Chemical Industries Association

BREXIT: The UK Chemical Industry Response

Results of the CIA member survey on Brexit
# Table of Contents

1. Introduction .......................................................................................................................... 3
2. Chemical Industries Association .......................................................................................... 4
3. CIA Brexit manifesto ............................................................................................................. 5
4. CIA Brexit survey results .................................................................................................... 6
   Key points .......................................................................................................................... 6
   CIA Brexit survey overview ............................................................................................. 6
   Survey details ..................................................................................................................... 6
   Sector representation ....................................................................................................... 6
4.1 Trade ............................................................................................................................... 8
   Impact of tariffs on exports from the UK to the rest of the European Union ................. 8
   The sourcing of raw material for UK chemical and pharmaceutical manufacturing ...... 9
   Impact of tariffs on imports and non-tariff barriers ......................................................... 11
   Overall impact of import and export tariffs and non-tariff barriers ............................. 11
4.2 Skills and Free Movement .............................................................................................. 12
   Employment ...................................................................................................................... 12
4.3 Energy ............................................................................................................................ 14
   The Single EU energy market ......................................................................................... 14
   EU Emissions Trading Scheme (EU ETS) ...................................................................... 14
4.4 Innovation ....................................................................................................................... 16
   R&D spending .................................................................................................................. 16
   EU funding ....................................................................................................................... 16
   UK government policies to increase R&D spending ..................................................... 17
4.5 Brexit opportunities ....................................................................................................... 18
5. CIA Brexit conference audience survey .......................................................................... 19
   Overview ......................................................................................................................... 19
   Results ............................................................................................................................... 19
6. CIA Quarterly Business survey ......................................................................................... 21
   Overview ......................................................................................................................... 21
   Results from Brexit questions ......................................................................................... 21
   How did the outlook of business change since the initial reaction to the vote in July? .... 21
   In addition what you told us in July what are your main concerns in the next twelve months and beyond? ................................................................................................. 21
   Brexit opportunities in next twelve months and beyond .............................................. 21
1. Introduction

The UK voted to leave the European Union on 23 June. This was a decision at odds with the opinion of the UK chemical industry, which, through a pre-referendum CIA survey had registered a 0% appetite for leaving the EU (with 70% voting to stay and the remaining 30% either not willing or able to offer a view). Nevertheless, one week after the vote, the CIA Council took the decision to write to all the then Prime Ministerial candidates (including Theresa May), highlighting the significance of the UK chemicals sector to the UK economy, the importance of single market access, the availability of a skilled workforce and secure and competitive energy as key BREXIT priorities and the willingness of the industry to engage with government in delivering the best possible outcome for the sector and the country.

Since June, CIA and its membership have continued to play a proactive part in ensuring that the commercial interests of one of the country’s key manufacturing export earners are effectively represented across government. September saw the publication of a CIA Brexit manifesto, providing further detail on the industry’s priorities. This manifesto was reinforced by a detailed survey of members, aiming to identify the key concerns and opportunities potentially arising from BREXIT, specifically in the areas of trade, skills, energy, innovation and regulation. In addition, a major conference was held in November, further highlighting the challenge and opportunity for the country and the sector.

All of this activity has, in turn, been increasingly underpinned by engagement with the key officials and ministerial teams from the relevant government departments – BEIS, DIT and DExEU – as well as the Prime Minister’s Business Relations team and evidence sessions with the House of Lords Select Committee on the European Union External Affairs Sub-Committee and the House of Lords Select Committee on the European Union EU Energy and Environment Sub-Committee.

This document now seeks to summarise the CIA activity since the June vote, with specific reference to:

- Brexit Manifesto (Sept ’16)
- Brexit Survey Results (Oct/Nov ’16)
- Brexit Conference Opinion (Nov ’16)
- Quarterly Business Survey (Oct ’16)

Further work is also being currently undertaken with regard to the Brexit impact and opportunity in the regulatory field, with specific reference to energy and EU ETS; REACH and the Industrial Emissions Directive (IED). This will be shared with CIA members and all relevant stakeholders in the coming weeks.
2. Chemical Industries Association

The Chemical Industries Association is the organisation that represents chemical and pharmaceutical businesses throughout the UK. Our membership includes multinationals such as Ineos, BP, Croda International and GlaxoSmithKline plus many other companies of all sizes including SMEs.

