

The low-carbon 2020s

A decade of delivery

November 2019 Infrastructure and Energy

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Executive Summary

The UK has set an ambitious target to reach net-zero emissions by 2050. The business community is in full support of this target, and will play a fundamental role in delivering the new technologies and services that will make this a reality. But time is short, and the reality of meeting net-zero emissions in thirty years means that the next decade will be crucial if we are to remain on track. The UK has built strong foundations, with a rapidly evolving power sector and long-term declines in industrial emissions meaning we have achieved some of the task. But the next phase will require major changes in consumer and business behaviour, and development and scale-up of emerging technologies.

This country has what it takes to be a world-leader in emissions reduction as part of a global effort to tackle climate change. National action, alongside international collaboration and leadership, can combine to deliver the benefits of reducing emissions. With the UK set to host the UN's Climate Change Conference next year (COP 26) we have been afforded a unique opportunity to lead international efforts while demonstrating the importance of action at national and regional levels.

The challenge of meeting net-zero emissions by 2050 cannot be underestimated. In the face of significant complexity, and the need to act quickly, this report sets out some of the decisions that government must prioritise to help the business community accelerate its action over the coming decade. To support our recommendations, we also highlight some of the key principles that all politicians and policymakers should consider when developing approaches to decarbonisation in areas where business plays a leading role. These include the importance of creating a positive environment for investment, ensuring that regulation and governance supports a whole systems approach to emissions reduction, capitalising on UK investment in clean technology to create export opportunities, and a vision from government for delivering a 'Just Transition' that supports any consumers or businesses negatively impacted by the transition through focused support on adopting new technologies and developing new skills where needed.

Our policy recommendations to government focus on the sectors that are key to our domestic net-zero ambitions: growing supplies of low-carbon electricity; a rapid reduction in transport emissions; and progress on the long-term challenge of decarbonising heat through new technologies and improved energy efficiency. Of course, achieving our net-zero target will require action beyond these areas. This report simply highlights the decision making required in sectors where we believe vital progress must be made over the next decade. We also make recommendations on technologies that will support decarbonisation across different sectors, notably carbon capture and clean hydrogen, which could also provide important export opportunities.

Recommendations

Decarbonising heat and improving energy efficiency:

- Designate energy efficiency as a national infrastructure priority in the forthcoming National Infrastructure Strategy and use upcoming fiscal events to provide further clarity on the strategy to improve the efficiency of homes across the country
- Set more ambitious targets for energy efficiency in non-domestic buildings and ensure policies support business investment in energy efficiency
- Tighten building standards for new and existing commercial buildings by introducing new benchmarking and quality standards
- Pass legislation for the Future Homes Standard by 2021 with full implementation in 2025
- Progress development of heat policy, giving industry clarity of plans during 2020

Reducing transport emissions:

- Develop a strategy to assist the market in delivering world-class electric vehicle charging infrastructure across urban, rural and remote parts of the UK
- Signal a clear strategy to support the mass uptake of low carbon vehicles, with an incentive package linked to levels of ultra-low emission vehicle sales, and clarity on company car tax and benefit in kind rates beyond 2023
- Support local authorities to help them reach 100% ultra-low emission fleets by 2030
- Develop by 2021 a long-term strategy for the decarbonisation of road and rail freight to 2050
- Consider a review into vehicle taxation to create a road and fuel tax system fit for the future, as we transition away from traditional fuels
- Create an Office for Sustainable Aviation Fuels to enable the UK to become a global leader in sustainable aviation. Provide clarity on funding for the Aerospace Growth Partnership and the Aerospace Technology Institute after 2026

Low-carbon power:

- Support accelerated deployment of large-scale renewables through Contracts of Difference auctions through the 2020s, including onshore wind where there is local support
- Develop a Regulated Asset Base (RAB) finance framework for new nuclear power investment and support for the delivery of the UK's first operational Small Modular Reactor (SMR) site by 2030
- Design and deliver a robust post-Brexit Carbon Pricing regime to replace the EU Emissions Trading System (ETS)
- Provide policy certainty for energy storage as a grid management tool and introduce legislation as necessary to support increased flexibility options in the power market

 Include both consumption and territorial emissions in greenhouse gas emission metrics, with both published alongside GDP and productivity statistics from 2020 onwards

Cross-sector decarbonisation efforts:

- Develop a market for Carbon Capture, Use and Storage (CCUS) by introducing a privately-financed RAB model in the early 2020s to support emissions reduction in the power sector and heavy industry
- Develop a competitive market framework to support innovation and cost reduction of electrolysis to produce clean hydrogen for use across sectors, including transport, heavy industry, and energy storage in the power sector



A decade of delivery

The Climate Change Act of 2008 and the legal setting of a national target to reduce greenhouse gas emissions by 2050 was a clear act of leadership by the United Kingdom in response to the dangers of a changing climate. Since then, another decade of scientific analysis, including the landmark 2018 IPCC report¹, has demonstrated conclusively that human activity is responsible for the warming and the increasingly extreme weather events now being witnessed.

While tackling climate change takes international action, national efforts will be critical to avoiding the most damaging impacts of a warming world. All countries have a duty to act, and it is right that the UK has maintained a position of international leadership, being the first major economy to revisit its commitment for decarbonisation and set a legally binding target to end its contribution to increasing carbon emissions by 2050. The UK's role as a host nation of COP 26 in 2020 will provide further opportunity for the country to demonstrate leadership as national climate plans developed following the Paris Agreement in 2015 are reviewed.

For the private sector, achieving net-zero emissions means that significant action must be taken to drive forward the low-carbon transition, whilst communicating to consumers what the transition will mean for them, and supporting the commercialisation and scale-up of existing technologies needed for deep decarbonisation. More and more investors are seeking to drive sustainability and support clean growth through their investments. Acting now will also give investors and businesses a competitive advantage, which is why the CBI has advocated for net-zero greenhouse gas emissions by 2050 and why we are urging the next government to make clear, credible policy decisions over the coming years.²

This report focuses on the new decade – the 2020s – which must see major policy and technology progress if we are to achieve a realistic pathway to net-zero. We review areas where policy certainty can support business and consumers. But there is real urgency. Many of our recommendations cannot be left until the end of the decade, as action is needed much sooner in some cases. Government has a critical role to play when faced with the challenge, and the opportunity, of transitioning to a low-carbon economy. Some key interventions will be necessary, but creating the right conditions for investment can support the market in bringing about these changes. The power of enterprise and free-markets should not be discounted. It is the business community that is already delivering many of the solutions, and all future governments should look to the power of the private sector to maximise levels of innovation and investment.

