GREENER WORKPLACES FOR A JUST TRANSITION

A TUC TOOLKIT FOR TRADE UNIONISTS

About us

The TUC exists to make the working world a better place for everyone. With 48 member unions and around 5.5 million members, the TUC is the voice of the UK at work.

We support unions to grow and thrive, and we stand up for everyone who works for a living. Join us.

About this toolkit

The aim of this toolkit is to help union officers and reps in England[1] who want to take action on the climate emergency, future-proof their jobs, and negotiate for greener and fairer workplaces. It is designed to support the voice of workers and their unions.

It provides information, tools and ideas to campaign, organise and raise awareness. It also includes negotiating and bargaining checklists on different areas of workplace sustainability. It aims to ensure that workers, through their unions, have a central voice in the changes that will be needed in every workplace to ensure a just transition to a greener and fairer UK.

The resources in this booklet are designed to be used on TUC and union training courses, as well as to support action in the workplace and at community level.

Using this toolkit if you are a freelancer or self-employed

In this toolkit we have focused on how unions can organise workplace campaigns and negotiate with employers to create more sustainable workplaces. But in the case of freelancers and the self-employed, the 'workplace' may include several different places of work and instead of a single employer there may be multiple agencies or contractors.

Many of the suggestions in this book could be adapted to the circumstances of freelancers and the self-employed but there will also be circumstances where the different employment relationship and industrial relations background may make this more challenging. Reps should speak to their union for advice on the best approach if unsure.

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Contents

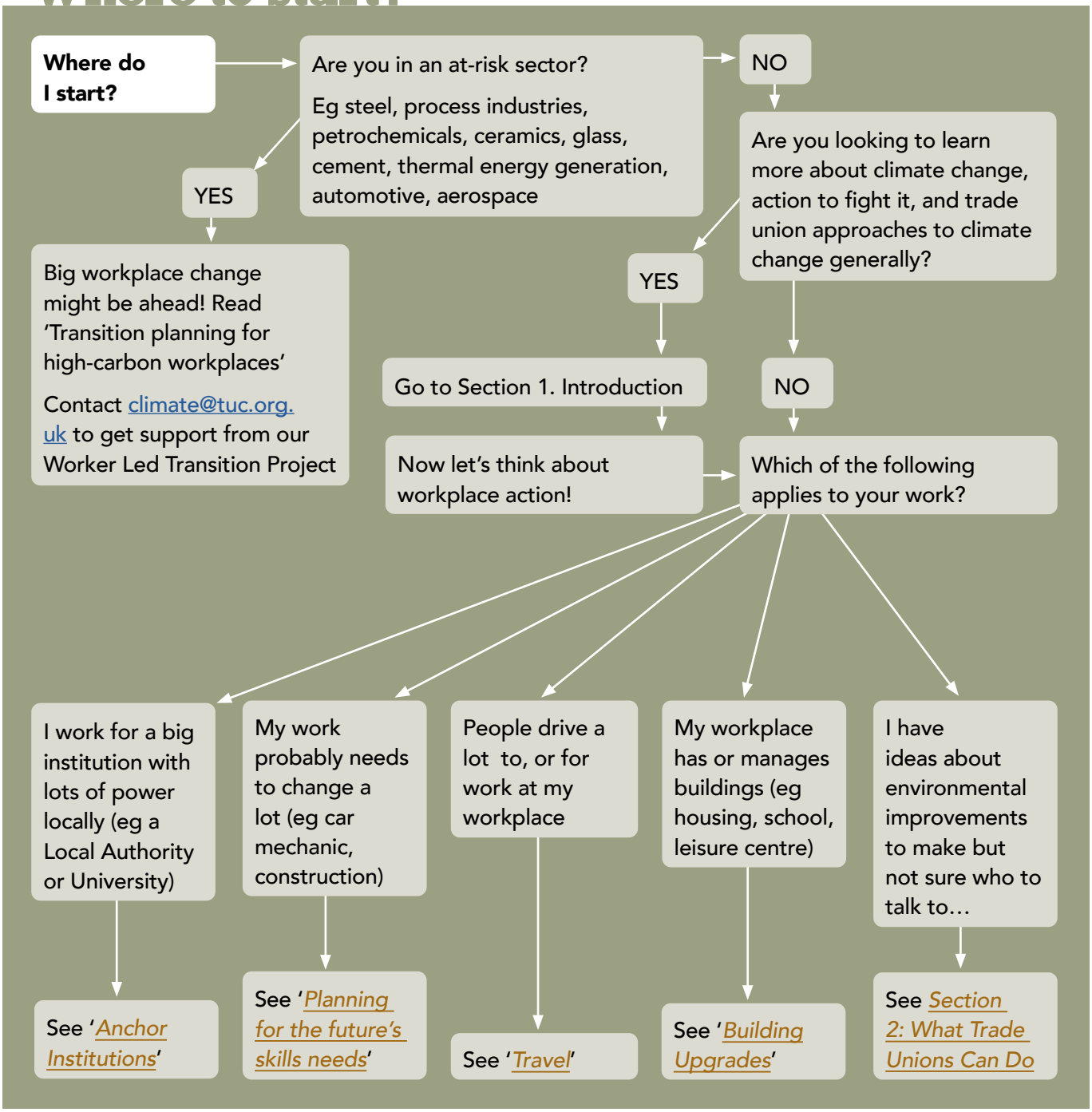
SHORT ON TIME?

If you are short on time, these resources may help:

- *How to Start Talking About Climate in Every Workplace* (15-minute online course)
- *The TUC Guide to Building Retrofit at Work* (two-page explainer leaflet and video about building upgrades)
- *Too Hot, Too Cold: how to protect workers from extreme temperatures and fight climate change* (15-minute online course)

Alternatively visit tuc.org.uk/climate for links to these and other resources.

Where to start?



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Finding your way around this toolkit

This toolkit is split into four sections. To help you find the information you need more quickly and understand what sections might be most useful for you, this page explains the purpose of the different sections.

Section 1: Background and context


Nature loss

Nature loss describes the global decline in animals and plants. Species are now being lost at unprecedented rates due to the impact of human activity on the world's ecosystems.

The 'age of extinction'

The UN has warned that up to one million species of animals and plants are facing extinction.

Species are going extinct at a faster rate than has been seen for millions of years. This decline is not only bad for wildlife and nature, but bad for people too. It is often described as the nature 'emergency' or 'crisis' and it is just as much a threat as the climate emergency.

Causes — the impact of human activities

Human activities such as deforestation, intensive farming and fishing, industrial and domestic activities that pollute the air, soil and water are all causes of nature loss. Climate change is also a key driver.

In 2020, the UN warned that the world had failed to meet any of its targets to stop the destruction of nature for the second decade in a row. This included targets to protect coral reefs, preserve natural habitats and reduce plastic and chemical waste to levels that prevent damage.

Species are going extinct at a faster rate than has been seen for millions of years.

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This section explores why the climate and nature crisis is an issue for trade unionists. It considers the causes and consequences of the crisis, the laws and policies that are already in place to try to tackle it and what further action is needed. Find out why unions are calling for a just transition and why a fair and fast shift to a net zero economy is vital for workers in the UK and beyond.

Section 2: What can unions do?


4. Job quality
- What are the opportunities and risks for pay and conditions (safety, flexibility, etc) through the transition?
- Are there opportunities for job increases and risks of job losses in the transition?
- How should job quality and job numbers be protected?

5. Worker voice and governance
- What processes and structures should be set up to give workers a deciding role in the transition process (eg via a just transition agreement or a revised collective bargaining agreement)?
- Once there is agreement between the workforce and employers on a transition plan, how should it be implemented and monitored?

Introduction

Green reps will need to know who has environmental responsibilities within the management structure. In some larger workplaces there may be an environmental team dealing with different aspects of the sustainability agenda. In others it will be one person combining the role with other duties, or, no one designated at all. Many workplaces will use a specific Environmental Management System (EMS) or standard to manage environmental or climate issues. At the branch induction for green reps this should be part of the information that is passed on.

