Policy Priorities Survey
March 2021
Policy Priorities Survey

1. Survey background
2. Research and innovation
3. Chemicals strategy
4. Health challenges
Survey background

- The Policy and Evidence team ran a member survey in March 2021 to understand what our members think are priority areas within three existing work areas:
  - Research and innovation policy
  - Chemicals strategy (UK and global)
  - Health research and challenges

- 1240 responses were included in the analysis.

Who responded?

- Survey was sent to 37,150 members (3.3 % response rate).
- 69 % respondents were based in the UK.
- Majority of respondents were established career or retired.
- Academia – 317 respondents; Industry – 285 respondents; Other – 179
Survey methods: rating questions

- Rating questions in this survey asked respondents to give factors a score from 0-10 and included an option to select ‘don’t know’.
- Results are presented as a proportion of respondents to account for differing respondent number across factors.
- Charts showing the full breakdown of scores are presented.
- An overall weighted average per respondent was calculated for each factor as follows:

\[
\frac{\text{SUM}(\text{score} \times \text{n respondents})}{\text{number of respondents giving a score}}
\]

E.g. Factor F, 60 respondents (not real data):

<table>
<thead>
<tr>
<th>Score</th>
<th>Number of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
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<tr>
<td>6</td>
<td>7</td>
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<tr>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

**Overall weighted average per respondent =** 
\[
\frac{(0 \times 6) + (1 \times 6) + \ldots + (9 \times 3) + (10 \times 2)}{60}
\]

\[= 5.1\]
Research and innovation questions
## Research and innovation

For comparison, a weighted score per participant was calculated for each factor.

\[
\text{(SUM(score*n respondents))}/ \text{ total number of respondents giving a score.}
\]

### Weighted average score per participant

<table>
<thead>
<tr>
<th>Factor</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of funding available to support basic and applied research including collaboration</td>
<td>8.3</td>
</tr>
<tr>
<td>Level of funding to support developing and bringing new technologies/products/processes to market including collaboration.</td>
<td>8.1</td>
</tr>
<tr>
<td>Changing skills needs of chemistry professionals</td>
<td>7.7</td>
</tr>
<tr>
<td>Science culture e.g. open science, research integrity, research assessment, recognition and reward</td>
<td>7.7</td>
</tr>
<tr>
<td>Incentives in the innovation system e.g. access to finance, regulation, partnerships</td>
<td>7.6</td>
</tr>
<tr>
<td>Impact of EU exit on chemical science participation and collaboration through Horizon Europe (funding)</td>
<td>7.1</td>
</tr>
<tr>
<td>Impact of EU exit on international research and innovation policy (excluding funding)</td>
<td>7.1</td>
</tr>
<tr>
<td>Diversity and inclusion of chemistry workforce</td>
<td>7.0</td>
</tr>
<tr>
<td>Impact of Covid-19 on research and innovation</td>
<td>6.7</td>
</tr>
<tr>
<td>The chemical sciences picture in the UK’s regions and nations</td>
<td>6.6</td>
</tr>
<tr>
<td>Chemistry using workforce: immigration and mobility policies</td>
<td>6.4</td>
</tr>
</tbody>
</table>
Research and innovation

How important or unimportant are the following areas of research and innovation policy to the chemistry research and innovation community? Proportion of respondents scoring each factor. (924-936 respondents)

<table>
<thead>
<tr>
<th>Area</th>
<th>Overall weighted average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of research funding</td>
<td>8.3</td>
</tr>
<tr>
<td>Level of development funding</td>
<td>8.1</td>
</tr>
<tr>
<td>Changing skills in chemistry</td>
<td>7.7</td>
</tr>
<tr>
<td>Science culture</td>
<td>7.7</td>
</tr>
<tr>
<td>Incentives for innovation</td>
<td>7.6</td>
</tr>
<tr>
<td>Impact of Brexit (funding)</td>
<td>7.1</td>
</tr>
<tr>
<td>Impact of Brexit (non-funding)</td>
<td>7.1</td>
</tr>
<tr>
<td>Diversity and inclusion</td>
<td>7.0</td>
</tr>
<tr>
<td>Impact of Covid-19</td>
<td>6.7</td>
</tr>
<tr>
<td>Place</td>
<td>6.6</td>
</tr>
<tr>
<td>Mobility</td>
<td>6.4</td>
</tr>
</tbody>
</table>
Chemicals strategy questions
In the RSC’s work to support the UK government in developing a new UK-wide chemicals strategy we have identified four themes: education, innovation, circular economy and regulation.