Given the complexity of the subject area, the CBI's recommendations naturally focus on our area of expertise: the interplay between business, government and consumers. Therefore, this report will by no means explore every avenue for change needed in the coming decade, but will identify what we believe are the key priority areas for government and business decision making.

Background to net-zero emissions

The CBI supports the target to reduce UK greenhouse gas emissions to net-zero by 2050. Backed by our members, we have provided public evidence on the benefits of decarbonising by mid-century and encouraged the government's decision to legislate for this target through an amendment to the Climate Change Act.³

In its recommendations to government, analysis by the Committee on Climate Change (CCC) demonstrated that reaching this target will be highly challenging. We do not underestimate the hurdles that must be overcome to secure climate neutrality.

The power sector provides an important example of the progression a once hard-todecarbonise sector can achieve in pursuit of sharp emissions reduction. Substantial growth has been realised in delivering large scale renewable deployment from onshore and offshore wind, which, coupled with the switch from coal to gas, has contributed to the reduction of greenhouse gas emissions by over 50% since 1990. This has, in part been a result of credible policy frameworks introduced by government such as the domestic Carbon Price Support tax creating the economic driver for the switch to gas generation from coal, and a sequence of supportive mechanisms for renewables, including the Renewables Obligation and Final Investment Decision Enabling for Renewables. The continued competitive auctioning of Contracts for Difference (CfDs), which has delivered record falls in offshore wind costs, means that this trend will continue.

The Paris Agreement

The Paris Agreement places onus on countries to limit global temperature increases to 2°C compared to pre-industrial levels, with a view that ambitions should stretch in pursuit of limiting temperature increases to 1.5°C.

The Paris Agreement references the need for 'net-zero emissions' to reach such targets, by stating the need '... to achieve a balance between anthropogenic emissions by sources and removals by sink of greenhouse gases in the second half of the century' (Article 4.1).

- To date, most governments have supported the increase in ambition for the longterm temperature increase limits, with many supporting further net-zero targets, perhaps in recognition of the IPCC's Fifth Assessment Report. Such a target would send a concrete signal to business to scale-up abatement of greenhouse gas emissions.
- The combination of 2°C, 1.5°C and the aim to reduce greenhouse gas emissions to zero provides a strong signal from the global community that could shift the benchmark against which countries and investors are expected to assess their development strategies and business plans.
- The reference to net-zero emissions goes further in affirming the global political will to phase-out fossil fuel use in the long term, providing further impetus to the call for fossil fuel divestment.

The energy intensive and manufacturing industries have also taken considerable early action to decarbonise, deploying energy efficiency measures where possible and commencing exploratory work on industrial CCUS. Whilst such progress in these sectors is notable, the CCC is correct to highlight that the UK's new long-term targets should be underpinned by a strategy to deliver a 'Just Transition' that ensures vulnerable consumers, and workers in transitioning industries are protected from any negative consequences.

When calling for a net-zero emissions target the CBI highlighted four key principles policymakers should consider when planning targets and pathways.

Building on progress made to date

The UK's reduction in emissions since 1990 has been a result of efficiency improvements across the economy and from strong government support, via subsidies and auctions that has driven a reduction in emissions from the power sector.

This progress is to be welcomed, as it is an important step towards net-zero emissions by 2050. But we must now accelerate action, building on the progress achieved so far. An expansion in supplies of low-carbon power is needed, combined with further action to develop a flexible grid that can manage an increasing volume of renewable electricity generation.

But major challenges remain, such as the decarbonisation of transport and heat, and we must see action here, both in terms of policy development and material reductions in emissions.

Stable, long-term policy frameworks

Increasingly complex interactions between different sectors will need to be managed through effective policy coordinated at national, regional and local levels. A whole systems approach is needed to reach a net-zero target.

Effective policies will need to be transparent, predictable, based on cost/benefit analysis, and allow market prices and open competition to determine the solutions and investments necessary to achieve climate change goals at the lowest cost. Policy should also support "anticipatory investment" to help deliver low-carbon infrastructure that is ready for future demand and ensures stable energy supplies. Using well-defined and predictable market frameworks to support the development of low-carbon power generation has proved effective and this should be a model for further policy development. The most recent auctions for large scale renewables have secured contracts at £39.65/MWh (2012 real) which are below current wholesale prices.⁴ Cost reductions on this scale are a major achievement and demonstrate the power of market-forces combined with well-designed policy frameworks.

But as we have made clear, other sectors now require attention which is why the CBI has called for sector-specific roadmaps detailing how the government will support hard-to-decarbonise sectors in progressing towards a net-zero target, such as heavy industry, heat and aviation. These should also support coordinated decarbonisation efforts between different sectors.

Continued funding for R&D and investment to scale up vital technologies

To meet net-zero emissions a range of technologies will need to be scaled-up and commercialised. Business can deliver this innovation, but government support is required alongside the development of commercial models to deliver the optimal outcome of reducing emissions.

UK government and devolved administrations and, where appropriate, the Regulator, must recognise and support the need for continued research and development to deliver innovative technologies such as direct air capture of carbon, bio-energy with carbon capture and storage, hydrogen, energy storage and soil regeneration, cost-effectively and at scale to achieve further emissions reduction across the economy. To help accelerate progress during the coming decade, there must be a real focus on the development, demonstrated and deployment of these types of technology. The latest ONS data on government expenditure on science, engineering and technology notes that only 3% of annual spend is on energy⁵. Given the scale of the challenge to decarbonise by 2050, this proportion needs to increase.

Behavioural change

Significant changes in behaviour will be required, especially from consumers and the public and private sectors to ensure progress is made across the economy to further reduce emissions.

Behavioural change and incentives are intrinsically linked, both for businesses and consumers. Consumer demand can clearly impact the environmental choices of business, while business decisions on services and technology can help consumers switch to more positive behaviours. But government will still need to facilitate impactful incentive schemes to support the behavioural change required to reach the UK's net-zero target.

If the transition is managed correctly with an effective policy framework, a net-zero target will ensure the UK retains its current position of international leadership on climate change policy, thereby maximising the economic opportunities and minimising the associated challenges.



Foundations for achieving net-zero

The scale of business and societal change required to meet net-zero emissions by 2050 will require clear and coordinated policy frameworks that can deliver this level of change. Over recent years the deployment of low-carbon electricity generation has been supported by policies such as CfDs and the Capacity Market as well as Carbon Pricing and the 2025 end date for coal-fired power stations. The CCC has said that delivering net-zero emissions by 2050 is "not credible unless policy is ramped up significantly" and delivery must progress with "far greater urgency".⁶

Delivering the next stage of emissions reduction through the 2020s will require coordinated action across different sectors, and in pursuit of net-zero emissions by mid-century, the CBI has developed four priorities to support well-developed policy frameworks that deliver emissions reduction across different sectors, including power, transport, heat, water and heavy industry.