SCOTTISH SOUTHERN ELECTRIC'S JUST TRANSITION PLAN

Energy company Scottish Southern Electric (SSE) has become the first company in the UK's energy sector to publish a just transition strategy. It sets out 20 principles that will underpin its strategy to move toward net zero. These principles aim to protect workers and communities. It includes four principles under "for good, green jobs":

1. guarantee fair and decent work
2. attract and grow talent
3. value employee voice
4. boost inclusion and diversity.

It says:

"SSE has long-standing and mature frameworks to facilitate partnership working with trade unions and recognises the critical role trade unions play, particularly in times of change, for ensuring that employee voice is factored into decision-making. The appointment of a non-executive director with responsibility for employee matters has also elevated the strategic nature of the employee perspective to SSE's board.

"Listening to, and acting on, employee voices in the green transition will inform SSE's decision-making at a strategic and workforce level."[10]

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This section considers action that unions can take at a workplace level. It gives practical information to support unions in developing strategies for negotiating with employers to secure both improvements for the environment and a fair deal for workers. Find out more about the role of trade union green reps as part of a whole branch approach. Learn how to effectively map and monitor environmental issues in the workplace. Understand different approaches to bargaining and negotiating for a just transition and engaging members for effective workplace campaigns. It includes bargaining checklists and case studies.

Section 3: Workplace issues


TAKING ACTION ON ADAPTATION AND RESILIENCE

Adaptation Scotland, UNISON and STUC have produced a workbook on climate hazards and resilience in the workplace that provides tools and checklists to:

- assess which climate hazards are most relevant to your workplace and who will be most vulnerable to them
- conduct a site walk round to identify specific risks
- develop a risk assessment of workplace-specific climate risks
- create a weather emergency plan for your workplace
- turn a risk assessment into adaptation actions.

PCS EXTREME WEATHER MODEL AGREEMENT

Developed by the public sector trade union PCS, this model agreement covers a range of measures to protect workers from impacts of extreme weather. See Section 4 for model agreement text.

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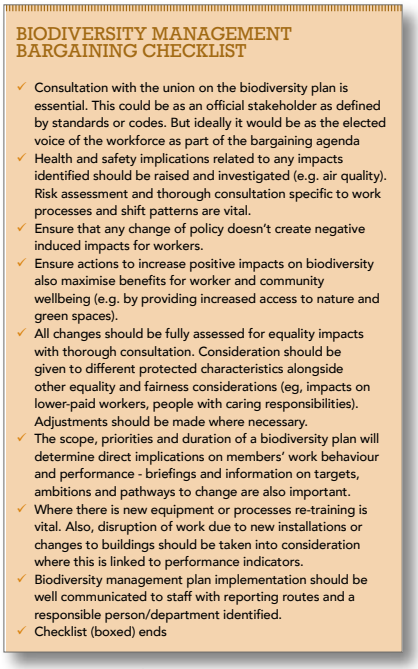
This contains detailed background information and guidance on specific issues relevant to workplace sustainability. For example, it covers work-related travel, resource efficiency, procurement, energy use and many more topics.

It is aimed at green reps and other workplace reps who are looking to secure improvements in a particular area.

Find bargaining checklists, action plans, case studies and other useful information to help you plan successful workplace sustainability campaigns that benefit the environment and members.

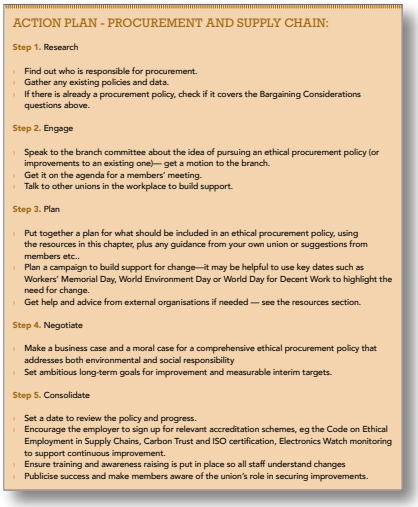
› Bargaining checklists



BIODIVERSITY MANAGEMENT BARGAINING CHECKLIST

- ✓ Consultation with the union on the biodiversity plan is essential. This could be as an official stakeholder as defined by standards or codes. But ideally it would be as the elected voice of the workforce as part of the bargaining agenda
- ✓ Health and safety implications related to any impacts identified should be raised and investigated (e.g. air quality). Risk assessment and thorough consultation specific to work processes and shift patterns are vital.
- ✓ Ensure that any change of policy doesn't create negative induced impacts for workers.
- ✓ Ensure actions to increase positive impacts on biodiversity also maximise benefits for worker and community wellbeing (e.g. by providing increased access to nature and green spaces).
- ✓ All changes should be fully assessed for equality impacts with thorough consultation. Consideration should be given to different protected characteristics alongside other equality and fairness considerations (eg, impacts on lower-paid workers, people with caring responsibilities). Adjustments should be made where necessary.
- ✓ The scope, priorities and duration of a biodiversity plan will determine direct implications on members' work behaviour and performance - briefings and information on targets, ambitions and pathways to change are also important.
- ✓ Where there is new equipment or processes re-training is vital. Also, disruption of work due to new installations or changes to buildings should be taken into consideration where this is linked to performance indicators.
- ✓ Biodiversity management plan implementation should be well communicated to staff with reporting routes and a responsible person/department identified.
- ✓ Checklist (boxed) ends

› Action plans



ACTION PLAN - PROCUREMENT AND SUPPLY CHAIN:

Step 1. Research

- Find out who is responsible for procurement.
- Gather any existing policies and data.
- If there is already a procurement policy, check if it covers the Bargaining Considerations questions above.

Step 2. Engage

- Speak to the branch committee about the idea of pursuing an ethical procurement policy (or improvements to an existing one)— get a motion to the branch.
- Get it on the agenda for a members' meeting.
- Talk to other unions in the workplace to build support.

Step 3. Plan

- Put together a plan for what should be included in an ethical procurement policy, using the resources in this chapter, plus any guidance from your own union or suggestions from members etc..
- Plan a campaign to build support for change—it may be helpful to use key dates such as Workers' Memorial Day, World Environment Day or World Day for Decent Work to highlight the need for change.
- Get help and advice from external organisations if needed — see the resources section.

Step 4. Negotiate

- Make a business case and a moral case for a comprehensive ethical procurement policy that addresses both environmental and social responsibility
- Set ambitious long-term goals for improvement and measurable interim targets.

Step 5. Consolidate

- Set a date to review the policy and progress.
- Encourage the employer to sign up for relevant accreditation schemes, eg the Code on Ethical Employment in Supply Chains, Carbon Trust and ISO certification, Electronics Watch monitoring to support continuous improvement.
- Ensure training and awareness raising is put in place so all staff understand changes
- Publicise success and make members aware of the union's role in securing improvements.

Section 4: Tools and resources

Find examples of surveys, checklists, agreements, forms, letters and other resources that you can adapt for your workplace to help you to support and develop your campaign. This section also includes a glossary of terms and further sources of information.

Glossary

We've tried to avoid unnecessary jargon but we've also included a glossary of some of the more technical terms for ease of reference.