Our industry underpins UK manufacturing supply chains, by providing chemical materials, and products to a range of sectors such as aerospace, automotive, construction, and final consumers. The sector is diverse, our outputs include: basic chemicals and materials such as chlorine, fertilisers and plastics, and chemical products including pharmaceuticals, agrochemical, personal care, paints and coatings, adhesives and catalysts.

- Further characteristics of the industry and its economic contribution are: The industry contributes £15bn annually to the UK economy.
- We are a leading manufacturing exporter generating a trade surplus of £3 billion a year
- We are science based and research and capital intensive with an annual R&D spend of around £5 billion (23% of the UK total) and capital spending of £4 billion p.a.
- We provide employment for around 500,000 people (direct plus indirect jobs).
- Our jobs pay 30% more than the manufacturing average (often in economically challenged parts of the country).
- 60% of exports to the EU and 75% of imports from the EU, including many key raw materials
- The industry’s biggest customer is itself, with complex value chains that not only create local interdependencies but can also cross EU borders many times.
- With 70% of businesses headquartered from outside the UK, investment funds are internationally mobile and members compete with alternative global production locations. The chemical industry is the largest energy consuming industrial sub-sector. Our energy intensity means that energy related costs are critical to our international competitiveness. The sector reduced its energy consumption per unit of output by 35% between 1990 and 2010 and is targeting a further 11% improvement by 2020.
- In addition, for every tonne of GHG emitted by the chemical industry its products and technologies enable over 2 tonnes of GHG emissions savings whether in the household, transport, energy or agricultural sectors. For example: in lighter car parts, fuel cells and insulation for houses. See our low carbon brochure
- Our industry was a sector that registered 0% appetite for leaving the EU
3. CIA Brexit manifesto

The CIA Brexit Manifesto sets out proposals for how we can play our part in sustaining and enhancing the UK as a location for chemical investment so we can continue helping combat 21st century environmental global challenges and provide much needed employment in areas of the country that need it.

Over 40 years of EU law has now been dovetailed into the UK’s legal framework. For a heavily regulated industry such as chemicals, the impact of this is another important aspect for our sector. The government has announced it will repeal the European Communities Act and transfer the body of existing EU law into UK law, with decisions to be addressed in the future about which legislation will remain and which should be repealed or amended. This provides opportunities as well as challenges. CIA is already working with regulators and with Government on all relevant aspects of this, including for example REACH, EU Emissions Trading Scheme and the Industrial Emissions Directive. In the near future, following further consultation with our member companies, we will publish more details on our proposals.

Every successful economy has a strong manufacturing base, with a chemical sector at its heart. In leaving the European Union we would stress four key priorities that must be secured to ensure that success:

1. Tariff-free access to the single market
2. The availability of skilled people
3. The supply of competitive and secure energy
4. A risk-based policy framework that encourages scientific progress that will lead to sustainable growth

The full document can be viewed or downloaded here: http://www.cia.org.uk/Portals/0/Documents/2016/Exiting%20the%20EU_27.pdf
4. CIA Brexit survey results

Key points
1. The impact of tariffs on UK-EU exports and imports will be significant and in some cases would lead to a reduction in UK manufacturing activity.
2. Impacts will be larger if non-tariff costs are also included.
3. Access to skills from non-UK EU citizens are important, particularly in specialist science-type roles.
4. Maintaining access to the European energy market is important, as is finding an effective but lower cost alternative to the EU ETS scheme.
5. Brexit will impact on R&D spending but government policies can help to reduce the impact through fiscal incentives.

CIA Brexit survey overview

Survey details
The CIA Brexit survey was run from 5 October 2016 to 30 November 2016 and collected detailed responses from CIA member companies representing the entire breadth of the chemical sector from petrochemicals and basic inorganics to speciality and fine chemicals to pharmaceuticals. The survey included companies from the very large to SMEs and both UK and foreign headquartered companies.

The survey covered questions on trade, skills and access to talent, energy, innovation and opportunities from Brexit.

Sector representation
In total 35 companies responded, with export sales of £5.6 billion to the rest of the European Union and employing around 32,700 workers in manufacturing or related activities.