1) A positive environment for investment

- Harnessing the flow of private capital to drive investment in low-carbon technologies is a priority. In recent years, low-carbon policies have incentivised investment by offering support funded through energy bills, such as the CfD mechanism (and to some extent direct funding from government for innovation programmes). As the CCC recognises, it will be vital to retain support such as the competitive auctioning of revenue stabilisation contracts throughout the 2020s to facilitate the continued delivery of renewable generation at scale and at least cost. The combination of market mechanisms with clear structures helps to reduce risk and support increased levels of investment.
- Many businesses and financial institutions have seized the opportunities green finance can bring, such as the development of green bonds, however there are others who are yet to embrace it fully. Whether this is as a result of a lack of knowledge or awareness, limited access to clear data and information, or an inadequate policy environment that is holding back the market, there is a clear role for policymakers to play to ensure that all businesses can access green finance and can fund their activities in a sustainable manner.
- The government's first Green Finance Strategy⁷ is a welcome development. It identified 'Financing Green' as a particular area of focus. This is just a starting point and thinking here must be developed further to enable the flow of finance and identify where it can be deployed to help decarbonise as fast as possible. With the correct framework, green finance can also provide access to capital, which businesses will need for Research & Development (R&D) into technologies that will help them become more energy efficient and in turn improve their productivity.
- The CBI welcomes the HM Treasury review⁸ into the socialisation of costs associated with reaching net-zero greenhouse gas emissions. It is important that this work ensures

that all future funding decisions are underpinned by the goal of meeting net-zero emissions by 2050, with this ambition shared across government.

The role of Carbon Capture, Usage and Storage (CCUS)

In creating the best investment environment to reach net-zero emissions, certain technologies need be scaled-up with the support of long-term policy frameworks and green finance. CCUS will have an important role to play in the long-term decarbonisation of several hard-to-decarbonise sectors, primarily in heavy industry and so must be afforded this type of targeted support.

In shaping the correct market for CCUS infrastructure in the UK, we believe the government must consider introducing a privately financed RAB model in the early 2020s, with a network usage fee to be paid by users of the transport and storage infrastructure network once established.

Given the major capital and operation cost challenges for heavy industry in deploying CCUS technology, we believe the power sector may be more likely to deliver the first CCUS projects in the UK, before heavy industrial players engage in the 2030s after the infrastructure and technology matures. The first CCUS 'anchor' project should be operational before 2030 begins, with at least three CCUS-enabled, net-zero industrial clusters operational by 2035.

In taking this approach, future proofing CCUS infrastructure will be paramount as more and more operators use the network over two, three and even four decades. In ensuring its economic viability and long-term usage concerning likely future demand, building 'right-sized' pipelines now for the transport of captured carbon is logical and mitigates the financial risk associated with constructing numerous smaller pipelines over a long period of time.

This infrastructure should also be built with the capability of transporting and storing large-scale volumes of hydrogen as well as Negative Emissions Technologies (NETs) such as BECCS in the near future. In taking this whole systems approach, the government may look to publish a pathway for NETs in the early 2020s to complement work on the development of CCUS infrastructure.

2) Governance of the low-carbon transition (role of regulators)

- Emissions reduction at scale will require decarbonisation to be a priority for all levels of government, with a key role to be played by regulators in the development of regulatory frameworks.
- The government must place decarbonisation at the heart of decision making within our Regulators so that they can develop longer-term approaches than are currently within their remit, placing this priority alongside consumer protection and fair competition in their priorities.
- As technologies and services continue to develop, government will need also to review the roles of individual regulators to ensure that they support the convergence of

different sectors, such as transport, energy and data and ensure that regulation can support efforts by business and consumers to reduce emissions.

• The need for a whole systems approach to carbon reduction is a clear priority, and government should continually assess if current governance structures are affording this view on the increasing interactions between sectors and technology.

3) Exporting low-carbon success

- The UK has world leading low-carbon energy expertise, an energy efficiency sector that already exports £1 billion and a globally renowned financial sector⁹. These elements place the UK in a unique position to be a world leader in exporting clean growth and green finance expertise.
- As the UK moves into a new trading relationship with the EU and the rest of the world, climate action and the growth of low-carbon exports should be viewed as priorities for new export and trade strategies.
- Existing academic and industrial expertise in low-carbon technologies, combined with a strategic focus on developing solutions that can deliver cross-sector decarbonisation, such as CCUS and the potential cross-sector uses for hydrogen will support the UK's ability to compete in the international race to reduce emissions. Developing low-carbon technology and service exports will help maintain the UK's record of growth while delivering emissions reduction both at home and abroad.



Developing supplies of clean hydrogen

Another technology that is likely to support long-term emissions reduction in hard to decarbonise sectors is hydrogen. While many solutions to fossil-based activity can be found in electrification, it is clear that for some sectors and applications, notably heavy industry, domestic and industrial heat, and transport, hydrogen has the potential to provide opportunities. There is also the potential for hydrogen production to support the increasing capacity of renewable power generation, as during periods of high output, excess electricity can be used to produce hydrogen, which will avoid the need for curtailing any renewable power generation and support a balanced grid. Such applications mean hydrogen has the potential to act as an energy storage technology, with inter-seasonal storage possibilities that battery storage cannot currently provide.

While the eventual scale of any future hydrogen economy cannot be determined, for it to have any meaningful use in reducing emissions, we must develop the ability to produce hydrogen in a clean, and affordable way. In the net-zero scenarios presented by the CCC, hydrogen was identified as an important technology for reach the 2050 target. It said, "a new low-carbon industry is needed with UK hydrogen production capacity of comparable size to the UK's current fleet of gas-fired power stations".¹⁰ To achieve this, the 2020s are identified as a decade where progress needs to be made on scaling up hydrogen production.

We recommend that the government support the scale-up of hydrogen-based technologies by supporting efforts to develop clean hydrogen production. In the renewables sector, it has been demonstrated that competitive market structures can support rapid reductions in costs, through innovation and reducing the cost of financing. The government should replicate this success by developing market-based tools to support clean hydrogen production.