It's not just for green reps

As well supporting the role of green reps, this toolkit has been designed for use by other trade union reps such as branch officials, health and safety reps and union learning reps. Here are some suggestions of some bits of the toolkit that might be of particular relevance to reps in other roles:

Union officers, branch officials and reps

- Why just transition is a trade union issue
- Negotiating on environmental issues
- Understanding members' concerns
- Developing transition agreements
- The role of the green or environmental rep

Health and safety reps

- The case for action — health, social and equality impacts
- Air pollution
- Cross over with the health and safety agenda

Union learning reps

- What skills will workers need for a net zero, zero-waste UK?
- Green skills and the ULR role
- Climate-proofing on jobs and skills
- Awareness raising

Case studies

- Unite shop stewards welcome investment in electric bus manufacturing
- Enel (Ente nazionale per l'energia elettrica) SpA Just Transition Agreement
- RMT: Let's get the workforce organised and get ready to transition into renewables
- Health and safety/ environmental audits at GKN Driveline, Birmingham
- UCU environment rep shows the way to a greener future at Cardiff University
- Pushing for a green new deal at Rolls-Royce
- University of Liverpool Green New Deal framework
- National further education pay claim
- Intellectual Property Office (IPO), Newport, South Wales
- Green skills in steel
- Battersea and Wandsworth Trade Union Council local authority engagement
- A breath of fresh air — a CWU rep's campaign against air pollution
- Science-Based Targets Network
- UNISON rep creates a haven of green space for patients, staff and nature at hospital
- Swansea Council action on single-use plastics

- Travel for work at Cardiff University
- Cycling for work at Welsh Government
- A pint doesn't have to cost the earth

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SECTION 1

INTRODUCTION

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INTRODUCTION

"Every country, every town, every workplace needs a plan to get us to a zero carbon economy on time. And everywhere, trade unions must be involved to ensure the transition is just and timely."

The climate emergency has massive implications for the world of work. From firefighters on the front lines of flood defence to teachers in overheating classrooms, from farm workers to offshore energy workers, people at work are already feeling the threats of climate change.

Changing our workplaces to phase out climate-changing greenhouse gas emissions and adapting to protect against extreme weather and other effects, will take a whole-economy transformation. Every country, every town, every workplace needs a plan to get us to a zero carbon economy on time. And everywhere, trade unions must be involved to ensure the transition is just and timely.

TUC OBJECTIVES

We are campaigning for:

1. A climate and jobs action plan in every workplace, negotiated with workers and their unions.
2. Government investment in future-proofing our infrastructure, industries and jobs.
3. A national just transition commission to make sure that the transition leaves no worker behind.
4. Climate action led by the public sector: our town councils, health services, education institutions, and public energy companies.
5. Policies that protect jobs against offshoring.
6. Statutory rights for environmental reps in the workplace.

Done right, this transition could mean good jobs, cleaner air, and warmer homes for all. But without big and bold action, we risk missing science-based targets and losing good, unionised jobs in industries such as steel, chemicals, and car manufacturing.

This introductory section provides an overview of climate science, international and national legal and policy frameworks, and trade union responses to these.

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Understanding the climate and nature crisis

The climate and nature emergencies are a matter of concern for us all. We don't need to be scientists to talk with others about them.

This section gives background information about the science and impacts and of the climate and nature emergency. It also covers some of the key terms that you may come across.

Climate change

'Climate change' describes the shift in worldwide climate patterns and weather phenomena linked to an increase in global temperatures.

NASA defines climate change as: "A broad range of global phenomena created predominantly by burning fossil fuels, which add heat-trapping gases to Earth's atmosphere. These phenomena include the increased temperature trends described by global warming, but also encompass … sea level rise; ice mass loss in Greenland, Antarctica, the Arctic and mountain glaciers worldwide; shifts in flower/plant blooming; and extreme weather events."[2]

Science overwhelmingly agrees that climate change is happening and that it is the result of human activity.

The greenhouse effect

Life on Earth depends on a finely balanced atmospheric 'greenhouse' effect. Without it, our planet would be too cold to support life. The greenhouse effect happens when a layer of gases in the lower atmosphere traps the heat from the sun as it is reflected up from the surface of the earth. Instead of escaping, this heat is radiated back down. This is what keeps the earth warm enough to support life.

This layer of gases used to be mainly made up of water vapour. But human activity is creating an excessive amount of long-lived greenhouse gases to be released into the atmosphere. These long-lived greenhouse gases (such as carbon dioxide) behave differently from water vapour. They do not dissipate when the temperature rises. Instead, they remain in the atmosphere causing an increasing build up of heat.

KEY GREENHOUSE GASES CREATED BY HUMAN ACTIVITIES INCLUDE:

Carbon dioxide CO_2
The main source of carbon dioxide is the burning of fossil fuels, such as oil, gas and coal. These are used in transport, heating, energy and industrial processes. At the same time as emissions of carbon dioxide have increased, deforestation has reduced the amount of plant life available to turn carbon dioxide into oxygen.

Methane CH_4
This is mainly produced by farming, especially of animals such as cattle. It is also produced by food waste. It can be released as a result of fossil fuel exploration and from abandoned oil and gas wells. It is a more potent but less abundant and persistent greenhouse gas than carbon dioxide.

Nitrous oxide N_20
Produced by nitrogen-based fertilisers, livestock waste, burning of fossil fuels and wood, and sewage treatment plants.

Fluorinated 'F' gases
Gases such as chlorofluorocarbons and hydrofluorocarbons are now heavily regulated. But they used to be widely used in industrial applications and home appliances such as refrigerators. F gases are very potent greenhouse gases. They can cause ozone layer depletion as well as trapping heat in the lower atmosphere.

Global warming/heating

As a result of greenhouse gases released by human activity, temperatures have been going up around the world for decades. This temperature increase is referred to as 'global warming' or sometimes 'global heating'.

In 2023, the world is around 1°C hotter than it was during the pre-industrial average (defined by temperature records between 1850—1900). The last five years have been the hottest on record, and the period from 2010—2019 was the hottest decade since records began.

The term 'climate change' is broader than global warming. It includes not only increasing global average temperatures, but also the climate effects caused by this increase.

Around the world, efforts are now focused on limiting this temperature increase to no more than 1.5°C above the pre-industrial average. This limit is what climate scientists say is needed to prevent the worst effects of climate change.

Ocean temperatures

In the last decade the oceans have heated to record levels. The world's oceans are the clearest measure of the climate emergency. They absorb more than 90 per cent of the heat trapped by the greenhouse gases emitted by fossil fuel burning, forest destruction and other human activities.

As the excessive heat and energy warms the ocean, the change in temperature leads to unparalleled cascading effects, including ice melting, sea level rise, marine heatwaves, and ocean acidification.[3] Average ocean temperatures each year for the past five years have been the highest on human record.[4]

Extreme weather

Over five million people in England and Wales live and work in places that are at a risk of flooding from rivers or the sea. For example, the flooding in the aftermath of Storm Ciara and Storm Dennis caused devastation in homes and workplaces across south-east Wales. Flooding, landslides, and wildfires have occurred across the globe. These are all part of a huge increase in extreme weather-related events.

Scientists say evidence linking the increase in extreme weather

events to climate change is clear.

Climate change has increased:

- extreme rainfall and associated floods
- coastal flooding due to sea level rises
- heatwaves and increased risks of wildfires.

These extreme weather events have serious implications for humans and animals, the environment, and the economy.

Data from the European Academies Science Advisory Council (EASAC) published in March 2018,[5] highlights that since 1980 there have been:

- four times as many floods and other hydrological events
- more than double the number of climatological events such as extreme temperatures, droughts and forest fires
- twice as many meteorological events such as storms.

GREENHOUSE GAS EMISSIONS AT A CRITICAL POINT

Carbon dioxide concentrations in the atmosphere are now *the highest they have been for at least 800,000 years*.[158]

Global greenhouse gas emissions from burning fossil fuels and land use change have seen steady and steep increases since the mid-twentieth century. They experienced a drop during the global Covid-19 pandemic but have begun to increase again since.[159]

Scientists have warned of the danger of the accelerating effect of tipping points created by a warming climate. These are points at which the level of greenhouse gases in our atmosphere will lead to drastic and irreversible change. For example, the creation of a feedback loop as greenhouse gases trapped in Arctic permafrost are released.

To reflect the critical point that we have reached and the need for urgent action many people now talk about the 'climate emergency' or 'climate crisis' rather than just referring to climate change.

Climate change and social justice

Consequences of climate change

Climate change poses grave risks, both here and across the world. Risks to human health include an increase in the number of heat-related deaths and an expansion of the habitable regions for pests and disease vectors, such as mosquitos. Food insecurity, disrupted water supplies and increased conflict and poverty are also recognised risks. Extreme weather damages homes and infrastructure. This disrupts the delivery of essential services and has heavy costs for society and the economy.