In terms of the sector as a whole:

1. Survey respondents’ UK workforce represents around 24% of the total chemical and pharmaceutical manufacturing jobs in 2015 of 134,000.
2. The value of export sales to the European Union of survey respondents represents around 42% of the total export sales to the European Union in 2015 by UK chemical and pharmaceutical manufacturers of £13.3bn, assuming that 60% of chemical and pharmaceutical goods manufactured in the UK are exported the European Union.

Sections 1-5 set out the survey results.
Q4: What is the annual £ value of your sales to the European Union, excluding the UK hereafter referred to as the EU27?

<table>
<thead>
<tr>
<th>Responses</th>
<th>Total EU sales (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Chemical and Pharmaceutical Manufacturers</td>
<td>33</td>
</tr>
</tbody>
</table>

Q11: How many people do you employ in the UK?

<table>
<thead>
<tr>
<th>Responses</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Chemical and Pharmaceutical Manufacturers</td>
<td>35</td>
</tr>
</tbody>
</table>
4.1 Trade

Impact of tariffs on exports from the UK to the rest of the European Union

Around 70% of current UK-manufactured chemical (including pharmaceutical) exports from the UK to the rest of the European Union are likely to attract a tariff. Most chemical products tend to attract a tariff whereas relatively few products produced by pharmaceutical manufacturers are likely to attract a tariff. Therefore, chemical manufacturers will face a much higher potential cost under such a scenario.

Q3: What % of the products (by value) you sell into the EU27 would be subject to a tariff under this scenario?

<table>
<thead>
<tr>
<th>Chemical and pharmaceutical manufacturing</th>
<th>Responses</th>
<th>% of exports to EU that will attract a tariff</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>69%</td>
<td></td>
</tr>
</tbody>
</table>

The cost to UK chemical and pharmaceutical manufacturers could be in excess of £350 million. This is based on assuming a tariff rate of 6%, costs are fully absorbed by the seller and the final price of the product and hence demand remains the same.

A significant re-export sector exists where UK-based chemical and pharmaceutical manufacturers and distributors buy in chemicals and pharmaceutical products from the UK and rest of the world and sell these into the European Union. This trade will be affected by the introduction of tariffs and based on the same assumptions as above the additional cost could be in excess of £250 million. This additional cost to chemical and pharmaceutical distribution is likely to see some of these activities shifted to other countries within the EU.

Given the large potential financial impact of tariffs alone it is not surprising that 81% of companies believe that additional costs such as tariff costs and non-tariff costs would have a significant impact on their business. It is also worth noting that this is a diverse sector and that where some see little impact, others will see a very large impact; several respondents have provided estimates of potential tariff costs in excess of £10 million.

Q5: What would be the impact on your sales to Europe if the EU third country tariffs were applied to your products? Please also add any impacts from possible non-tariff barriers such as increased customs

<table>
<thead>
<tr>
<th>Chemical and pharmaceutical manufacturing</th>
<th>Responses</th>
<th>Minimal impact</th>
<th>Significant impact</th>
<th>Potential reduction or closure of UK Manufacturing (Sample unweighted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>19%</td>
<td>81%</td>
<td>16%</td>
<td></td>
</tr>
</tbody>
</table>

16% of companies sampled, representing around 12% of the sector by EU export sales value, expect that such additional costs could lead to a reduction in or a complete cessation of their UK
manufacturing activities. As a key foundation industry, this will have repercussions not just for UK industry but also for R&D activities carried out in the UK, as R&D is closely linked to manufacturing activity.

Non-tariff issues mentioned by survey respondents

- Time critical nature of customer supply chains
- The administrative burden of customs documentation
- Additional staff to deal with documentation and customers
- Lack of customs infrastructure at ports
- Additional staff to deal with documentation and customers
- Potential cash flow problems due to the outlay needed for VAT payments and cumbersome procedures for reclaiming VAT from some Member States.
- Loss of access to EU free trade agreements with third countries

The sourcing of raw material for UK chemical and pharmaceutical manufacturing

Around 80% of the raw materials used in production are sourced from either the UK or the rest of the EU, with slightly over half of these raw materials sourced in the UK.

We define raw materials here as any input in production, including, for example, intermediate or fine chemicals that may have already undergone a number of production stages. This means that the data presented in the table below is a measure of gross material flows rather than net material flows, with the highly integrated nature of European and global supply chains meaning that a raw material may have undergone a number of production stages in as many countries as there are production stages. Therefore, the figures should be considered a gross measure of import dependency.