4) A Just Transition

- The transition to a low-carbon economy provides many opportunities, but also risks that must be planned for and mitigated. This is why the CBI supports the focus of delivering a 'Just Transition' that supports consumers and businesses less able to act or negatively impacted by the transition.
- The government must plan and implement a transition to environmentally and socially sustainable jobs, sectors and economies as well as creating approaches to manage social justice and support fuel poor consumers, for example. The Scottish Just Transition Commission is a positive examples that supports a just societal transition including job creation and retention.
- It will require the correct political framework to enable innovation and a diverse range
 of skills and training to realise the full potential of a low-carbon economy. Some of the
 major hurdles to decarbonisation, such as improving energy efficiency and switching to
 low-carbon heat sources, will require a significant increase in skills provision to enable
 the delivery of new investment and technology.

Rating the current state of play

We summarise the progress of emissions reduction with the ratings below for progress on meeting net-zero across the areas of power, transport, heat and energy efficiency. Achieving net-zero emissions will undoubtedly require action beyond the scope of these areas, but to achieve necessary progress during the 2020s, we have identified these areas as a particular priority over the coming decade.

A clear observation is that the progress delivered to date has involved limited behaviour change, with emissions reduction delivered by one industry in particular; power. Maintaining progress in the coming years will depend on increasing changes to consumer and business behaviour. This is a challenge for policy makers and will require consistent information and policy tools to enable this change.

Power	Transport	Heat and energy efficiency
Good progress on the delivery of low-carbon electricity generation (over 50% in 2018). Coal removal target set and adhered to. Current block on CfD auctioning for new onshore wind and delays to plans for a smart and flexible grid are constraining further progress.	The highest single emitting sector responsible for 27% of UK emissions. Major hurdles to overcome, such as mass take-up of smaller electric vehicles for domestic and business use, solutions for larger vehicles, shipping and aviation. Requires significant behaviour change from consumers and busineses.	Across all sectors, heat accounts for more than 30% of UK emissions. Major challenge of switching 26 million homes to low-carbon heating over the next 30 years. Dependent on behaviour change, and complex local and national planning to achieve the best outcomes. Action on energy efficiency is behind schedule with a large policy and funding gap to meet existing targets.

The power sector has laid good foundations: but more must be done

Progress made to date in the power sector to decarbonise is well documented. In the past, being the highest emitting sector meant pressure was on electricity generators to reduce their emissions with the help of government support. Significantly reducing the generation of electricity from coal-fired power stations, and stepping up the levels of electricity interconnection with the rest of Europe were major steps in the right direction towards our previous 80% emissions reduction targets for 2050 and proved essential in meeting our Carbon Budgets to date. The power sector has laid the foundations for a successful and

substantial transition to a low-carbon future. But more progress needs to be made, and the transition to a smart, flexible and low-carbon power system needs to be maintained, which is why we attribute this sector an 'amber rating'.

Transport emissions are a priority as new technology delivers solutions

Transport is now the largest emitting sector, so receives a 'red rating' and it is right that policy makers look to deliver progress here following the success in reducing emissions from electricity generation. We are seeing progress in electrifying smaller vehicles, with new infrastructure and vehicle models becoming available. But there is still a long way to go here, and technology for significant reductions in emissions from larger vehicles, shipping and aviation needs to be researched and developed.

We need a plan to deliver low-carbon heat

A major cross-sector challenge will be the decarbonisation of heat, and the lack of progress of national policy to support change means we have given this a 'red rating'. Government at a national, devolved and local levels will need to support business with technology testing, scaling up deployment, and better coordination to help overcome the challenge of changing the majority of our homes and businesses to low-carbon sources of heat. Improving energy efficiency is linked to this effort, with some low-carbon heat technologies depending on high energy efficiency levels, while energy efficiency more broadly can help reduce emissions and save consumers and businesses money.

Other sectors will also need to deliver progress, with heavy industry, manufacturing and agriculture and land use requiring a strategy and policy support from government to help deliver further emissions reductions.



Policy recommendations – how to progress emissions reduction in the 2020s

The CBI sets out the following recommendations for policy makers to consider as priority actions to ensure that we can decarbonise at pace during the 2020s and get on track with our Carbon Budgets and meet the net-zero by 2050 goal. This is not an exhaustive list, so action should not be limited by these recommendations. CBI members have shaped these priorities, and they are aimed at supporting business action to reduce emissions. As such, they are focused on the business challenges of further emissions reduction to the power sector, accelerating the significant changes needed across transport, and progress for heat and energy efficiency.

These recommendations are shaped around three themes of developing future-proofed infrastructure; creating an attractive investment environment to deliver net-zero and clean growth exports; and incentivising behavioural change across consumers and businesses.

- **Developing future-proofed infrastructure**: many of our decarbonisation challenges require development of major infrastructure. Clear policy, regulation and targets can all contribute to this and it is a theme that many of the recommendations relate to.
- Creating an attractive investment environment to deliver net-zero and clean growth exports: some recommendations support the broader aim of ensuring the UK is a good place for business to invest. This is a necessarily broad category, but with a clear objective of making the case for investment easier and supporting opportunities for the UK to be world leaders in low-carbon technology development and the potential for exports.
- Incentivising behavioural change across consumers and businesses: to reach net-zero changing patterns of behaviour among consumers and businesses is essential. Some of our recommendations fall in this category, but it is clear that to reduce emissions at the pace required, additional changes in behaviour will be needed. However, we present some ideas for government that will support this.

Heat and energy efficiency

Developing future proofed infrastructure

Recommendation 1:

- Government should designate energy efficiency as a national infrastructure priority in its forthcoming National Infrastructure Strategy.
- Ensure the Government uses the upcoming fiscal events to continuously update the energy efficiency strategy with regulatory changes and additional funding where necessary.

Treating energy efficiency as a national infrastructure priority would change the way in which it is approached by government allowing the issue to be treated as other public investments such as public buildings and transport infrastructure. This could lead to further and long-lasting investment in energy efficiency and better coordination of delivery. While not a solution in itself, it would send a clear message to investors and consumers as to the direction of government policy.

Designating it as a national infrastructure priority should also allow for more robust tracking of progress and transparent reporting and will assist in accountability towards meeting targets.

In Scotland, for example, energy efficiency has already been designated as a national infrastructure priority, with £119.6 million allocated in the 2019/20 Scottish Budget for energy efficiency and fuel poverty, with plans to invest £500 million in energy efficiency by 2020/21.

The UK government should strengthen policies to drive retrofit energy efficiency measures in homes by increasing the rate of installation of energy efficiency, with a focus of targeting social housing, with the aim of increasing the energy efficiency of these homes by rating to C or better by 2030.

Government should also increase the cap for landlords facing costs to upgrade EPC ratings to Band D from £3,500 to £7,000 to maximise energy efficiency activity and tackle fuel poverty.