These costs are not shared equally. Poorer countries, with fewer resources to prepare, will be hit harder than rich industrialised countries. Island nations and low-lying coastal regions (eg in Bangladesh, India, and China) are likely to lose large tracts of land to sea level rise.

Large numbers of people are already being displaced by the climate crisis. Globally, an estimated *17.2 million people were displaced from their homes because of climate change-related disasters in 2018 alone*.[6]

Unless action is taken to address inequality, the impacts of climate change will not be borne fairly. It will be the poorest, who have done the least to cause the crisis, who are likely to suffer the most. For example, those without access to resources find it much harder to prepare, respond and recover from extreme weather events.

Health

There are many ways in which climate change has the potential to impact on health. People's health could be adversely affected in a variety of ways by heat waves, cold weather, sea level rises, flooding, disruption to health and social care delivery, air quality and vector-borne diseases.

Risks of flooding of essential buildings and the potential for overheating in places including hospitals and care homes during heatwaves is also a concern. Heat-related deaths in the UK are projected to increase by around 250 per cent by the 2050s.[7]

Already in 2022, there were approximately three thousand 'excess deaths' associated with periods of extreme heat in the UK, according to government statistics.[8]

And it's not just physical health that is a concern, but mental health too. A Lancet study based on a survey of 10,000 young people across 10 countries showed that 59 per cent of young people are very or extremely worried about climate change. Over 45 per cent reported that their feelings about climate change negatively affected their daily life and functioning.[9]

The New Economics Foundation says: "Climate change is a daunting public health risk. But if tackling it runs side-by-side with reducing health disparities between rich and poor, climate change could also be a great public health opportunity."[10]

Gender

Globally, climate change disproportionately affects women. Women often face higher risks and a greater impact from the effects of climate change. This is because people who live in poverty are more exposed to climate risk, and the majority of the world's poor are women.

According to the UN: "Women's unequal participation in decision-making processes and labour markets compound inequalities and often

prevents women from fully contributing to climate-related planning, policy-making and implementation." But "women's inclusion at a leadership level has led to improved outcomes on climate-related projects and policies."[11]

At the 2020 TUC Women's Conference, the TUC Women's Committee released a statement addressing the issue: "The recent floods across much of the UK is just one example of the extreme weather we are seeing across the globe as a result of climate change. As our report to conference sets out, the gender impacts of climate change are huge. Eighty per cent of those displaced by climate change are women. Women and our unions must be at the heart of measures to address the climate crisis."

Disability

The climate and nature crisis also *disproportionately impacts on disabled people*.[12] Disabled people are more likely to experience compromised health, and more likely to live in poverty. As a result, extreme weather, air and water quality, and infectious disease are likely to affect disabled people disproportionately.

Race

The impacts also hit Black people disproportionately. In the UK, on average Black people are exposed to higher levels of air pollution than white people based on where they live and work.[13] This is just one example of the structural racism, found in infrastructure and systems such as healthcare, that leaves Black and other minority communities more vulnerable to many of the impacts of climate change. Racism and climate change interact leading to more damaging effects on the lives of disadvantaged communities within countries, and between the Global North and the Global South.

The impacts of climate change will not be borne fairly. It will be the poorest, who have done the least to cause the crisis, who are likely to suffer the most.

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CONSEQUENCES OF NATURE LOSS

The UN has *warned of "grave impacts"*[14] on people around the world if nature loss is not stopped. Human health and wellbeing is underpinned by nature. We rely on the natural world for food, water, medicine and the air we breathe. All life on earth is highly interconnected. Scientists say that for every living thing to do well on the planet there needs to be a wide variety of life on living on it. But this biodiversity is now under threat.

A critical point

Global populations of mammals, birds, fish, amphibians and reptiles plunged by an average of 69 per cent since 1970. This was according to the WWF and Zoological Society of London (ZSL)'s *Living Planet Report 2022*.[15]

Around the world, pollinating insects are in decline and soils are becoming degraded and less fertile.

The 2023 *State of the Nature Report* revealed that in the UK, almost one in six species is under threat.

The links between the climate and nature crisis

There are a number of ways in which the climate and nature emergencies are inter-linked.

Each can worsen the impact of the other. For example, climate change can cause shifts in flower and plant blooming and create new opportunities for invasive species and pests.

Nature-based solutions

Nature-based solutions offer some of the cheapest and most effective ways to tackle climate change. They can also boost wildlife populations at the same time. *Research shows* that protecting at-risk areas and restoring one-third of lost areas of woodland, peatland, wetlands and savannahs could store huge amounts of carbon. This could absorb around half of all the greenhouse gas emissions that human activity has produced since the industrial revolution. It could also prevent around 70 per cent of predicted species extinction.

The role of oceans

The world's oceans offer huge potential for absorbing carbon dioxide and mitigating climate change, and provide opportunities for boosting biodiversity. For example, researchers at Swansea University are involved in *Project Seagrass*. This project is focussed on restoring vital marine habitats which have a huge role to play in tackling climate change. In fact, seagrass meadows, mangroves and coastal wetlands capture carbon at a rate greater than that of tropical forests.

What is a just transition and why is it a trade union issue?

We must secure the future and livelihoods of workers and their communities in the transition to a net zero emissions economy.

Every job in the UK will be impacted by the changes we need to make to phase out greenhouse gas emissions. But the impacts for some jobs are more severe than for others.

A 'just transition' to a greener economy is one where workers have a central voice in planning the transition, so it is done 'with' them not 'to' them. It is a transition where no workers or communities are left behind. Where industries convert, wherever possible, to business models that don't emit greenhouse gases. And where new jobs that are created are just as good as any that are lost in terms of pay, skills, pensions and trade union recognition.

Trade unions across the world have led the call for a just transition. Following pressure from the international trade union movement, the concept of "a just transition of the workforce and the creation of decent work and quality jobs" was included in the preamble to the *Paris Agreement*[16] and in the *Silesia Declaration*[17] at the UN climate talks in 2018.

"Nonetheless," — according to the *International Trade Union Confederation (ITUC)* — "the just transition will not happen by itself. It requires plans and policies. Workers and communities dependent on fossil fuels will not find alternative sources of income and revenue overnight. This is why transformation is not only about phasing out polluting sectors, it is also about new jobs, new industries, new skills, new investment and the opportunity to create a more equal and resilient economy."[18]

What jobs face the biggest changes?

One in five workers, and 6.3 million jobs across the UK, will be affected by the transition to a net zero carbon economy, according to University of Leeds research.[19] Around three million workers in the UK will require significant re-skilling and three million will see increased demand for their skills.

As 'UK level action to address the climate and nature crisis' on *page 23* will show, jobs in certain energy or carbon-intensive industries and jobs manufacturing products that emit greenhouse gases are the ones where the need for transition planning is the toughest.

In manufacturing industries including steel, refineries, ceramics, glass, cement, and timber processing, trade unions and employers can plan for industrial upgrades or conversion that future-proofs production while eliminating carbon emissions.

In the automotive industry, many workplaces are already converting to make zero-emissions vehicles. But those who do not, particularly car parts manufacturers, are at risk of being left behind. Similar challenges are likely to be faced down the line in industries such as aerospace, shipbuilding, and manufacture of furnaces and ovens.

Coal-fired power plants have already been phased out in the UK as part of measures to cut carbon emissions. Unions have been engaged in transition planning for these workforces, with some examples of good practice such as at West Cottam power plant.[20]

Jobs in some parts of the energy sector, particularly in gas networks and supply, face an uncertain future with the lack of a properly

CASE STUDY

UNITE SHOP STEWARDS WELCOME INVESTMENT IN ELECTRIC BUS MANUFACTURING

Unite shop stewards at the UK's largest bus manufacturing company, Alexander Dennis (ADL), have played an important role in securing investment in electric buses — reducing transport emissions, saving jobs and supporting a green recovery from the Covid-19 pandemic.

