



Our manifesto

2020–2024



The CIPHE is uniquely placed to give a voice to the industry, while upholding the interest of the public, on matters that affect the very health and wealth of the nation.

Introduction



Our first manifesto focused parliament on the huge role the engineering community has to play in the future success of the United Kingdom. Our follow-up manifesto in 2021 greatly expanded on these policy areas, while acknowledging the huge challenges raised by Covid-19. As we move into a new era of living with coronavirus, our 2022 manifesto focuses more acutely on the issues of the day, with our ‘two for twenty-two’ priority areas highlighted throughout our key pillars of public health, environment, education and regulation.

Just as in the previous versions, this manifesto seeks to give parliament an insight into how the plumbing and heating industry underpins many key areas of government policy including, health, housing, energy, environment and education.

There are many challenges ahead for us all. This manifesto is written against a backdrop of upheaval, rising fuel poverty and the terrible invasion of Ukraine, with its obvious impact on the energy crisis. Water poverty is set to increase, as inflation and the cost of living hits generational highs. The drive for net-zero carbon emissions is likewise overhauling the heating industry, while the education and training sector face the serious affects of Covid-19. Beside all this, there is hope. CIPHE members represent the best of the plumbing and heating industry and are ideally placed to step up to the challenge.

As the professional body for the plumbing and heating industry, and a registered educational charity dedicated to protecting public health, the CIPHE is uniquely placed to give a voice to the industry, while upholding the interest of the public, on matters that affect the very health and wealth of the nation.

To this end, the CIPHE’s manifesto outlines the main issues facing the industry and steps that should be taken by government to deliver long-lasting societal benefits. As heeded in manifestos before, the UK is going to need a plethora of skilled, qualified and competent engineers in all disciplines, to achieve the UK Government’s aims. As we continue to highlight the best of this essential industry, I say to those within it that there has never been a more important time to join us.

Kevin Wellman

Kevin Wellman, Chief Executive Officer, CIPHE

Safety, health and wellbeing of the public

The plumbing sector underpins the cornerstone of public health, with safe water and sanitation at its very foundation.

TWO FOR TWENTY-TWO

Our two priority issues for the coming year will be:

Scalding and heating system contact burns

The Health and Safety Executive states around 20 people die from scalding each year and the elderly are five times more likely to receive a fatal burn or scald injury than the general population. Hot bath water is responsible for the highest number of fatal and severe scalding injuries among young children. Nearly 92% of finished consultant episodes for scald injuries in England were classed as emergencies in 2020–21. The Child Accident Prevention Trust calculates it costs £250,000 to treat one severe bathwater scald. The British Burn Association puts the total annual cost to the NHS at £20 million.

But that's not all. It's easy for radiators, towel warmers and central heating pipes to reach temperatures high enough to cause a burn if touched. NHS Digital statistics for England show that nearly 91% of heating appliance burn finished consultant episodes were emergencies in 2020–21. In this period, babies and young children aged 0–4 made up 22% of finished consultant episodes, while those over 70 made up 38%.

Fuel and water poverty

According to government statistics, under the Low Income Low Energy Efficiency (LILEE) measure approximately 3.66 million households are fuel poor. Estimates suggest that number is set to rise to a staggering 6.32 million households – that's more than 15 million people – in 2022 due to the energy crisis.

Around 3 million households are known as water poor and unable to pay water bills. Under UK law, water companies are not allowed to switch off the water supply to domestic residences, however that does not prevent stressful enforcement actions over unpaid debt.

Lone parents with dependents make up the majority of the fuel and water poor, with both types of poverty highest in the private rented sector. Inflation, the energy crisis and cost of living crisis mean rates of fuel and water poverty are set to rise substantially.



The facts

Seasonal rise in Legionnaires' disease cases from June to October

57% of people admitted to hospital for tap water scalds were either aged over 70 or under 14

From 2020–2021 91% of heating appliance burn admissions were emergencies

Fuel poverty expected to rise to 6.32 million households in 2022

3 million households are water poor

8,500 deaths due to cold homes, 20% increase year-on-year

England has on average 15 operational public toilets per 12,500 people

We will also be working on these other key issues during the year:

Public toilets

With frequent hand washing and safe sanitation vital to stopping the spread of coronavirus, poor access to public toilets poses a growing public health issue. According to the British Toilet Association, pre-lockdown councils in England had on average 15 operational public toilets per 12,500 people. The BBC also found that at least 673 public toilets across the UK have ceased to be maintained by major councils since 2010.