Recommendation 2:

• The government must pass legislation for the Future Homes Standard by 2021 with implementation in 2025.

CBI welcomes the government's commitment at the Spring Statement 2019 to a Future Homes Standard that will ensure "new build homes are future-proofed with low carbon heating and world-leading levels of energy efficiency". Improving the standards of new homes is an important step forward, however, we need emissions from residential and non-residential buildings to fall at a faster rate than they currently are.

To ensure that this ambition is met and to ensure that business has time to prepare, we recommend that the government pass legislation for the Future Homes Standard by 2021. This provides home builders four years to prepare for full implementation in 2025. To ensure success, Government must consult extensively with industry to ensure the

standards support net-zero pathways, beginning with the consultation launched in October 2019.

Additionally, there needs to be a link between building standards, energy efficiency and the planning system. Government should reform existing planning and building regulation to ensure that developers are actively considering energy efficiency within new developments and in local area developments. For instance, there may be scope to ensure funding is made available through requirements under Section 106 agreements. These agreements require the developer to provide a percentage of affordable housing, but this could be extended to include a percentage of energy efficiency improvements in the local area of the proposed development, or support community heating schemes for new homes.

Case Study: Rockwool

Energy efficiency retrofit programme transforms affordable housing in Portsmouth Wilmcote House in Portsmouth has been transformed to become the largest EnerPHiT (the retrofit equivalent of Passivhaus) standard scheme yet delivered with residents in-situ.

Over four-years, the 11 storey residential blocks made up of more than 100 units that provide much needed affordable housing for Portsmouth City Council, were upgraded to provide comfortable, safe and thermally-efficient homes for residents that will endure for many years to come.

One of many 1960s high rise blocks, Wilmcote House was in need of urgent improvement. Fuel poverty was a prominent cause of concern. So too damp, mould and condensation.

The target was set to reduce residents' heating demand by 90% and a minimum 30-year extension to the lifetime of the estate, with the entire project carried out as residents remained in-situ.

This involved the super-insulation of Wilmcote House using a combination of several products and systems, including a cladding façade system and a combination of External Wall and Flat Roof insulation provided by Rockwool, together with a selection of the company's Firestopping and Fire Protection products. Other works at Wilmcote House included roof replacement, installation of triple glazed windows, extension of the living areas, and more efficient heating and hot water and adjustment of the ventilation with heat recovery system.

As a result, Wilmcote House is the largest residential EnerPHiT project delivered with residents in-situ in the world and is a testament to what can be achieved by taking a holistic, fabric first, people-focused approach to building refurbishment. In 2018 scheme has received two RICS awards — one for Design Through Innovation, another for Regeneration, and has also secured a Constructing Excellence Award for Sustainability.



Recommendation 3:

• Progress development of heat policy, giving industry clarity of plans during 2020

Achieving the Net-Zero target clearly requires deep decarbonisation across all sectors, and the decarbonisation of heat represents a significant challenge. Identifying what energy intensive sectors such as, cement, steel and chemicals, can do to address their emissions will be key in decarbonising heat. Meanwhile we need a policy framework to address how we decarbonise the majority of homes using natural gas for heating. As we look forward, there will be a key role for technologies such as heat pumps, hybrid heat pumps, hydrogen, biofuels, green gas and the wider deployment of CCUS in the industrial sector.

The government's Transforming Heating report notes that it plans to set out a new roadmap for policy on heat decarbonisation by the summer of 2020. We must see progress by this point as we are approaching the end of the Renewable Heat Incentive (RHI) next year and business needs a strategy to support trials and development of new technologies. Additionally, a long-term policy framework on heat will need to be a part of a whole systems approach, including efforts to improve energy efficiency, decarbonise transport and industrial energy use. The CBI will bring forward detailed proposals on how to shape decarbonisation of heat policy in the Spring 2020.

Creating an attractive investment environment to deliver net-zero/clean growth exports

Recommendation 4:

• The government should ensure the policy framework for energy efficiency provides certainty and stability for businesses to invest

Changing the way in which we use energy will play an essential role in the UK's transition to a low-carbon economy. Direct emissions in the UK from buildings fell by 4% in 2017. Despite this improvement, further strides on energy efficiency in buildings must be made for the government to reach its target of improving energy efficiency in business and industry by 20% by 2030 and indeed for the government to meet its fourth and fifth carbon budgets.

There are many economic and social benefits to having energy efficient buildings. Not only are emissions reduced, energy productivity is increased, and the amount businesses spend on energy decreases boosting economic productivity.

It is widely accepted by the government, industry and organisations such as the CCC, that energy efficiency must be improved across the building stock in the UK. The government has previously acknowledged this and that a buildings size, its energy requirements and its purpose means that there is not a 'one size fits all' approach in deploying energy efficiency in buildings.

Currently, many businesses are put off by both the perceived upfront cost of investing in energy efficiency, and the complexity of existing support mechanisms.

Equally, government, alongside other public sector bodies, has a role to play in helping businesses to navigate the existing support structures. We have called on the government to fund a new business consultancy service to support businesses of all sizes with information about energy efficiency measures, links to local suppliers and funding opportunities. SMEs, who could potentially see a 30% reduction in their energy bills should they increase energy efficiency uptake, could benefit the most from this service.¹¹

One of the costs to business of installing energy efficiency measures is the impact on business rates. The CBI has called on the government to reform the current business rates regime, including how it supports investment in property. Business rates are a key factor when making decisions on both large capital investments where the return is realised over a longer period and smaller investments, such as improvements or upgrades to existing properties. The current level of business rates burden often means such investments are not economically viable. This is particularly important for productivity enhancing investments in energy efficiency. However, in many instances business rates can be the tipping point in delaying that investment decision putting the UK at risk of missing out on these benefits.

Incentivising behavioural change across consumers and businesses

Recommendation 5:

• The government must set more ambitious targets for energy efficiency in nondomestic buildings.

The use of Minimum Energy Efficiency Standards are beneficial, but the minimum 'E' rating is not ambitious enough to help meet the government's 20% energy efficiency target. Many businesses occupy buildings with short term lease arrangements, such that medium term payback opportunities cannot be realised by tenants. Greater onus must be placed on building owners to share the upfront cost combined with the long-term financial benefits of energy efficiency investment.

The Government should implement a mandatory increase of the minimum rating for commercial buildings from 'E' to 'B' by 2030. We welcome the Government's steps to consult on this in its Non-domestic private rented sector minimum energy efficiency standards consultation released in October 2019.



Recommendation 6:

• Government should tighten building standards for new and existing commercial buildings by introducing new benchmarking and quality standards.