As part of a strategy for transport decarbonisation, backed by Unite and the STUC, finance from the Scottish Government's Ultra-Low Emission Bus Scheme, along with other investors, helped ADL secure orders for hundreds of new electric buses. Unions and management both successfully lobbied the Scottish Government for long-term investment to help secure jobs at the plant.

The shop stewards recognised that investment in electric vehicles was not just essential for the environment, but for the 600 jobs at the Falkirk site. According to Unite convenor Gordon Lyons, "although the main priority for members is job security, this must mean a move away from diesel. They know this is the way forward".

Willie Thomson, Unite regional industrial officer, explains that "there has to be connection between the green agenda, investment and jobs, requiring the whole environmental picture linked to the community and the future of public transport".

The new investment came after a tough year for the ADL workforce. In August 2020, ADL announced redundancies in Falkirk and Scarborough, and the closure of its Guildford plant. Falkirk lost 140 jobs through voluntary redundancy. The new investment is beginning to reverse this, with the 29 new jobs created so far.

At the same time, the Covid-19 pandemic had a major impact on public transport, with some industry analysts suggesting that UK electric bus makers face a crisis as passenger numbers have dramatically fallen, undermining bus operators' investment plans.

Thomson recognises that new investment has to be accompanied by a shift back to mass transit after the rise in private car use. "The world of work has changed with the rise of home-based and flexible working, and we need to attract people back to public transport as part of environmental transition".

UK electric bus manufacturers also face major competition from overseas. *According to the Financial Times*, for example, China's Yutong Bus the world's biggest producer sold more than 15,000 low-emission buses in 2020 and is looking to expand exports to the UK. ADL itself is owned by a transnational bus manufacturing company, bought by the Canadian-based NFI Group in 2019.

Despite these fears, production in Falkirk is expanding, with increased further investment promised in 2022 as part of a five-year commitment from the Scottish Government.

According to Thomson, the challenge now is to join up the strands of progress on transition to a decarbonised economy across all the sectors of the economy, not just in transport. "Members have to be part of the solution, not left behind. A just transition required investment for all, for society as a whole, not left to the markets".

funded, well-managed plan for decarbonisation. Energy unions have highlighted the importance of ensuring *a just transition for workers in the energy sector* and securing a balanced low-carbon energy mix. They say: "We need a long-term plan with decisions taken to secure a long-term future for all, not one simply based on continued short-term profits or convenience." And they point out that: "It is essential that energy supply is secure, reliable, works in the interests of the nation and is affordable to all consumers with costs shared on an able to pay basis."

The GMB has highlighted the *potential negative consequences to workers and consumers from unmanaged decarbonisation in the energy sector*.[21] And UNISON has highlighted the *instability of the growth of smaller energy suppliers entering the market and then going bust, causing job losses and additional costs to consumers*.[22]

What new jobs can be created

Dealing with climate change means upgrading our railways and bus networks, energy networks and water treatment facilities, ports and factories, homes and public buildings. If properly planned and funded, these upgrades can create over a million good new union jobs. Some examples include:

- Ensuring UK schools and public buildings are fit for the future, energy efficient and safe working environments, would create 42,000 construction jobs for 10 years.
- Upgrading social homes across the UK to make them energy efficient would create 77,000 jobs over 15 years.
- Expanding public transport operations to levels needed to meet climate targets could create around 140,000 new direct jobs in bus, tram and rail operation.
- Installing rural networks of electric vehicle chargers could create 23,000 jobs over two years.
- Urgent upgrades to rail networks could create 126,000 jobs over two years.

These numbers of jobs are not a given: they depend on ambitious investment from government, with the right conditions to secure job creation.

TUC statement

In 2019, the TUC issued a *just transition statement* outlining the principles that should make sure that changes we make to deal with climate change "provide fairness and overcome injustices experienced by all workers, male and female, young and old, black and white, in the Global North and South." It called on the UK government to take urgent action to support a just transition.[23]

The statement identified four requirements for a just transition:

- A clear and funded path to a low-carbon economy.
- Workers must be at the heart of delivering these plans.
- Every worker should have access to funding to improve their skills.
- New jobs must be good jobs.

SCOTLAND

Scotland's 2019 Climate Change (Emissions Reduction Targets) Act sets a net zero target date of 2045 and enshrines just transition principles in law generally in line with the International Labour Organization (ILO) guidelines.

Scotland's *Just Transition Commission* serves an advisory role to the Scottish Government on how to maximise economic and social opportunities in a net zero economy and mitigate risks relating to regional cohesion, equalities, poverty (including fuel poverty), and a sustainable and inclusive labour market. Trade unions are represented on the Commission.

CASE STUDY: ENEL (ENTE NAZIONALE PER L'ENERGIA ELETTRICA) SPA

The Italian multinational manufacturer and distributor of electricity and gas published a *just transition plan*[24] in 2021 "promoting negotiations with workers and union representatives, in compliance with workers' rights, encouraging social protection (including pensions and healthcare) and salary guarantees, as established by the International Labour Organization (ILO)".

Workplace transition agreements

The workers and communities across the UK affected by the transition to net zero must have a central voice in how the transition happens. The most practical place for this to start is at a workplace level, by employers working with trade unions. All organisations affected by the transition should be working with unions to develop a transition plan and put in place transition agreements. You can find more information about transition agreements in 'Developing transition plans and agreements' on *page 39*.

GERMAN CONSENSUS ON COAL — FRAMEWORK OF THE COMMISSION ON GROWTH, STRUCTURAL CHANGE AND EMPLOYMENT

The German federal government officially established a commission with a well-defined mandate to find a socially and economically acceptable path to a politically desired phase out of coal-fired power generation.

The 31 members were chosen from the relevant stakeholder-groups being affected regions, energy industry, science, businesses, environmental organisations, politics, administration and trade unions.

The *consensus*[160] covered 10 points:

- An acceptable path to politically desired phase out of coal-fired power generation in 2038 (with option of 2035).
- Comply with climate goals in the energy sector, but, no simple shutdown logic!
- Increased consistency of the energy transition.
- Adequate social protection to provide security for employees (eg compensation of lost wages and pension deductions or adjustment allowances as a bridge to retirement for older employees).
- Actively shaping the structural change to create new perspectives for regions and workers.
- Create decent jobs and value added to the same extent as they will be reduced.
- Structural aid of €2bn per year over the next 20 years (compare: lignite coal industry creates €4.8bn gross value added per year).
- Locating federal authorities and research institutions in former coal regions.
- Compensation of higher electricity prices to maintain competitiveness.
- Participation of trade unions and co-decision bodies who accompany all measures including structural policies with collective bargaining agreements!

A 'just transition' to a greener economy is one where workers have a central voice in planning the transition, so it is done *with* them not 'to' them.

International action to address the climate and nature crisis

The UK has clear commitments as part of international binding agreements to address climate change. This section briefly introduces the main institutions and agreements.

The UN Framework Convention on Climate Change (UNFCC)

This is the UN body responsible for supporting the global response to the threat of climate change. It has 198 member countries, known as 'parties', including the UK.

The Conference of Parties (COP) meets every year, unless the parties decide otherwise. COPs are where governments agree and sign multilateral treaties on climate change, as well as reviewing progress toward agreed goals. The trade union movement is represented at COPs by an observer delegation convened by the ITUC.

The Paris Agreement

The UN climate talks in Paris in 2015 (COP21) produced the landmark *Paris Agreement*. This commits countries to cutting greenhouse gas emissions and to making the actions and investments needed for a sustainable low-carbon future.[25] The agreement includes the UK government.[26] It sets a target that global temperature must not be allowed to exceed between 1.5°C and 2°C to avoid the worst impacts of climate change.The agreement required each country to establish reductions in greenhouse gas emissions. These are called 'Nationally Determined Contributions' (NDCs).

The Intergovernmental Panel on Climate Change (IPCC)

The IPCC is an intergovernmental UN body tasked with advancing scientific knowledge on climate change, and providing governments with up-to-date assessments on climate change. IPCC reports are the most authoritative sources for global-level data on climate change risks, impacts, and policy.