<table>
<thead>
<tr>
<th>Q6: Where do you source the raw materials used in your UK manufacturing activities?</th>
<th>% from the United Kingdom</th>
<th>% from the rest of the European Union</th>
<th>% from other non-EU European nations</th>
<th>% from the United States</th>
<th>% from the rest of the World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>41%</td>
<td>35%</td>
<td>3%</td>
<td>5%</td>
<td>15%</td>
</tr>
<tr>
<td>Median</td>
<td>39%</td>
<td>37%</td>
<td>0%</td>
<td>1%</td>
<td>4%</td>
</tr>
<tr>
<td>Responses</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>
Survey responses show that 72% of the raw materials sourced by UK chemical and pharmaceutical manufacturers from the rest of the European Union would attract a tariff if the UK left the EU Customs Union without a free trade agreement (FTA) in place. This proportion increases to over 80% when the sample is weighted by export sales to the EU. Pharmaceutical products are not normally subject to tariffs but many of the raw materials used in pharmaceutical manufacturing like solvents and fine chemicals are likely to attract a tariff, adding additional cost to UK pharmaceutical manufacturing.

Q7: What % of the raw materials (by value) you source from the EU27 would be subject to a tariff if the UK left the EU Customs Union?

<table>
<thead>
<tr>
<th>Responses</th>
<th>% of imported raw materials from the EU that would attract a tariff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical and pharmaceutical manufacturing</td>
<td>29</td>
</tr>
</tbody>
</table>

56% of respondents to the survey reported that they would be able to source raw materials from countries outside the European Union like those in the Middle East, Asia and North America if tariffs on these raw materials were introduced. However, alternative sources would likely be more costly than the duty free EU-sourced raw materials due to additional transport costs and possible tariffs where no FTAs were in place.

Q8: Could the raw materials sourced from the EU27 be sourced elsewhere if tariffs were applied to imports into the UK from the European Union?

<table>
<thead>
<tr>
<th>Responses</th>
<th>Yes</th>
<th>No</th>
<th>Don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical and pharmaceutical manufacturing</td>
<td>32</td>
<td>56%</td>
<td>25%</td>
</tr>
</tbody>
</table>

25% of respondents to the survey reported that they would not be able to find alternative sources and would therefore have to incur the full cost of any tariffs.

Issues related to raw material sourcing:

- Many respondents commented on the additional costs of not sourcing from the cheapest suppliers.
- A small number of companies indicated that some raw materials could be sourced from UK.
- There is a concern around the ability of local ports to handle transatlantic freight should it become too costly to use continental ports as is the current practice.
- Some bespoke plant and capital equipment may not be available outside the EU.
Impact of tariffs on imports and non-tariff barriers
In almost all cases the impact would be significant and in some cases very significant with import tariff costs in several cases exceeding £10 million. High exposure to EU markets and business models of importing/exporting through linked companies would have a negative impact on the UK business. European HQs could decide to onshore some or all manufacturing to the European mainland to avoid higher costs and bureaucracy at customs.

Q9: What could be the impact on your business of import tariffs? Please include the additional costs from the possibility of sourcing raw materials from non-EU27 sources and any impacts from possible non-tariff barriers such as increased customs procedures.

<table>
<thead>
<tr>
<th>Chemical and pharmaceutical manufacturing</th>
<th>Responses</th>
<th>Minimal impact</th>
<th>Significant impact</th>
<th>Potential reduction or closure of UK Manufacturing (Sample unweighted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>13%</td>
<td>87%</td>
<td>13%</td>
<td></td>
</tr>
</tbody>
</table>

Overall impact of import and export tariffs and non-tariff barriers
The response to this overall impact question was very similar to the previous questions as most businesses are highly reliant on the import of raw materials from the EU and the export of goods to the EU. Around 17% of survey respondents would expect to close some or all of their UK production under such a scenario as the additional costs would make some or all their products uncompetitive.

A very small number expect minimal impact with import tariffs, which reduce imports, going someway to help those with a larger focus on the domestic UK market.
4.2  Skills and Free Movement

Employment
Respondents to the survey employ around 32,700 workers in manufacturing or related activities. This represents close to a quarter of the total number of jobs in the chemical sector of 134,000 in 2015.