Health risks of poorly maintained plumbing and heating systems

The Local Government Association's 'Healthy homes, healthy lives' report attributes a cost of at least £2.5 billion per year in treating people with illnesses caused by poor air quality, condensation, mould spores and compromised drinking water quality, linked to living in cold, damp and dangerous homes.

Lead poisoning

It is illegal in the UK to use lead solder or lead pipes in plumbing systems used for drinking water. However, lead has been historically used in plumbing systems due to its resistance to corrosion. Therefore, those living in a house built pre-1970 that has never had the pipework replaced, may have lead pipes in their home. Lead poisoning has many symptoms, can be fatal and is particularly high risk for children and pregnant women.

Water companies treat drinking water with phosphate to provide a coating within lead pipes, and while this reduces the amount of lead that dissolves into the water, it is not completely effective. According to the Drinking Water 2020 report from the Drinking Water Inspectorate, Bristol Water found a 500% increase in lead failure detections during 2020,

when sampling water obtained predominantly from the outside taps of churches. The Drinking Water Inspectorate has published research on Long term strategies to reduce lead exposure from drinking water in support of the Government's green recovery initiative.

Toilet plume

Toilet plume arises when lavatories are flushed. Turbulence from the toilet bowl can enable tiny droplets and aerosol particles to be released into the air. New research has shown these particles can be deposited onto nearby surfaces and stay suspended in the air long enough to be breathed in post-flushing, allowing the possible spread of coronavirus, along with other serious illnesses such as staphylococcus and E. coli.

Legionnaires' disease

Legionella bacteria is the cause of the potentially fatal form of pneumonia, which is contracted by inhaling tiny water droplets. With symptoms similar to coronavirus, it has a death rate of around 12% and a seasonal rise in cases from June to October. Crucially, figures from Public Health England show an annual increase in Legionnaires' cases between 2015 and 2018, with a 68% increase over the period peaking at 814. The number of cases fell in 2019 and again through the pandemic from 2020–2021. However, Legionnaires' disease remains a threat to public health, which we should be vigilant of as life returns to normal.

Outbreaks can be minimised and prevented with vigorous maintenance regimes. It is vital therefore those responsible for water systems understand how to mitigate the risk of Legionella, and other water-borne contaminants. The public also need to be educated on the risk of Legionella in hot tubs and spa baths.

CIPHE's recommendations

Review, update and strengthen enforcement of the Water Regulations.

Those responsible for water systems need to take action to mitigate the risk of Legionella and other water-borne contaminants.

Introduce further legislation around the installation and use of domestic hot tubs and spa baths.

Introduce legislation requiring the use of thermostatic mixing valves (TMVs) in all domestic dwellings.

Implement a public awareness campaign to reduce the risks of scalding, burns and Legionella.

Policies to target the energy efficiency of dwellings in bands G–D.

Tackle issues associated with poverty at source. Ensure those on low incomes pay fair and competitive tariffs for energy use.

Promote schemes to help the water poor. Increase water efficiency in domestic properties and cut water waste.

Ring-fence money for public toilet provision.

Raise awareness of the risks associated with toilet plume.

Further investment into replacing lead pipework within the water industry infrastructure, homes and public buildings such as schools.

Encourage all water companies to provide and promote lead pipe replacement schemes at no cost to the consumer.

CIPHE's actions

CIPHE to work with fellow trade and engineering organisations to lobby the government to take meaningful action on the public health issues facing the industry today.

CIPHE to act as industry spokespeople on public health issues, and engage the media on energy and water saving measures, along with the importance of energy and water efficient homes.

Improve the quality and quality of online information for members and consumers around public health issues.

The CIPHE's Working Groups to ensure members have access to high-quality technical and educational materials addressing the safety, health and wellbeing of the public.

Environment

The plumbing and heating sector is key to the environment and will play a huge role in reducing carbon emissions, water waste and climate change.