Tightening building standards could include requiring benchmarking on energy per unit and/or the introduction of quality standards throughout a building's construction supply chain. This would not only improve energy efficiency in buildings, it would ensure greater consideration of energy efficiency in a building's life cycle.

Raising standards, strengthening accreditation and effective enforcement should increase quality throughout the supply chain and support delivery to a robust standard. Driving quality of service and data will support businesses achieving efficient use of energy and establish confidence and create trust in the industry and supply chain. These building standards should be based on actual operational performance rather than theoretical performance and on energy consumption, to address market failure.

Case study: Moat Homes and ENGIE retrofit homes to become zero carbon

On of the UK's first zero carbon retrofit homes projects was successfully launched in Essex this year. The five-home pilot scheme in Maldon, sees each property using energy provided by roof-mounted solar PV panels and battery storage. In addition, additional energy efficiency measures including specialist panels to external walls to make the properties air tight, new energy efficient pitched roofs and MVHR (Mechanical Ventilation with Heat Recovery) units to heat and ventilate the buildings. New triple-glazed windows and new electric cookers have also been added to the properties.

As a result, the final energy performance for each property will be near net carbon zero. The external panels can also be removed to install more energy efficient insulation in the future.

Transport

Developing future proofed infrastructure

Recommendation 1:

• A national charging infrastructure strategy that delivers a core national network of worldclass electric vehicle infrastructure across urban, rural and remote parts of the UK

A rapid uptake of electric vehicles during the 2020s will only be possible if a comprehensive charging network is in place, with smart home charging and interoperable public charge points that provide simple access for all consumers. Whilst the government's commitment of funding through the £400m charging infrastructure fund is a positive signal; to create a future-ready network that encourages people to switch to electric vehicles, the government must have a clearer strategy to deliver the right mix of slow-speed charging where vehicles park for longer periods, supplemented by an ultra-rapid network on the motorways and strategic road network that can give confidence to all users. A strategy is needed to help the market deliver a charging infrastructure in the most effective locations, and to support the interaction with a decarbonized energy system.

This should take into account the recent recommendations of the National Infrastructure Assessment and the CCC's 'Net Zero' report around the potential role for Ofgem in facilitating anticipatory grid investment to support the uptake and roll out of electric vehicles. Effective planning will help ensure that the switch to electric vehicles and increased electricity use is complemented by increased power generation from low-carbon sources, with the potential for electricity storage and increased network flexibility resulting from vehicle to grid charging.

If complete coverage is to be achieved the government must also subsidise, by 2022, the provision of rapid charge points in those rural and remote areas where the market would not otherwise deliver due to lack of commercial viability.



Case study: Strategic partnership to deliver charging infrastructure in Scotland

A new £7.5m Strategic Partnership between the Scottish Government, SP Energy Networks and Scottish and Southern Electricity Networks is focussed on ensuring that Scotland has access to a world-leading electric vehicle charging network and the electricity infrastructure needed to support this. The Strategic Partnership will develop, demonstrate and trial a new joined up model for delivering infrastructure – a model reflecting Scotland's ambition to lead the UK in the decarbonisation of transport, and in a way that delivers access to everyone, no matter their circumstances or where they are in Scotland. It will be developed in Scotland, but will be a model that can guide developments across the UK. This Partnership will inform and influence the low carbon transition, positioning Scotland as a leader in this area.

In central and southern Scotland, SP Energy Networks will deliver additional public electric vehicle chargers integrated with the electricity network. This pilot project will see SP Energy Networks develop a model to increase the pace, accessibility and efficiency of the deployment of public chargers.

Frank Mitchell, CEO SP Energy Networks, said:

"As Scotland drives towards net-zero emissions, decarbonising transport will be essential. This ground breaking pilot project will support the shift to electric vehicles we need to make sure that every community has equal access to charging points which are connected into Scotland's electricity networks."



Recommendation 2:

• Government should develop by 2021 a long-term strategy for the decarbonisation of road and rail freight to 2050

To date, unlike cars and vans, there is no decarbonisation strategy for freight. Given heavy goods vehicles and buses account for approximately 27% of all road transport emissions the government must prioritise the publication of a road freight decarbonisation strategy, particularly if it is to achieve its overall net-zero emissions target.

As recommended by the National Infrastructure Commission (NIC) within its freight report, the government should set plans to ban all sales of new petrol and diesel HGVs by 2040 and to prepare the nation's infrastructure for the deployment of alternative fuels such as battery electric, biofuels and green gas, and hydrogen. Any government strategy must therefore promote routes to market for all technologies, consider the requirements for new fueling and charging infrastructure, and implement targets in line with industry vehicle replacement cycles.

The UK's rail system is one of the lowest carbon forms of transport and yet no strategy exists for the decarbonisation of rail. If the government is committed to delivering on netzero emissions, it is vital that it sets out a long-term strategy, including the incentives and infrastructure requirements, for the future of rail. This strategy must compliment the industry recommendations arising from the Williams Rail Review whilst also building on the analysis already conducted by the National Infrastructure Commission freight report and more recently the Rail Industry Decarbonisation Taskforce. This strategy should be published by 2021 given the long-term investment cycles in rail infrastructure.

Creating an attractive investment environment to deliver net-zero/clean growth exports

Recommendation 3:

 The creation of an Office for Sustainable Aviation Fuels to harness cross-departmental expertise and enable the country to become a global leader in sustainable aviation. Clarity on funding for the Aerospace Growth Partnership and the Aerospace Technology Institute after 2026.

Growing our regional and international links whilst also meeting environmental commitments presents a considerable challenge and will require an unprecedented step change in aviation technology and fuels. The UK has been an influential voice within the International Civil Aviation Organization (ICAO), acting as a strong proponent for the timely implementation of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Business urgers the UK to take leadership at the next ICAO General Assembly in 2022 to set an ambitious emissions reduction target in line with the Paris Agreement.