Across these themes, how important or unimportant are the following topics for the government to prioritise? Rate each area from 0 to 10, with 0 being not at all important and 10 being extremely important.

Scale showing factors ordered by weighted average score per respondent, coloured according to theme. The two highest scoring factors in each theme are labelled.
UK chemicals strategy: ERIC prioritisation questions

1. Education

Across these themes, how important or unimportant are the following topics for the government to prioritise? Rate each area from 0 to 10, with 0 being not at all important and 10 being extremely important.

- Ensure that funding is available to develop a skilled and specialist scientific workforce, such that industry, government and academia can draw on the best talent at all levels to implement a chemicals framework.
  
  Overall weighted average: 8.7

- Provide communications to the public on the benefits, hazards and risks of chemicals in our lives, so consumer demand drives sustainable product innovation through informed choice.
  
  Overall weighted average: 8.3

- Develop citizens’ knowledge through formal school education so they can help to better manage chemicals through making informed choices.
  
  Overall weighted average: 8.2

- Develop the next generation of world-leading scientists through chemical regulation and policy modules in formal degree level education.
  
  Overall weighted average: 7.8

Education (573-575 respondents)
UK chemicals strategy: ERIC prioritisation questions

2. Regulation

Across these themes, how important or unimportant are the following topics for the government to prioritise? Rate each area from 0 to 10, with 0 being not at all important and 10 being extremely important.

Regulation (559-564 respondents)

- Monitor presence and persistence of chemicals of concern in the environment (air, land, water, waste).
- Promote a strategy for the provision of open safety data for chemicals globally.
- Identify substances of national concern and develop a prioritisation management plan based on either high exposure and/or hazard potency.
- Lead globally harmonised regulatory cooperation on chemicals of international concern.
- Perform human and wildlife biomonitoring of chemicals of concern in UK populations.
- Prioritise UK regulatory policies on endocrine disrupting chemicals.
- Be a world leader in the development of New Approach Methods (NAMs) for safety evaluation without the use of animals.
- Prioritise risk assessment frameworks for assessing chemical mixtures.
- Prioritise UK regulatory action on per and polyfluoroalkyl substances (PFASs).
- Prioritise regulatory actions using chemical grouping approaches.

Overall weighted average:
- Monitor presence and persistence of chemicals of concern in the environment: 8.4
- Promote a strategy for the provision of open safety data for chemicals globally: 8.1
- Identify substances of national concern and develop a prioritisation management plan based on either high exposure and/or hazard potency: 7.9
- Lead globally harmonised regulatory cooperation on chemicals of international concern: 7.8
- Perform human and wildlife biomonitoring of chemicals of concern in UK populations: 7.7
- Prioritise UK regulatory policies on endocrine disrupting chemicals: 7.5
- Be a world leader in the development of New Approach Methods (NAMs) for safety evaluation without the use of animals: 7.3
- Prioritise risk assessment frameworks for assessing chemical mixtures: 7.2
- Prioritise UK regulatory action on per and polyfluoroalkyl substances (PFASs): 7.1
- Prioritise regulatory actions using chemical grouping approaches: 6.7
UK chemicals strategy: ERIC prioritisation questions

3. Innovation

Across these themes, how important or unimportant are the following topics for the government to prioritise? Rate each area from 0 to 10, with 0 being not at all important and 10 being extremely important.

**Innovation (567 - 573 respondents)**

- **Provide government incentives to support collaboration between academia, SME and big industry to innovate new safe and sustainable materials.**
  - Overall weighted average: 7.7

- **Provide practical support for SMEs and entrepreneurs working on sustainable chemistry solutions, new materials and products to overcome technical and regulatory barriers to scale-up.**
  - Overall weighted average: 7.7

- **Establish a Sustainable Chemistry Advisory Network, to help SMEs and entrepreneurs assess the multiple requirements for a new concept before any product or process enters mainstream society.**
  - Overall weighted average: 7.0

- **Connect innovators with international collaborators and trading partners to help in scaling up new innovations.**
  - Overall weighted average: 7.0

- **Use innovation to support developing world nations through new collaborations.**
  - Overall weighted average: 7.0

- **Connect innovators in regional hubs and networks to enable the colocation of related businesses.**
  - Overall weighted average: 6.7
UK chemicals strategy: ERIC prioritisation questions

4. Circular Economy

Across these themes, how important or unimportant are the following topics for the government to prioritise? Rate each area from 0 to 10, with 0 being not at all important and 10 being extremely important.