TWO FOR TWENTY-TWO

Our two priority issues for the coming year will be:

Net zero

To tackle climate change, the UK has a legal commitment to be completely carbon-free by 2050. That means the gas, oil and coal currently used to heat our buildings must be replaced with low-carbon fuels or technologies. There are approximately 40 million buildings to decarbonise. According to the government's Heat and Buildings Strategy there are over 140,000 plumbers and H&V engineers in the UK. Many of these will require upskilling and training in low-carbon technologies. Financially, the transition will be supported largely by private investment, not public funds.

The main challenges include infrastructure, manufacturing capacity and the fact that industry does not hold the knowledge or skills for a neat transition to a low-carbon economy. Much needs to be done to implement change.

Training and installer awareness

Fossil fuels have been the mainstay of the heating industry for generations, so the practical implications of retraining an entire industry are huge. Heating engineers will need to up-skill to design, install and maintain either hydrogen-powered boilers or heat pump technology. Additionally, professionals will also need to be aware of the whole home energy efficiency measures that will need to be taken to ensure systems work effectively and efficiently.

The CIPHE has developed a Low Temperature Heating and Hot Water Design course, delivered in partnership with LCL Awards, in collaboration with the Heat Pump Association, manufacturers and training providers.



The facts

UK carbon emissions must drop to zero by 2050

Future Home Standard to come into force by 2025

90% of homes in England currently use fossil fuels for heating, cooking and hot water

Over 100,000 heating engineers likely to require some level of retraining to install systems based on low-carbon heat sources

66% of existing homes are at Energy Performance Certificate D or worse

Daily domestic water consumption needs to drop from 140 litres per person to less than 100 litres

29% of people globally have no access to safely managed drinking water

The government aims to phase out gas boiler installations by 2035

We will also be working on these other key issues during the year:

New homes – Future Home Standard

The Future Home Standard is due to come into play from 2025 meaning that gas central heating appliances in all new build properties will be banned. New build houses will therefore require an alternative heating source such as a heat pump or hydrogen powered boiler.

Existing properties

Almost 27 million existing homes need to be adapted for a clean energy future. Existing properties are expected to be able to use gas boilers for many years to come. However, the government has confirmed its ambition for all new heating systems installed in UK homes from 2035 to be low-carbon, or supporting new technologies like hydrogen-ready boilers. Grants will be available from April 2022 to help households upgrade to new technologies. However, not all housing stock will be suitable. Properties that can make the change are likely to require additional energy saving measures and adjustments to their wider heating and hot water systems.

Consumer education programme

The public will need to become familiar with new regulations and technologies. Consumers will need to make informed decisions on their heating and hot water systems on the path to net zero. In particular, the vulnerable, elderly and disabled need protection from incompetent or rogue traders, and those who would mis-sell new systems.

Water efficiency

Water shortages will hit the UK within the next 25 years. While water companies need to make greater progress in managing and reducing waste in their own supply network, we all have a responsibility to cut water waste in our homes. The average person will have to reduce their consumption from 140 litres of water a day to 100 litres, to have a meaningful impact on future shortages.

Escape of water

According to the Association of Insurance Brokers, escape of water damage is one of the most common types of domestic property damage claims, with insurers paying out £1.8 million for it every day. Most losses are a consequence of bad workmanship, resulting in poor installations. With water damage just as devastating as that of fire, reducing escape of water claims will not only help the environment, but also ensure properties are safe and habitable.

Global water challenge

According to the UN, billions of people are still living without safe water. There are households, schools, workplaces, farms and factories struggling to survive and thrive. In particular, marginalised groups – women, children, refugees, indigenous peoples, disabled people etc. – are overlooked or face discrimination, as they try to access and manage the safe water they need.

Infrastructure

To reach net zero, the UK's energy infrastructure will have to undergo huge change. The gas network will need to be adapted to carry hydrogen, district heating systems will be rolled out via a Heat Network Transformation Programme – which will implement local authority zoning by 2025 – and there will need to be a widescale switch to electrically powered systems using heat pump technology. The hydrogen network is not due to be trialled at scale (in limited areas) until 2023. Technology wise, heat pump production will need to increase significantly to reach demand, however, it is not due to rise to 600,000 units per year until 2028.

CIPHE's recommendations

The government must maximise the expertise of installer organisations, manufacturers and industry bodies to tackle the timescales and practicalities of transitioning to low-carbon heating.