CLIMATE EMERGENCY DECLARATIONS

The *school strikes movement,*[161] inspired by Greta Thunberg and protests by groups such as Extinction Rebellion, sprung up in response to the perceived lack of action at national and international level. These movements helped to build the momentum that resulted in many countries declaring 'climate emergencies' in 2019.

Many governments, including the Welsh, Scottish, Northern Irish and UK governments, have now declared climate emergencies. As a result, they have shifted their carbon reduction targets with commitments to reach net zero by 2050. These developments are welcome. But all governments need to follow this up with clear and funded plans for how this will be achieved. And workers need to be given a central voice in planning the transition to ensure it is fair.

In formulating and negotiating agendas on climate change, unions can leverage climate emergency declarations and the associated commitments made by local, regional, or national government, and by individual employers.

The IPCC's influential 2018 report highlighted the importance of meeting the limit of 1.5°C global heating, to reduce severe future climate-related risks, especially some of the worst, most long-lasting and irreversible changes. It said even half a degree more of warming would worsen the risks of floods, drought, extreme heat and poverty for hundreds of millions of people. And it warned that *we have just 12 years* to limit the rise in global temperatures to 1.5°C.[27]

UN Convention on Biological Diversity (CBD)

This UN treaty was signed by 150 government leaders at the 1992 Rio Earth Summit. The Convention has three main goals: the conservation of biological diversity (or *biodiversity*); the sustainable use of its components; and the fair and equitable sharing of benefits arising from *genetic resources*. Its objective is to develop national strategies for the conservation and sustainable use of biological diversity, and it is often seen as the key document regarding *sustainable development*.

The *Global Diversity Framework* [28]was launched in 2023 and sets out a pathway to reach the global vision of a world living in harmony with nature by 2050. Among the Framework's key elements are four goals for 2050 and 23 targets for 2030.

Sustainable Development Goals (SDGs)

The 2030 *Agenda for Sustainable Development* adopted by all UN member states in 2015 provides a "shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries — developed and developing — in a global partnership."

Sustainable Development Goal 13 is to "take urgent action to combat climate change and its impacts". Under SDG 13, governments agreed to five targets:

- **13.1** Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
- **13.2** Integrate climate change measures into national policies, strategies and planning.
- **13.3** Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.
- **13.a** Implement the commitment undertaken by developed-country parties to the UN Framework Convention on Climate Change to a goal of mobilizing jointly $100bn annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible.
- **13.b** Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.[29]

Each target has a set of indicators designed to assess progress on achieving the goals. The UK has signed up to the SDGs but monitoring has indicated that it is has gaps or no policy in 72 per cent of the target areas.[30]

Unions can use the SDG commitments to support bargaining objectives. Some employers have adopted them as a set of goals. In Section 3, the relevant SDG will be cross referenced where it relates to specific workplace issues.

UK level action to address the climate and nature crisis

We have reviewed the scientific evidence, social justice issues, and international frameworks relevant to climate change. This section details what these issues are likely to mean for jobs in the UK, and what legal and policy frameworks we have so far in order to implement these changes.

What changes lie ahead

To demonstrate some of the changes that need to take place, we highlight a few, according to the Climate Change Committee (based on the CCC's balanced net zero scenario):

- Across the UK economy, government, businesses and individuals will need to invest around £50bn per year annually into climate action measures in order to meet these targets. By 2050, the savings made as a result of these investments will significantly outweigh these upfront costs.
- All new homes need to have net zero emissions by 2025, this means high energy efficiency standards and a zero carbon heating source.
- There are no new petrol and diesel cars sold by 2030, no new hybrid cars sold by 2035, and no new diesel heavy goods vehicles by 2040.
- A combination of efficiency improvements, electrification, and hydrogen technologies should bring down manufacturing and construction sector emissions by 70 per cent on 2020 levels by 2035.
- UK capacity to generate electricity and the capacity of domestic electricity transmission and distribution networks need to expand massively.

Jobs at risk of offshoring

Recent TUC analysis shows that *between 660,000 and 834,000 jobs could be offshored from Britain* if the UK fails to deliver comparable clean industrial policies to European countries and the US.[31] The analysis identifies jobs that, unless the government acts now, could be moved offshore to countries that offer superior green infrastructure and greater support for decarbonising industry.

Manufacturing jobs in steel and automotive are most immediately at risk, but other high-carbon manufacturing sectors such as ceramics, glass and chemicals also need support to decarbonise. North West England, Yorkshire and the Humber, and West Midlands are regions with most jobs at stake.

These industries can be decarbonised and future proofed. Doing this sooner rather than later will protect current livelihoods and ensure industrial communities can provide jobs for future generations.

Introducing an active industrial strategy — with similar ambition levels to our peers in Europe and across the Atlantic — can help future-proof an estimated 834,000 manufacturing and supply chain jobs. It will also be necessary if the UK is to see the creation of significant numbers of new jobs as part of our journey to net zero, and to ensure that these are quality jobs.

Introducing an active industrial strategy — with similar ambition levels to our peers in Europe and across the Atlantic — can help future-proof an estimated 834,000 manufacturing and supply chain jobs.

The skills demands of net zero

Because of the technological changes needed, many occupations will require significant changes to skills and training to meet the demands of net zero. For example, it's essential for construction workers to have energy literacy skills in order to make sure homes can meet strict energy efficiency standards. Whether in education, manufacturing, procurement, health, transport, or any other sector, some changes to skills and training are needed. See 'Planning for the future's skills needs' on *page 57*.

Legal framework

The rest of this section outlines the legal and policy frameworks that guide UK government and employers' actions on climate change.

Climate Change Act 2008

This was the first legally binding global target for reducing greenhouse gases.[32] The Act requires the government to set five-yearly carbon budgets. It established a Climate Change Committee that has a statutory obligation to monitor government progress in reducing emissions of greenhouse gases toward the UK's carbon budgets and climate targets.

Environment Act 2021

The Act[33] was introduced to inform UK obligations following withdrawal from the European Union. Commitments have been made that standards will not be reduced below those previously in place under EU regulations.

The Act does not make many immediate changes for organisations other than regulators. Changes to duties for businesses and other organisations are expected in subsequent regulations made under this Act.

Institutional and policy framework

Climate Change Committee (CCC)

The CCC was established to advise government on the level of the carbon budgets. It also reports to parliament on progress made toward reducing emissions. It conducts independent analysis into climate change science, economics and policy.

It produces annual reports on progress for both mitigation and adaptation measures. It has been critical of the progress being made in both policy areas by the government.

Mitigation

The 2022 progress report stated the government "is failing in much of its implementation."[34]

Adaptation

The 2023 progress report "found very limited evidence of the implementation of adaptation at the scale needed to fully prepare for climate risks facing the UK across cities, communities, infrastructure, economy and ecosystems."[35] CCC reports provide data that can support trade union negotiating agendas on climate change.

Carbon budgets

The CCC produces carbon budgets to guide government policy in order to meet the UK's overarching climate change commitments. The budgets run on a five-year cycle. The UK is not on track to meet the fourth (2023—2027) or fifth (2028—2032) budgets.

The most recent, *Carbon Budget 6*, was published in 2020. It sets out the path for how emissions will be reduced by 78 per cent compared to 1990 levels by 2035, and makes it clear that that climate action should be front-loaded: the bulk of emissions reduction has to take place before 2030.

Some Carbon Budget 6 data can be used to guide planning on a workplace level, by referring to sector-specific pathways presented in the Carbon Budget 6 dataset.[36]

It is worth noting that carbon budgets have their limitations. They are based on assumptions about the technological and economic viability of technologies. They are also based on UK territorial emissions (ie those arising from UK sources, plus its contribution to international aviation and shipping). They do not take account of the 'invisible' side

of Britain's carbon footprint, which comes from international travel and the carbon produced overseas to make goods that are used here. About half of Britain's true carbon footprint is made up of these sources, *according to a report* from the conservation charity WWF.[37]

Environment Act 2021

The Act was introduced to inform UK obligations following withdrawal from the European Union. Commitments have been made that standards will not be reduced below those previously in place under EU regulations.