<table>
<thead>
<tr>
<th>Q11: How many people do you employ in the UK?</th>
<th>Responses</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Chemical and Pharmaceutical Manufacturers</td>
<td>35</td>
<td>32,708</td>
</tr>
</tbody>
</table>

Respondents to the survey employed around 800 non-UK born EU workers, which represent around 5% of the total workforce in the businesses who responded to this question.

<table>
<thead>
<tr>
<th>Q12: How many (or approximately) non-UK born EU workers do you employ?</th>
<th>Responses</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Chemical and Pharmaceutical Manufacturers</td>
<td>32</td>
<td>813</td>
</tr>
</tbody>
</table>

The largest proportion of non-UK born EU workers is in specialist science type roles followed by the contractor workforce and small percentage of the main non-specialist workforce. Please be wary of using the average as a small number of respondents reported very high proportions of non-UK born EU workers, particularly in specialist science type roles, which pushes up the average and makes it less representative of the sector as a whole.

<table>
<thead>
<tr>
<th>Q13: What percentage of your workforce are non-UK born EU workers?</th>
<th>% of specialist science-type roles</th>
<th>% of main non-specialist workforce</th>
<th>% of contractor workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Max</td>
<td>100%</td>
<td>30%</td>
<td>35%</td>
</tr>
<tr>
<td>Median</td>
<td>2%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Average</td>
<td>20%</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>Count</td>
<td>27</td>
<td>26</td>
<td>19</td>
</tr>
</tbody>
</table>

60% of respondents believed that recruiting replacements, should non-UK born EU workers leave, would be challenging or extremely difficult.
Q14: In the event of non-UK born EU workers deciding to leave the UK would you say recruiting replacements would be?

<table>
<thead>
<tr>
<th>Chemical and pharmaceutical manufacturing</th>
<th>Responses</th>
<th>Easy</th>
<th>Challenging</th>
<th>Difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>35</td>
<td>40%</td>
<td>51%</td>
<td>9%</td>
</tr>
</tbody>
</table>

The majority of companies believed that a lack of ability to recruit from abroad would harm their business moderately (51%) or significantly (14%).

Q15: Looking at future workforce projections to what extent would not being able to recruit from abroad harm your business?

<table>
<thead>
<tr>
<th>Chemical and pharmaceutical manufacturing</th>
<th>Responses</th>
<th>Not at all</th>
<th>Moderately</th>
<th>Significantly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>35</td>
<td>34%</td>
<td>51%</td>
<td>14%</td>
</tr>
</tbody>
</table>

13
4.3 Energy

The Single EU energy market
91% of respondents stated that continued free and fair access to the EU energy market was important or very important as the intensive use of energy as fuel and/or feedstock (raw materials) means that their processes are all energy dependent to differing degrees.

Members highlighted that the UK is highly dependent on gas and electricity imports. In the case of electricity imports are low but our system operates on a tight generation margin so interconnection is critical. Integration delivers wide benefits including a diverse, secure supply of energy, with access to sustainable, shale and other non-convention supplies. Moreover it is felt that integration to the EU also enables interconnection to non-member states’ networks and supplies. This provides a check and balance on both UK specific and EU energy and climate change policies and costs.

In order to remain competitive and avoid higher energy costs that might otherwise result from tariffs on imports and reduced liquidity, there was a clear desire to remain part of a physically and commercially integrated EU energy market.

Of those who felt integration wasn’t very important, energy costs were less material and concerns were expressed over the effectiveness of the EU Emissions Trading Scheme noting that interconnected energy would continue to flow if it remained commercially viable.

<table>
<thead>
<tr>
<th>Q16: How important is continued free and fair access to / integration with the single EU energy market?</th>
<th>Responses</th>
<th>Very important</th>
<th>Important</th>
<th>Not very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical and pharmaceutical manufacturing</td>
<td>34</td>
<td>53%</td>
<td>38%</td>
<td>9%</td>
</tr>
</tbody>
</table>

EU Emissions Trading Scheme (EU ETS)
Of the 30 respondents, 22 are regulated by the EU Emissions Trading Scheme. 73% of these respondents considered continued participation in the scheme to be an important or very important issue but for different reasons.

