

Senedd Election Manifesto Briefing



Royal Society of Chemistry – April 2021

Throughout the pandemic we have all looked to science to provide the answers, and science has delivered time and time again. It has shown the importance of investing in science education, infrastructure and innovation to create a resilient Wales. The chemical sciences can be found at the forefront of delivering the Covid recovery, from working on vaccines and testing, to innovating new technologies and leading the charge on sustainability.

We need you to be a science champion at the Senedd. You can help do this by supporting the chemical sciences and delivering on these key areas:

Funding great science

- **Delivering 2.4%:** The Welsh Government should work with the UK Government to meet the target of increasing research investment to 2.4% GDP in R&D by 2027. A future government will need to be ambitious in order to remain competitive on the global stage and realise the benefits of the nation's research and innovation strengths, particularly in light of challenges faced in higher education institutions following the UK's EU Exit. MSs need to champion Wales' R&D sector.
- **Reinforce the Welsh Research and Innovation system:** Welsh Government should return quality related core research investment in Wales to a comparable level with the rest of the UK. Over the last decade the approach to funding has seen Wales fall behind the rest of the UK in underpinning research investment, undermining its ability to deliver its full potential. In planning for recovery the Welsh Govt should embed research and innovation investment in its approach to supporting the economy and the government's response to future emergencies.
- **Increase visibility:** In an increasingly global research and innovation ecosystem the sector in Wales needs stronger voices in government. The Welsh Government needs to raise the visibility of science research and innovation, making science more prominent within government. This could be supported by including science in the appropriate ministerial title to give the sector confidence in its profile and importance at ministerial level.

Supporting our skilled workforce

- **Place is important:** Chemistry using professionals play a significant role in key Welsh industries, many of which will need to make significant technological and skills changes to meet the needs of a green economy. Welsh Govt should work with its counterparts to ensure the monitoring required to inform a place-based understanding of sector capacity and skills exists to deliver place based strategies to support green growth in Wales.
- **Chemistry knowledge and skills retention:** Chemistry knowledge impacts the generation of an average of £83bn annually for the UK economy. Welsh government should prioritise knowledge and skills retention in the Welsh economy to support its ambitions for a research and innovation system which reaches its potential.

Protecting our environment and preventing future waste

The chemical sciences play an important role in preventing and remediating the adverse impacts of human activity, including global climate change, and tackling waste from plastics and consumer electronics. Building on evidence from our expert community, we would recommend measures to:

- **Extend producer responsibility for the circularity of products:** Ecodesign should be made part of product requirements, ensuring products and components are durable, repairable and reusable. Products need to be effectively labelled to ease recycling and their environmental impact assessed based on their entire lifecycle. Manufacturers should be responsible for their products when they reach the end of their life, moving some of the burden for recycling infrastructure from taxpayers to producers.
- **Incentivise ‘reduce and re-use’:** Strategies to tackle waste should follow the ‘waste hierarchy’, with measures that focus on reducing and re-using before discarding and eventually recycling. The next Government should work with industry to introduce convenient product take-back schemes for waste electronics that guarantee secure data wiping, as well as a deposit return schemes for plastics.
- **Invest in R&I that ensures we can recycle our waste:** If everyone started recycling their household electronics today, there isn’t the available large-scale infrastructure to extract the rare elements. A future government should work in partnership with academia, industry and consumers to explore scientific solutions. Alongside this, investment must be made available to research the chemistry of materials to develop more sustainable plastics, and to find large-scale methods of recycling materials and recovering rare elements.
- **All sectors of the economy need to take action to reach ‘net zero’,** including the so-called “hard to abate” sectors of metals manufacturing, minerals and chemical processing that operate in Wales. Interventions which incentivise scientific advances, support the workforce to innovate and deliver clean business operations are essential to delivering a productive economy, sustainable society and growing back greener.

A brilliant science education

Support practical skills and inclusion in chemistry learning in covid recovery. Impacts of Covid-19 on young people’s learning is well-documented, as are the disproportionate impacts on learners from disadvantaged backgrounds. Aside from the wider issues, two prominent concerns arise in regard to chemistry learning: the difficulties in maintaining development of essential practical skills; and the prospect of increasing attainment gaps, adding to existing barriers to progression in chemistry and a reduction in inclusion.

In developing the long-term strategy, the needs of practical subjects must be explicitly taken into account, and measures must ensure that learners have the potential to progress in chemistry are regardless of the disruption they have experienced. We support pragmatic approaches to temporarily adapting curriculum to focus on [the concepts and skills most central to the study of chemistry](#), to make best use of available time and support progression.

Support new teachers who have had their training interrupted by Covid-19: School placements are an integral part of the initial teacher training experience and provide context to put theory into practice. For practical subjects like chemistry they have the added role of helping trainees learn how to safely and effectively teach using practical work. Covid-19 has meant that opportunities for in-school training placements have been greatly reduced this academic year. In addition, even when trainees have been in school, social distancing requirements have meant that there have been fewer opportunities for them to lead whole-class practical activities. A future government should ensure that additional support is made available to new teachers of chemistry who have missed out on development opportunities during their training. This is particularly applicable to skills needed to teach practical chemistry.

Protected time is needed for teachers to prepare for curriculum and qualifications reform. Covid-19 has necessarily diverted teachers’ time away from making school-level preparations for the implementation of Curriculum for Wales. Additional protected time should be put in place to allow teachers to prepare for the new curriculum.