Adequate public funding to support private investment in net zero.

The transition to low-carbon heating requires a well funded, fit for purpose, training and education programme, built by the industry, for the industry.

Easy identification of those engineers who have undertaken industry recognised training in low-carbon technologies.

The public need to understand the aims and objectives of net zero and how it will affect their homes and businesses.

Water conservation must be made a priority by the government.

Water companies need to increase resources dedicated to fixing leaks and reducing waste.

A sustained campaign should be introduced to change consumer attitudes towards water conservation and increase knowledge of schemes such as the Unified Water Label.

The government's support and investment should be increased in environmentally targeted projects, including conservation and harvesting of water.

CIPHE's actions

Gain government recognition for the CIPHE's low temperature heating and hot water design course.

Launch and roll out the low temperature heating and hot water design course.

Represent members by collaborating with industry and wider engineering institutions to advise the government on training, infrastructure and wider industry requirements on the road to net zero.

Via the media and CIPHE communication channels, educate the public on water sustainability and low-carbon technologies.

Education

Those working in the industry require a fit-for-purpose education system to attain industry-recognised qualifications and learn the skills and knowledge vital to their roles.

TWO FOR TWENTY-TWO

Our two priority issues for the coming year will be:

Apprenticeships

In England, Trailblazer Apprenticeships are a step in the right direction for the plumbing and heating industry, with a Level 3 equivalent qualification at its core. It is important to ensure that they remain 'fit for purpose' through regular review by all relevant stakeholders. Demand for apprenticeships continues to outstrip supply of employers. The UK domestic plumbing and heating industry is predominantly made up of sole traders and micro-SMEs of five individuals or fewer, who need support in taking on an apprentice for a full four years. Flexi-job apprenticeships could offer a solution for employers unable to commit to a full apprenticeship, but able to provide training on a project-by-project basis, or more limited timescale.

Experienced worker recognition

There are many in the industry who hold 'grandfather rights' – individuals with great skill and experience, but no formal qualifications. These engineers have a lot to offer the industry, however they are increasingly becoming marginalized. Changes to the CSCS scheme mean that the 60,000 holding industry accredited CSCS cards, will no longer qualify for them by 31 December 2024. This will effectively block a number of skilled workers from UK construction sites from 2025.





The facts

85% of those operating in the industry work in companies of fewer than five individuals

Apprenticeship starts have fallen by 70% among 16- to 18-year-olds from 2019–2021

60% of the total fall in employment from August–October 2020 was among 16- to 24-year-olds

Flexi-job apprenticeships to be launched in April 2022

Halterbeck, Conlon, Patrignani, and Pritchard (2020) estimated an average 21% loss in learning in students from the highest socio-economic groups, and 34% in the lowest socio-economic groups

We will also be working on these other key issues during the year:

The impact of Covid-19 on further education

The issues faced by education providers due to Covid-19 have been severe. Apprenticeship starts have collapsed, income has been lost and many colleges have battled technological issues, with a high number of further education (FE) students unable to access online learning. Colleges have had to adapt instantly to government guidance, taking on the burden of additional costs for PPE and cleaning, alongside rolling out whole scale Covid-19 testing of students and staff. The impact of coronavirus on student (and staff) mental health and wellbeing is high. In addition, FE institutions have reported significant skills gaps from those entering in 2020/21 and 2021/22, due to the time lost in education during the lockdowns. The effects of coronavirus on the education landscape will last for years to come.

Funding

Following the introduction of the Apprenticeship Levy in 2017 apprenticeship starts had already fallen by a fifth by 2019. Additionally, the imbalance of funding available to the Plumbing and Domestic Heating Technician Trailblazer apprenticeship (compared to other subjects) had started to impact negatively on the industry. At a time when gas as a heat source is being replaced as a part of government strategy, gas apprenticeships funding is disproportionate when compared against other routes.

While the CIPHE welcomed moves to allow non-levy paying businesses (SMEs/micro-SMEs) access to the apprenticeship service from 2020, and enhanced financial support via the Levy transfer – the ability for apprenticeship levy payers to transfer up to 25% of their levy pot to smaller businesses – the pandemic has ensured this has had little impact on the plumbing and heating sector.