Over two thirds (68%) of those regulated by EU ETS were concerned about the potential competitiveness impacts from proposals for Phase 4 of EU ETS. They commented that:

- Continued participation in EU ETS should depend on whether the UK could develop an alternative (a linked trading scheme or other alternative) with lower costs.

- Other key benefits of any alternative should include included the ability of the UK to determine its design, and for the scheme to take account of thermodynamic limits on efficiency potential to minimise competitiveness impacts.
• An alternative scheme should also be based on a consistent long term policy to provide the certainty need to make investment decisions.

• A quarter of those open to EU ETS alternatives saw this being a trading scheme which is linked to EU ETS and/or other schemes to ensure as much liquidity as possible.

Conversely 27% of those regulated by EU ETS saw continued participation in the scheme as preferable. The drivers for this included the wish to maintain a level playing field with EU competitors and to be in the most effective and liquid scheme. Other factors included the wish to avoid the loss of sunk costs. One respondent saw the value of a lower cost EU ETS alternative but said that, based on the direction of UK energy policy in the last decade eg: the UK Carbon Price Floor, they could have no confidence that the UK taking control would be good for industry.

<table>
<thead>
<tr>
<th>Q16: How important is continued UK participation in the EU Emissions Trading Scheme (EU ETS) whether directly or by a linked scheme?</th>
<th>Responses (Only those regulated by EU ETS)</th>
<th>Very important</th>
<th>Important</th>
<th>Not very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical and pharmaceutical manufacturing in the EU ETS scheme</td>
<td>22</td>
<td>32%</td>
<td>41%</td>
<td>27%</td>
</tr>
</tbody>
</table>
4.4 Innovation

R&D spending
Respondents to the survey reported a total R&D spend of close to £900m. It is worth noting that this a very diverse sector and it consists of some companies with very high and some with very low R&D spending.

<table>
<thead>
<tr>
<th>Q18: How much do you spend on UK based Research and Development?</th>
<th>Responses</th>
<th>Total R&amp;D spend (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Chemical and Pharmaceutical Manufacturers</td>
<td>28</td>
<td>£884</td>
</tr>
</tbody>
</table>

75% of respondents to the survey believed that leaving the EU would not make much difference to their R&D spending in the UK.

No respondent believed that leaving the EU would make UK R&D spend more likely and 25% believed that it would make UK R&D spend less likely. 13% of respondents indicated that the viability of their UK manufacturing activities would determine future R&D spending. R&D spending would be reduced or stopped if manufacturing activity reduced or stopped.

<table>
<thead>
<tr>
<th>Q19: Do you feel leaving the EU means it is less likely/more likely/will make no difference to the level of R&amp;D investment you commit to in the UK?</th>
<th>Responses</th>
<th>Less likely</th>
<th>More likely</th>
<th>No difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Chemical and Pharmaceutical Manufacturers</td>
<td>24</td>
<td>25%</td>
<td>0%</td>
<td>75%</td>
</tr>
</tbody>
</table>

EU funding
25% of respondents are currently part of EU funded research projects and so far none has experienced any difficulties accessing EU funded projects.

<table>
<thead>
<tr>
<th>Q20: Do you use/are you involved in EU funded research projects?</th>
<th>Responses</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Chemical and Pharmaceutical Manufacturers</td>
<td>32</td>
<td>25%</td>
<td>75%</td>
</tr>
</tbody>
</table>
UK government policies to increase R&D spending

77% of respondents saw fiscal incentives in the form of increased availability of grants, increased R&D tax relief, lower corporation tax as the most significant policy measures to increase R&D spending in the UK. Continued access to the Single Market (14%), access to global talent (18%) and improved UK manufacturing competitiveness (14%) was also seen as important to boosting UK R&D spending.

Q21: What would be the most significant policy measure the UK government could introduce to help boost R&D investment in your business?

<table>
<thead>
<tr>
<th>Responses</th>
<th>Fiscal incentives</th>
<th>Access to global talent</th>
<th>Improved UK manufacturing competitiveness</th>
<th>Access to the single market</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Chemical and Pharmaceutical Manufacturers</td>
<td>22</td>
<td>77%</td>
<td>18%</td>
<td>14%</td>
</tr>
</tbody>
</table>
4.5 Brexit opportunities

A fifth of respondents did not see any benefit to their business of the UK leaving the EU.

