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<sup>50</sup> The government obligates companies to hold over 10 million tonnes of oil for resilience purposes and this places considerable costs on companies.