Rogue training providers

It takes up to four years to qualify under the plumbing and domestic heating technician trailblazer apprenticeship at Level 3. However, Covid-19 has caused an economic climate that is ripe for rogue trainers and fast-track courses. For the adult learner, ploughing redundancy payments or life savings into a career in a Covid-proof industry, seems like a sound investment. However, not all training providers or courses are equal.

Complaints against rogue training providers are rising. These types of courses will often come from private companies and promise qualifications in weeks, or months, claiming to condense quality learning into small timeframes. Training providers may offer classroom-based learning or home study courses that fit in around current commitments. Unfortunately, most learners realise their mistake after their fees have been paid and find their 'qualification' is not recognised by the industry. For consumers, rogue training providers pose a risk to public health. Inadequate training providers and courses lead to poorly trained tradespeople, who may unwittingly put others health, homes and businesses at risk.

Post-qualification CPD regulation

Continuing Professional Development (CPD) plays a vital role in up-skilling the workforce and keeping them up to date with the latest best practice and regulatory/ technological advances. Without regular, high quality CPD, engineers fall behind their peers. However, as the industry is largely unregulated, there is no obligation for those outside of CIPHE membership, or Engineering Council registration, to engage in, or record, CPD.

CIPHE's recommendations

Further reform of the Apprenticeship Levy and funding.

Funding for apprenticeships to be targeted at the anticipated future construction industry skills gap and to support the move to net zero.

Additional help for those experiencing the Covid-19 related skills gap for those starting apprenticeships in the 2020/21 and 2021/22.

Ensure T-levels provide a clear pathway to employment in the plumbing and heating industry.

Introduce more incentivised provision for employers to engage trainees and those undertaking T-levels in on the job learning opportunities.

Further practical and financial support for sole traders and SMEs to enable them to take on an apprentice either full-time, or under the new flexi-job apprenticeship.

Practical and financial support of adult learners.

Crack down on rogue training providers.

Provide an achievable alternative route to recognition for experienced workers.

CIPHE's actions

Continue to raise awareness of the danger posed by rogue training providers to both the industry and the public.

Support and promote CIPHE Approved Training Centres.

CIPHE to work with fellow organisations, industry and employers to call for an urgent review of the Plumbing and Domestic Heating Technician trailblazer to make sure that it is meeting the needs of industry employers.

CIPHE to campaign on behalf of its members with 'grandfather rights'.

Support the development of apprentices and students via the CIPHE's Trainee Membership.

CIPHE to continue to aid members with quality CPD provision.

CIPHE to work with industry to raise awareness of quality training provision.

Regulation, licensing and industry issues

The UK plumbing and heating industry is largely unregulated, meaning anyone can give themselves the title of ‘plumber’ regardless of qualifications, knowledge and competence.

TWO FOR TWENTY-TWO

Our two priority issues for the coming year will be:

Licence to practise

The CIPHE maintains accessible lists of qualified installers in plumbing, heating and renewables for the public benefit. However, the lack of publicised enforcement of Water, Building and Gas Safety Regulations is exacerbated by the fact that, with the exception of gas installers, anyone can establish a plumbing and heating business regardless of relevant and supporting qualifications. This has left space for a small, but undesirable rogue operator culture to arise, placing public safety, health and welfare at risk. The UK now sees more deaths each year due to poorly designed, installed and maintained plumbing systems than deaths caused by carbon monoxide poisoning.

Property systems health check

With fuel poverty, water poverty, the shadow economy, skills shortages and a lack of enforced regulation causing big problems in the industry, the CIPHE proposes to introduce a compliance health check. The health check will be similar to an MOT and will encourage consumers to have regular inspections of their plumbing and heating systems; this should prevent problems before they occur and ensure systems are working as efficiently and safely as possible.