The majority of respondents managed to identify some potential opportunities but many are contingent on successful negotiations of a new deal with the EU and FTAs with third countries.

Of those that saw some potential opportunities for growth, improved regulation of REACH, IED and EU ETS was the most frequent answer with 42% of respondents citing this topic. Benefits from the Sterling devaluation was supported by 38% of replies, followed by 29% citing new markets outside the EU and a quarter (25%) highlighting improved UK manufacturing competitiveness delivered by a successful Industrial Strategy.

<table>
<thead>
<tr>
<th>Q22: From Brexit what do you think will be the biggest potential opportunity for growth for your business?</th>
<th>Responses</th>
<th>No opportunity</th>
<th>Improving regulation</th>
<th>Sterling devaluation</th>
<th>New markets outside the EU</th>
<th>Government Industrial Strategy delivering improved UK manufacturing competitiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Chemical and Pharmaceutical Manufacturers</td>
<td>30</td>
<td>20%</td>
<td>42%</td>
<td>38%</td>
<td>29%</td>
<td>25%</td>
</tr>
</tbody>
</table>
5. CIA Brexit conference audience survey

Overview
The CIA Brexit conference took place on Thursday, 17 November 2016 in London and was attended by around 140 representatives from CIA member companies, CIA associate member companies and non-member companies.

During the event, members of the audience, excluding CIA staff, government officials and members of the press, were asked a number of questions. In all cases, respondents were only able to select one option.

Results
Following the election of Donald Trump are you:

1) More optimistic about a UK/US trade deal  64%
2) Less optimistic      36%

What effect will Brexit have on your business over the next five years? Health Warning: senior executives may not necessarily have been thinking only about their UK business activities when answering this question.

1) Have an overall positive effect  21%
2) Have an overall negative effect  50%
3) Make little difference    29%

In which policy area do you see the greatest potential for the UK government to adopt a more business-friendly approach after exiting the EU?

1) Health and Safety     3%
2) Environment      12%
3) Energy and Climate Change    63%
4) Chemicals Management (e.g. REACH)  18%
5) Labour relations     3%

In terms of negotiating a Brexit deal what area should the Government place the highest priority for the future success of your business?

1) Maintaining free trade with EU countries  56%
2) Maintaining completely free borders with EU countries  4%
3) Maintaining access to a skilled workforce from the EU  2%
4) A compromise between low trade tariffs and ready access to skilled staff within the EU  14%
5) Focus on free trade deals outside the EU and accept a ‘hard’ Brexit  4%
6) Reducing the burden of EU regulation  4%
7) Support for science-based decision making and finance for R&D and innovation  7%
8) The supply of competitive and secure energy  7%
At this stage how do you feel about the final UK:EU deal after the negotiations have been completed?

1) Optimistic 44%
2) Pessimistic 56%

And finally following today. What do you feel about the future of your business compared to this morning?

1. More positive 14%
2. More negative 43%
3. About the same 44%
6. CIA Quarterly Business survey

Overview
The CIA October 2016 Quarterly Business was run from 12 October 2016 to 28 October 2016. 42 responses were received.

The survey normally consists of a number of standard questions about the general business environment of businesses in the chemical sector. There are also a number of non-standard questions on a topical subject. The non-standard questions in October 2016 focused on Brexit.

Results from Brexit questions

How did the outlook of business change since the initial reaction to the vote in July? Some respondents were more positive than they were in July but, in general, respondents were less positive or more negative about their outlook for the next twelve months for all the main indicators (sales volumes, exports, margins, R&D spending and capital expenditure). Only in the case of exports did the more negative responses balance with the more positive responses. This is most likely due to the weakening of sterling that has improved the export competitiveness of many businesses – a positive – but it is also likely to push up costs – a negative.

In addition what you told us in July what are your main concerns in the next twelve months and beyond?

1. Disruption to trade: Tariffs on trade with EU 20%
2. Losing out to European & other competitors 20%
3. Impact of a poor government response 20%
4. Increased energy & raw material costs 20%
5. Reduced investment in UK assets 15%

Brexit opportunities in next twelve months and beyond

1. Weaker £ 42%
2. New product development / new investments 21%
3. Opportunities from domestic reforms like a new Government Industrial Strategy 17%
4. New markets outside the EU – US, Japan, India 17%