It has two main functions:

1. To give a legal framework for environmental governance in the UK.
2. To bring in measures for improvement of the environment in relation to waste, resource efficiency, air quality, water, nature and biodiversity, and conservation.

TABLE 1. **Manufacturing and supply chain jobs at risk of offshoring without an active clean industrial strategy based on EU and Energy Systems Catapult (ESC) definitions**

Sector	Direct jobs at risk		Supply chain jobs at risk	
	Estimate 1 (based on EU list)	*Estimate 2 (based on ESC list)*	*Estimate 1 (based on EU list)*	*Estimate 2 (based on ESC list)*
Refineries	9,000	7,200	24,700	19,700
Chemicals	27,800	66,500	31,400	75,300
Iron and steel	48,100	31,000	47,900	30,800
Cement and lime	7,700	1,200	9,900	1,600
Paper, pulp, and printing	8,100	15,000	6,400	11,900
Rubber and plastics	11,500	88,200	4,100	31,500
Glass and ceramics	23,900	38,500	11,900	19,200
Textiles	10,500	15,300	3,400	5,000
Wood	5,000	6,600	1,500	2,000
Automotive	112,400	112,400	162,000	162,000
Shipbuilding	10,400	10,400	5,200	5,200
Aerospace	22,200	22,200	23,400	23,400
Manufacture of engines, turbines, furnaces, and boilers	16,800	16,800	8,000	8,000
Manufacture of construction and mining machinery	5,000	5,000	1,800	1,800
Total	**318,400**	**436,300**	**341,600**	**397,400**

Source: TUC analysis, *Pulling All the Levers*

Trade union response

The TUC is advocating for government to deliver a timely, just climate transition, with a set of specific proposals for action.

Investing in Our Future

The TUC has compiled trade union-backed proposals for clean infrastructure investments that can realistically be delivered by the next government from 2025—2030, equivalent to £27—32bn per year. *Investing in Our Future* breaks down and details the shovel-ready investments needed to build new railways and clean power, to upgrade our ports, roll out electric vehicles and future-proof our factories, homes and schools.[38]

Implement a clean industrial strategy

- A successful net zero industrial strategy needs to combine investment and incentives with conditions and social justice principles. Licensing, procurement, subsidies, direct investment, trade rules, and regulation will all play a part.
- Companies that receive support should be required to pay, train, and treat their workers well.
- Public bodies need resources and powers to deliver.
- Workers must have a seat at the table — in each workplace and in national policy forums, including through a national Just Transition Commission.

The TUC report *Pulling All the Levers,* lays out a holistic industrial strategy, including specific interventions by sector.

Create public energy companies

- Invest to grow a public energy company akin to France's EDF, with £40bn in capitalisation over five years.
- Allow the public energy champion to borrow, akin to peer companies in other countries.

- Invest across the range of clean power technologies.
- Make the public energy champion democratically accountable, including elected worker representatives on its board.

The TUC report *Public Power: turning it into reality* lays out how the next government can create a national energy champion.

Workplace action

A lot of government action and other necessary actions rely on change happening at a workplace level, and this will only happen fairly if workers are part of the process. Trade unions are well placed to start a conversation about this with employers. The other sections in this guide support unions in having these discussions.

CASE STUDY

RMT: LET'S GET THE WORKFORCE ORGANISED AND GET READY TO TRANSITION INTO RENEWABLES

RMT members fight to secure decent work for divers working in the renewables industry.

Traff Phillips, Andy O'Neill and Dave Duboff are part of the Divers Organising Group (DOG) at the National Union of Rail, Maritime, and Transport Workers (RMT). They are all divers working inshore and offshore and have been fighting to future-proof jobs and secure decent work in the diving industry.

From oil and gas drilling rigs to nuclear power stations, from reservoirs to flood defences, divers work across a range of industries and play an important role in maintaining many essential services. Increasingly many divers are also working in renewable energy.

There is huge inequality across the industry. Inshore divers (working up to 12 miles from the coastline) face much lower pay rates compared with offshore divers. This is because the industry body representing inshore diving contractors class them as unskilled, even though the skills and qualifications needed are virtually identical to offshore. There is also regional inequality in wages.

Divers work across a range of different industries, each with its own set of training requirements. Training requirements are not driven by industry needs, rather by the commercial interests of training providers. As a result, divers have to get several different qualifications — with nearly identical training content — to perform their jobs. Divers end up spending unnecessary time and money undertaking training. Because they are classed as self-employed, divers have to pay for training themselves.

In recent years, the transition toward renewable energy has put a spotlight on the diving industry, with many divers increasingly working on wind farms. This has also blurred the line between inshore and offshore diving and highlighted the need for more equality across the industry. But issues around training are impeding the transition to green energy. Skilled divers are being forced to retrain or being made redundant. Reps report workers experiencing ever more downgraded terms and conditions. This is pushing workers out of the industry. But divers come from a wide range of backgrounds with transferrable skills which are essential for the transition to renewable energy.

The DOG has been organising to protect the workforce and to ensure that these skills are not lost in the transition, as Duboff explains: "We support the transition to renewable energy, with the caveat that we want to protect the workforce and ensure that these skills are not lost and ensure barriers are removed."

One of the challenges facing divers is employers' lack of awareness about inshore diving and a lack of compliance with health and safety regulations. This is particularly difficult to tackle because legislation can't be enforced until a complaint is made.

The precarious nature of work in the industry is a barrier, as Phillips explains: "Diving is a cutthroat industry. Divers basically live in fear of their job..."

This makes divers scared to report problems and makes change in the industry slow. But according to O'Neill: "This is much more endemic of the industry than a case-by-case basis. This is a culture that needs to change."

Throughout the Covid-19 pandemic lockdown, the DOG built up strong support for the movement. With many divers out of work, they became more engaged with the struggle and more vocal about the need for industry change. The DOG's main aim so far has been to develop an agreement with contractors to strengthen terms and conditions, as O'Neill explains: "The mentality of this group…was that a rising tide would raise all ships."

By achieving a trade union recognition agreement for divers and strengthening awareness about health and safety duties, the DOG hopes to ensure a smooth transition of the workforce and will also lead to transformation in the industry.

But the response from the body representing diving contractors has been far from positive. The industry is fragmented, with a wide range of contractors for the DOG to engage with, so there is no single point of contact or partner to collectively bargain with. This is made even more difficult by the self-employed nature of diving work. With Covid-19 restrictions easing, more divers are also back at work, with less time to spare.

Despite setbacks, big achievements have been made so far. The DOG has organised a lot of divers, got union representation from the RMT, and has also gained political support from both MPs and MSPs on the issue of training transferability between offshore wind and oil and gas industries. As Phillips explains: "What we've achieved in a year is absolutely amazing. We have the great beginnings of a coming together…and we've got loads of people to join the RMT."

Now the DOG is ready to start negotiating with contractors and clients individually at the local level, and consider legal pathways for action.

2

SECTION 1

WHAT UNIONS CAN DO

SECTION 2

WHAT UNIONS CAN DO

The role of the green rep

Introduction

Any union branch can elect a rep to lead on just transition, environmental and climate issues in the workplace. They can raise awareness of sustainability issues and ensure that these are included in the negotiating or bargaining agenda at work. Just as unions and employers may work together to improve health and safety in the workplace through safety committees — where trade union-appointed safety representatives negotiate with management — environmental issues can be addressed in a similar way.

The main concern of a just transition or green rep in most workplaces is to agree a joint approach to decarbonisation and sustainability. Ideally, this would be formalised in a collective agreement and overseen by an employer or union committee that addresses environmental issues.

Some unions elect or appoint dedicated green reps. Others incorporate the functions of the green rep as additional responsibilities into existing roles. The role of the health and safety rep overlaps with many of the issues covered in this toolkit. For example, dealing with excessive temperatures at work is both a health concern and linked with the carbon management of how the building is designed for energy efficiency.