Circular economy (567 – 590 respondents)

- Embed principles of circular economy into formal further and higher education.
- Develop life cycle assessment tools to know if a new chemical really is more sustainable than what it is replacing.
- Encourage citizens to play a part in making a circular economy work.
- Devise practical circular economy business models in areas such as sustainable plastics, precious metals and critical elements in electronic waste.
- Develop infrastructure and sites where industries can co-locate to support a circular economy.
- Develop a transport network that supports the efficient movement of chemicals or chemical feedstocks to where it is needed.
- Collect data and know what chemicals are in the UK economy in any year – manufactured, imported, exported, transported, stored and used in products.
- Develop models of taxation that incentivise the use of safe feedstocks for chemicals from wastes and dis-incentivise the use of virgin raw materials.
- Support the development of a National Materials Datahub, to inform manufacturers of available chemicals and waste feedstocks in global supply chains.

Overall weighted average

- Embed principles of circular economy into formal further and higher education: 7.9
- Develop life cycle assessment tools to know if a new chemical really is more sustainable than what it is replacing: 7.8
- Encourage citizens to play a part in making a circular economy work: 7.6
- Devise practical circular economy business models in areas such as sustainable plastics, precious metals and critical elements in electronic waste: 7.4
- Develop infrastructure and sites where industries can co-locate to support a circular economy: 7.3
- Develop a transport network that supports the efficient movement of chemicals or chemical feedstocks to where it is needed: 7.3
- Collect data and know what chemicals are in the UK economy in any year – manufactured, imported, exported, transported, stored and used in products: 7.1
- Develop models of taxation that incentivise the use of safe feedstocks for chemicals from wastes and dis-incentivise the use of virgin raw materials: 6.9
- Support the development of a National Materials Datahub, to inform manufacturers of available chemicals and waste feedstocks in global supply chains: 6.7

Overall weighted average: 7.1

Don’t know: 7.3

UK Royal Society of Chemistry
The UN Global Chemicals Outlook II report stated the need for a new science–policy interface for chemicals and waste at UN level. To fill this gap, the RSC is calling for the establishment of a new independent UN-led Intergovernmental Platform for Chemicals and Waste Management that is on a par with the Intergovernmental Panel on Climate Change (IPCC).

- 69% of respondents support this call to action for the establishment of a new Intergovernmental science–policy Platform for Chemicals and Waste Management.

Do you support the RSC's call to action for the establishment of a new Intergovernmental science–policy Platform for Chemicals and Waste Management?, (433 respondents)
Health challenges questions
How much or little impact do you think the chemical sciences can have in addressing the following health challenges? Rate each challenge from 0 to 10, with 0 being no impact at all and 10 being an extremely large impact.

Overall weighted score per respondent (678-684 respondents).
Health challenges: priority ranking

How much or little impact do you think the chemical sciences can have in addressing the following health challenges? Rate each challenge from 0 to 10, with 0 being no impact at all and 10 being an extremely large impact. (678-684 respondents).

<table>
<thead>
<tr>
<th>Health challenge</th>
<th>Weighted average score per respondent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>8.6</td>
</tr>
<tr>
<td>Air quality</td>
<td>8.4</td>
</tr>
<tr>
<td>AMR</td>
<td>8.1</td>
</tr>
<tr>
<td>Cancer</td>
<td>8.1</td>
</tr>
<tr>
<td>Food</td>
<td>7.9</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>7.4</td>
</tr>
<tr>
<td>Cardiovascular disease</td>
<td>7.3</td>
</tr>
<tr>
<td>Personalised medicine</td>
<td>7.1</td>
</tr>
<tr>
<td>Healthy Ageing</td>
<td>7.1</td>
</tr>
<tr>
<td>Metabolic disease</td>
<td>7.0</td>
</tr>
<tr>
<td>Nutrition</td>
<td>6.8</td>
</tr>
<tr>
<td>Biomaterials and tissue engineering</td>
<td>6.4</td>
</tr>
</tbody>
</table>

Note: The weighted average score per respondent is calculated based on the responses from 678 to 684 respondents.
Health challenges: why?

Why did you think this area is where the chemical sciences could have the greatest impact?

- **Societal importance** and **collaboration** with other disciplines where the reasons most frequently selected.

Why did you think this area is where the chemical sciences could have the greatest impact? (561 respondents)

- This is an important issue for society: 452 respondents
- This area is more of a focus for chemistry than other sciences: 260 respondents
- The chemical sciences can make an important contribution in this area, working with other disciplines: 482 respondents
- This is an existing focus of governments and/or funding bodies: 157 respondents
- I work in this area: 50 respondents
- Don't know: 5 respondents