The facts

Plumbing and heating engineers designated as critical workers during the pandemic

Over 150,000 individuals are engaged in the UK plumbing and heating industry

More people killed annually by poorly designed, installed and maintained plumbing systems than gas appliances

Insurers paying out £1.8 million per day in domestic property escape of water claims

Existing shadow economy in counterfeit parts likely to expand with supply chain issues related to Covid-19 and the end of the EU transition period

We will also be working on these other key issues during the year:

Government recognition

The pandemic has seen those in the plumbing and heating industry given critical worker status. Engineers have stepped up as frontline workers, from providing emergency plumbing and heating services during the initial lockdown, to working on wider engineering projects such as setting up the Nightingale hospitals. With construction seen as key to the economy, it was one of the first industries encouraged to come back into full operation. Engineers continued to work in people's homes through all tiers and during national lockdowns, in a Covid-19-secure manner.

While recognition of the importance of the plumbing and heating industry is welcomed, it is vital that this momentum isn't lost. It is imperative that the profile of plumbing and heating engineers remains high, especially in the face of public health issues, the water and energy crisis, and net zero.

Water Regulations/greater enforcement

UK legislation is commonplace within the plumbing and heating industry through Building Regulations, Gas Safety Regulations and Water Regulations. While compliance with Water Regulations (Byelaws in Scotland) is required, there is generally a risk-based approach to inspection and enforcement. This results in enforcement being weak, with little evidence of resulting prosecutions due to contravention.

Supply chain shortages

Supply chain issues have plagued the construction industry over the past two years. From shortages caused by the pandemic and the end of the Brexit transition period, to substantial price rises caused by increased costs in manufacturing and shipping.

Many engineers have slipped through the net of government financial support during the pandemic. They will be facing the added frustration and financial pressure of jobs cancelled due to a lack of supplies and price hikes in line with the costs of shipping. With online marketplaces still not legally responsible for stopping dangerous products from being sold, the CIPHE is concerned the current situation will leave the floodgates open for counterfeit goods.

Minimising the shadow economy

An influx of counterfeit parts – especially in the heating industry – is putting the public safety at risk. Counterfeit parts are often made from inferior materials, will not have passed the vigorous testing and approvals process of genuine parts and rarely conform to European safety standards. Installation of non-genuine parts has consequences for everyone, from the installer (who is legally liable) to the public. Counterfeit parts may be unreliable, may not fit correctly or cause a system damage. In the case of a heating appliance, a catastrophic failure may lead to injury or death.

CIPHE's recommendations

Vigorously enforce Water Regulations, Gas Safety Regulations and Building Regulations with prosecutions and heavy penalties for those who do not comply.

Increase links between regulation enforcement and grass roots engineers.

Recognise the skilled and professional part of the workforce. Protect the title of 'plumber' by introducing statutory licensing of plumbing and heating engineers.

Introduce an evidence-based mandatory and relevant CPD requirement for those operating in the plumbing and heating industry.

Further policing of the shadow economy to stop the trade in non-compliant parts.

Introduce a plumbing and heating system health check for homeowners and landlords. Prevention is better than cure for systems too.

CIPHE's actions

Lobby government for the introduction of the Licence to practise.

Represent members by collaborating with the engineering institutions to ensure the industry has a seat at the table on governmental issues.

Educate the public to only use CIPHE members and recognise the importance of system health checks.

Work with manufacturers to help raise awareness of the shadow economy and the importance of using genuine parts.

Proud to be a Professional

Founded in 1906, the Chartered Institute of Plumbing and Heating Engineering has more than 100 years' experience of providing professional representation for the plumbing and heating industry.

A membership of over 7,000 individuals and organisations means the CIPHE is the industry's largest membership body in the UK.

Our aims and objectives

Public safety & health

To benefit and educate the public worldwide by:

Defining and monitoring professional standards

Compiling and publishing a list of competent persons

Co-operating with professional, research and educational bodies.

Research

To promote study, research and publication by:

Encouraging research groups in building engineering services

Supporting technical advances within the industry

Publishing research and development papers.

Education

To further education of the profession, worldwide by:

Advocating technical training programmes with colleges and the industry

Publishing and selling technical guidance, and supporting new and emerging technologies

A commitment to lifelong learning and continued professional development in a rapidly evolving environment.

Membership

To support members and grow membership by:

Setting basic standards and enabling progression through higher professional development

Assisting with career development from traineeships and apprenticeships to Chartered Engineers

Encouragement to achieve recognition through Apprentice, Journeyman and Master Plumber Awards, Engineering Council registration, and career goals through CPD attainment.

CIPHE The Chartered Institute of
Plumbing and Heating Engineering