Industry sees the most compelling opportunity for the UK to exert influence over carbon emissions through the investment in advanced technologies which can be deployed globally, creating both export revenues and contributions to a more environmentally efficient industry world-wide. If we are to realise the opportunities for UK sustainable fuels production the government, together with industry, should create a strategy to ensure the development of UK expertise and innovation. To provide early certainty for investors, clarity needs to be provided on the funding for the Aerospace Growth Partnership and the Aerospace Technology Institute, which is only agreed up until 2026. To support these aims, business calls for the creation of an Office for Sustainable Aviation Fuels to harness cross-departmental expertise and enable the country to become a global leader in sustainable aviation.¹²

Incentivising behavioural change across consumers and businesses

Recommendation 4:

- A government strategy to incentivise the mass uptake of low carbon vehicles across all consumers and business
 - The government should set out a supportive incentive package that links to ultralow emission vehicle sales by the time of the 2020 Spring Statement
 - Provide long term certainty through publishing company car tax and benefit in kind rates beyond 2023
 - The government should outline how it will support local authorities in reaching 100% ultra-low emission fleets by 2030
 - All central government contracts should require potential suppliers to lay out how they will reduce the environmental impacts of delivering the contract

New vehicle registrations continue to reveal the growth of electric vehicle (EVs) and alternatively fuelled vehicle (AFVs) registrations¹³ however, the pace of uptake remains far from those targets set in the Road to Zero strategy for the next decade¹⁴. While the whole lifetime costs of running these vehicles will continue to fall, when compared to an internal combustion vehicle, the combination of higher upfront costs, and the need for some users to adopt new refuelling behaviours, means that stable support packages are required.

This is particularly important given the increased likelihood of low-income households owning the oldest and most polluting vehicles and the reliance on car ownership for journeys outside of London.¹⁵ If zero emission vehicles are to deliver for all parts of society it is critical the government sets out a supportive incentive package that links to ultra-low emission vehicle sales by the time of the 2020 Spring Statement. This will not only incentivise consumers to change their behaviour but give manufacturers and charging infrastructure providers with the confidence to invest in the market.

Fleets, including commercial and company car vehicles, make up half of all new car sales in the UK, and combined with their significant of purchasing of light good vehicles, can therefore have a transformative role in shifting the dial on the uptake of low emission vehicles. This is due to the way fleet owners pay for the vehicle and the fuel meaning that the much lower operating costs of EVs can be factored into their whole life cost analysis, thereby already making them a cost-effective option for the sector.¹⁶ Given the role fleets play in delivering change quickly, generating sales and creating supply for the secondhand market, the government must give fleet operators long term certainty through the publication of company car tax and benefit in kind rates beyond 2023.

While the Road to Zero committed to central government leading the way by setting targets for their car fleet¹⁷, where to date there has been positive progress¹⁸, there is still some way to go for local government fleets. To this end the government should outline how it will support local authorities in reaching 100% ultra-low emission fleets by 2030 and should review public procurement practices to ensure suppliers lay out how they will

reduce the environmental impacts of delivering the contract, such as through the deployment of ultra-low emission vehicles.¹⁹

Case study: ENGIE UK – partnerships delivering rapid EV charge points in West Yorkshire

This summer the installation began for 88 rapid electric vehicle charging points across West Yorkshire. The scheme is a collaboration between West Yorkshire Combined Authority and its partner local authorities - Bradford, Calderdale, Kirklees, Leeds and Wakefield councils. Following its successful bid for £2 million funding from the Government's Office for Low Emission Vehicles (OLEV), West Yorkshire Combined Authority appointed Leeds-based ENGIE to install, own and operate the new charging points. West Yorkshire Combined Authority and the partnering local authorities are also providing a further £1.2 million of match funding for the scheme.

Nicola Lovett, CEO of ENGIE UK and Ireland, said: "These chargepoints will play a key role in tackling air pollution and creating a greener, cleaner place for people who live and work in West Yorkshire."

The rapid charge points are free to use until October 2021 and will support users of private cars, as well as taxis and private hire vehicles.



Recommendation 5:

• Government should consider a review into vehicle taxation to create a road and fuel tax system fit for the future

The government has a role to use fiscal levers based on real world data to incentivise low emission driving, and more importantly, encourage the purchase of the right vehicles for the right journeys. With the rapid projected uptake of low emission vehicles during the 2020's and the increased connectivity in vehicles, the government should take this opportunity to review the fuel duty revenues it obtains, from vehicle excise duty and company car tax. In thinking about how we can prepare the transport network for a new greener future a review, as suggested by the Transport Committee, should also include the economic, environmental and social impacts of tools such as congestion charges, workplace parking levies, low emission and clean air zones. The government should take the opportunity to respond to the Committee's inquiry into road pricing and sustainable transport by the end of 2021.²⁰



Power

Developing future proofed infrastructure

Recommendation 1:

- Provide policy certainty on the ability for energy storage to be utilised as a grid management tool.
- Define storage technology in legislation to increase flexibility options in the power market

As renewables in the UK are predicted to grow exponentially over the next two decades, thanks in most part to the government backed CfD, electricity storage will become a key lever in managing increasingly intermittent loads on the system and if procured correctly, commercial storage could be used as a grid management tool. The same can be said for low-carbon gas solutions such as hydrogen and biogas.

In the context of reaching net-zero greenhouse gas emissions by 2050, for both electricity and gas, storage options such as batteries and pumped hydro among others can provide valuable levers for market flexibility, especially when managing demand peaks, which is becoming ever more important as renewable power continues to drop in price and deploy at larger scales.

In the UK, however, uncertainties exist around large-scale deployment of electricity storage; uncertainty generated by changes to network charging and potential changes to the recovery of certain policy costs make the economic case for on-site generation and storage challenging, often deterring customers from investing. In addition, large-scale, inter-seasonal storage currently poses the greatest technical challenges and should be supported through demonstration projects as soon as possible. Storage requires regulatory and policy support which we believe the Government must lead on by taking a technology neutral approach.

Recent announcements by the UK Government that BEIS will reconsider whether the 50MW NSIP capacity threshold for electricity storage is appropriate are welcomed. Now, the government must define energy storage in primary legislation so that it can compete with other technologies in the UK's power market.

Case Study: Centrica Business Solutions – Battery storage plant supplies flexible power

The Roosecote site on the Cumbrian coast was built as a coal-fired power station in 1953. Centrica Business Solutions sanctioned the project to build a battery storage plant on the site which would provide more flexible power to the region.

Commissioned in December 2016, the 49 MW battery storage facility is part of a £180m investment into new flexible power plants across the UK.

Completed at the end of 2018, the battery plant is used as an asset to support National Grid. It stores energy and discharges it back onto the network in response to fluctuations in electricity supply and demand.

With the inherent fluctuations of renewable energy generation, such as solar and wind, Centrica Business Solutions can use its portfolio of flexible power stations and energy storage, such as Roosecote, to provide a stable back-up energy source.

The Roosecote battery holds enough power to meet the needs of around 50,000 homes; the equivalent to powering a town the size of Carlisle. It can respond to fluctuations in demand in under one second. With a maximum capacity output of 49 MW, the equivalent of 123,000 batteries, Roosecote is one of the largest battery storage facilities in Europe.

Creating an attractive investment environment to deliver net-zero/clean growth exports

Recommendation 2:

Support accelerated deployment of large-scale renewables including onshore wind by
providing a route to market via the CfD in the 2020s to support the delivery of onshore
wind where there is local support and projected cost-savings for the consumer across
the lifetime of the projects.

Deployment of large-scale wind and solar projects have been supported via the CfD mechanism, which has played a key role in driving down the costs of offshore wind to the point where it is effectively 'subsidy-free', whilst sustaining low-carbon supply chains and jobs across the UK. Onshore wind must be afforded the same opportunity that it once had to participate in CfD auctions, subject to meeting the requirements of the planning regime.

Vivid Economics recently determined that deploying 35GW of onshore wind by 2030 (as recommended by the CCC in their net zero report) would save the average household £50 each year^{21 22}. The CCC also recommended new CfD contracts for onshore wind in their latest Progress Report to Parliament 2019, as one of their 25 immediate actions for government in pursuit of net-zero emissions by 2050. As reported by the House of Commons Science and Technology Committee, with a stable market to incubate the UK's supply chain, the UK could be exporting £360m a year to the global onshore wind market, a fourfold increase on today. Analysis by Arup indicates that the CfD mechanism reduces the levilised cost of energy from an onshore windfarm by £6-12/MWh²³, ultimately benefiting the end consumer.

Planning policy should also seek to support the delivery of onshore wind by utilising more efficient turbine technologies at new and repowered sites to ensure that necessary cost

reductions are facilitated. In addition, local authorities must be actively encouraged to promote local support for onshore wind projects and advocate national reform of planning policy.

Recommendation 3:

• Develop a Regulated Asset Base (RAB) finance framework for new nuclear power investment and support for the delivery of the UK's first operational Small Modular Reactor (SMR) site by 2030

The government has made clear its support for new nuclear power (at the right cost and where it can be demonstrated that it can be cost competitive with low-carbon alternatives) and an opportunity has rightly been identified to reduce the cost of future new nuclear projects by implementing a new approach to nuclear financing.

The CBI supports detailed consideration of the Regulated Asset Base (RAB) model for future new nuclear project financing as it allows for greater risk-sharing on construction (and other risks) and an allowance for revenue during construction. The RAB could also enable pension funds to privately finance new nuclear power and drive a significant cost of capital reduction to the benefit of the end user through reduced prices. Government should continue to make the case for including nuclear in ESG investments, and support its inclusion in the EU Taxonomy framework to ensure the broadest possible sources of investment.

In order to secure such financial assurances and risk management, the government must fully assess and consider the implementation of a RAB model for new nuclear power financing in a timely way. This includes considering the role for Ofgem as the Economic Regulator, in addition to publishing details of the wider framework as soon as possible.

In addition to large-scale nuclear power, Small Modular Reactors (SMRs) have the potential to be cost-effective, innovative contributors to the UK's energy mix, but the government must act in a timely way if progress is to be made towards delivering the first operational SMR site by 2030.

In reaching this goal, the government must identify SMR compatible sites in the UK as soon as possible and provide policy certainty required to underpin future investment in SMR generation capacity. The government must also ensure that the regulatory process to license SMR sites is replicable to allow for cost-reductions for future SMR projects.

The government should therefore work with industry to set indicative dates for key milestones for the deployment of a first-of-a-kind SMR by 2030.



Recommendation 4:

• Implement a robust post-Brexit Carbon Pricing regime to replace the EU ETS

As the UK leaves the EU, and the EU Emissions Trading System (ETS) a replacement scheme must be introduced immediately to continue incentivising cost-effective abatement of greenhouse gas (GHG) emissions in line with our net-zero 2050 target. It is recognised that in the near term this may need to be delivered through a carbon taxing approach involving the existing Carbon Price Support tax and the new Carbon Emissions Tax.

Longer-term, the government should look to introduce a UK ETS linked to the EU ETS based on a consistent trajectory with appropriate protection against carbon leakage. This replacement scheme should be in place as soon as possible. It is important that the UK continues its global leadership and is not perceived to be wavering on its climate change commitments. In this vein, it will also be important for HMT not to make changes to the Carbon Price Support tax in the near term.

Incentivising behavioural change across consumers and businesses

Recommendation 5:

 Greenhouse Gas (GHG) emissions metrics should include both production and consumption emissions moving forwards, and both must be published alongside GDP and productivity statistics from 2020 onwards.

The legislating of a net-zero target in the UK has placed the onus on government and the public and private sectors to improve the way outcomes are met across the delivery of policy and support for technology development in response to climate change. On an international stage, the UK must lead in action taken to mitigate the impacts of climate change on the environment, society and the economy.

However, to continue delivering credible and strengthened policies in pursuit of net-zero emissions by 2050, and to encourage gradual behavioural change, the profile of this target must be raised. The net-zero target is one for the whole economy to achieve. In reaching such an ambitious goal, the measuring and reporting of our GHG emissions should be held to similar importance as the way we measure and report on changes to our economy. This would raise the profile of action taken to reduce GHG emissions and rally public and business support across the economy

As such, we propose that the government publishes regular GHG emissions metrics alongside GDP and productivity statistics which must include both consumption and territorial emissions. In doing so, the government will be compelled to consider economic growth with total emissions reduction which will be vital if we are to meet our long-term decarbonisation ambitions. We propose that emissions metrics from the power sector are published first, as a benchmark towards further action across the economy.

In measuring both production and consumption emissions, the government must consider the impact future policy decisions will have on reducing emissions whilst also ensuring that progress is not achieved by offshoring emissions – something we believe must be managed wholly by the UK, at home.

Conclusion

It is vital that any future government responds to the priorities set out in this report and recognises the need to put energy and climate action at the heart of any future legislative and regulatory programme.

In the face of ongoing domestic and international political uncertainty, the business community has a duty to lead by pursuing ambitious plans for delivering new low-carbon technologies and reducing emissions. The CBI welcomes companies and sectors that are setting their own net-zero emissions targets and supports those hard-to-decarbonise sectors which require additional support. Such action demonstrates the power of decisive action from business and provides clarity for supply chains and customers. Sustainability plans are becoming common place across businesses, and these should continue to be prioritised and made as ambitious as possible in order to help employees play their part in reducing emissions and waste. For investors, the growth of green and sustainable finance represents a huge opportunity to support decarbonisation of the economy and strengthen the UK's position as one of the world's great financial centres.

The UK's hosting of COP 26 in 2020 is an important milestone for international climate negotiations, and a major opportunity for the government and business community to come together to create a pathway to net-zero emissions and a sustainable economy for the future. We must all make the most of this opportunity and use the new decade to set the country on a path to deliver our low-carbon future.



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