On the issue of green or future-proofing skills, union learning reps may also play a role. Regardless of how the role is allocated, it's important that these reps have sufficient facility time to carry out duties related to the sustainability agenda.

The main concern of a just transition or green rep in most workplaces is to agree a joint approach to decarbonisation and sustainability.

CASE STUDY

HEALTH AND SAFETY/ENVIRONMENTAL AUDITS AT GKN DRIVELINE, BIRMINGHAM

Frank Duffy, former convenor at GKN Driveline Birmingham (Unite), recalls:

"As part of our health and safety site steering committee we discussed with the company the need to be looking at how we reduce our site's carbon emissions and the potential to reduce costs in the process. We spoke with our health and safety reps and the company about incorporating the environmental/green role into the health and safety position and negotiated extra facility time for the role. The environmental role was also incorporated into our committees at local level, site level and through the site steering committee. The reps also had a meeting with management specifically around environmental issues.

"Initially the project started at a department level with reps carrying out audits in their local areas looking for air leaks, fluid leaks, air quality through filtration systems and power usage via machines and lighting. It was quite an eye opener to see the amount of air leaks that were initially identified. Normally there were quick and easy fixes. The run time, and so the energy usage and cost, of air compressors dropped significantly because of this.

"Visible oil leaks were fixed and bigger ones were planned in through maintenance to repair. Initially we didn't see a huge drop in oil or coolant use as a result. We requested that our oil and coolant suppliers gave us usage information by machine. This information was interesting in the fact that some of the biggest users didn't appear to have any visible leaks which meant that these machines had internal leak issues. We handed this over to maintenance to investigate and rectify. Because of this oil, coolant and lubrication usage dropped.

"In regard to the lighting in the factory, it was decided that all lighting would be changed to LED. Where feasible, motion detection was put in place. This resulted in a significant energy saving and cost reduction to the business. We also put in place a shutdown procedure for machines that wouldn't be running 24/7, again improving energy efficiency.

"At site level meetings we discussed and implemented some other ideas to reduce our environmental impact. For example:

- Changing all our tap fittings in washrooms to motion sensing taps with a set temperature which resulted in cutting our water usage and the energy required to heat it.
- Reducing our land fill waste by segregating our waste.
- We had a lot of waste wooden pallets and boxing we invested in a wood crusher and recycled all our wood waste.
- Numerous bins were set up around the factory for different types of waste including cardboard, plastics and metal.
- Where feasible we implemented water-based coolants rather than oil.

"In regard to air quality it was decided at company level to change our air filtration on our manufacturing machines we initially had filtration systems which had single use filters which had to be replaced and disposed of we replaced them with a system that could be cleaned on a regular basis and also did a far better job. The air quality in the factory greatly improved. Although there was an initial cost to the business, the ongoing costs were reduced."

A whole branch approach to environmental issues

There is of course a big crossover between the green agenda and other industrial relations matters.

Jobs at risk?

In workplaces where phasing out carbon emissions presents a fundamental challenge to the business model (eg in a steel plant, ceramics kiln, or car factory), it is essential that senior reps take on planning for a workplace's future with climate targets and job protection in mind. If this applies to you, the TUC's ongoing Worker Led Transition project can support you. Please contact *climate@tuc.org.uk* to find out more.

Health and safety

In some union branches, it will be the health and safety rep that takes on environmental issues. The advantage of this approach is these reps do have legal rights under the *Safety Reps Regulations 1977*[39]. It's still important that additional facility time is secured so that these reps have time to address environmental issues fully.

In many workplaces the issues may be covered by the same managers and committees. The health and safety manager may have an environmental brief and/or any consultation committee may deal with both subjects. Whether the union roles are combined or not it will be important to emphasise the link. For example, air pollution and temperatures at work are both health and safety and environmental issues. Using a union risk assessment methodology should help to ensure that all aspects are dealt with.

Skills and learning

On the issue of green skills, other reps with legal rights, such as union learning reps, may also play a role. A *TUC study* highlighted six case studies where union involvement had triggered positive initiatives, and there have been many more since that publication.[40]

There are plenty of opportunities to combine education and skills development with action on the environment. Consideration could be given to running events on 'high-profile' dates, eg Earth Day in April, or Clean Air Day in October. Where there are continuous professional development programmes, environmental and climate modules could be introduced.

General considerations

It is vital when a union rep is progressing an environmental issue that consideration is given to potential overlaps with other industrial relations issues. Some environmental measures may have implications for related job roles. To avoid potential divisions on the union side these should be thought through and communicated as early as possible.

Where there is more than one union in the workplace, it is even more important that dialogue takes place to avoid divisions between unions or any management attempts to divide and rule. Several workplaces now have joint green reps, bridging the gap between specific union agendas, easing the pressure on each union to devote resources to the role, and acting as a single point of contact for environmental negotiation between workers and management.

GREEN REPS — WHAT'S IN A NAME?

Some unions use the term 'green rep', but this is not a universal term. The title of environment/environmental rep, climate rep, just transition, or sustainability rep is also used. For the purposes of this toolkit, we are using the term green rep. In a way the title is not important. The most important thing is that in each workplace there is at least one person taking responsibility for the impact of climate change and environmental measures on employment.

Role and duties

The overarching role of a green rep is to ensure that climate-related practices at work have just transition at their heart.

The duties of a green rep will be influenced by their sector of employment but are likely to include the following:[41]

- Raising awareness and promoting green workplace practices with members, such as reducing waste, improving recycling, saving energy, and green purchasing.
- Liaising with the branch on green and sustainability issues that need to be raised with management.
- Taking forward and promoting union policy and campaigns on green and sustainability issues in the branch, eg on energy, climate change and fair trade.
- Carrying out workplace environmental audits.
- Developing a climate and jobs action plan through dialogue between the employer and the branch.
- Involvement in developing environmental best practice in the workplace, eg through committees and working parties, developing environmental policies and management systems, drawing up workplace agreements, etc
- Networking with other green reps to share information and good practice.

GETTING STARTED: GREEN REP APPOINTMENT CHECKLIST

What to find out first:

- ✓ Does your union have any guidance on the green rep role?
- ✓ Does your employer recognise the role? And check whether:
  - —it is referenced in an agreement
  - —it is referenced in a policy document
  - —it has been carried out in the past and there is any custom and practice.
- ✓ Is there anyone in the branch currently leading on this? Check whether any environmental functions are carried out by any existing branch officers.
- ✓ If the post is currently vacant sound out views on members who may be interested.

Next steps:

- ✓ Ensure that the person appointed to the green rep role is a member of the branch committee and that the post is advertised for election at the AGM.
- ✓ Notify your regional office of the branch member appointed as the green rep.
- ✓ Notify the employer of the branch member appointed to lead on this.

Individual unions have different approaches on this part of union organisation. Some have no formal policies while others have a more clearly defined position. A few examples are:

- *PCS guidance*
- *UNISON guidance*
- *UCU guidance.*

This guidance contains some useful checklists on the appointment and role that are relevant to all unions.[42] Individual unions have different approaches on this part of union organisation. Some have no formal policies while others have a more clearly defined position.

The overarching role of a green rep is to ensure that climate-related practices at work have just transition at their heart.

WHAT INFORMATION DO NEW GREEN REPS NEED?

- ✓ Obtain all up-to-date policies and documentation
- ✓ Build up a contact list of individuals you need to liaise with on general and specific issues (use the contact list at the back of this handbook to keep a note)
- ✓ Ensure new reps are provided with an induction on how the branch works and provided with copies of relevant documents eg this handbook
- ✓ Identify any current issues or campaigns

Training

It is vital that green reps or other reps taking on the duties as part of their role can access training. TUC regions offer training for new and existing green reps and other reps taking on sustainability as part of their role. Online training courses are available from the *Greener Jobs Alliance*[43]. Some unions also offer their own training programmes on sustainability; speak to your union to see what is available.

Facility time

Businesses and governments recognise that climate change is a major challenge. Given that work activities make such a large contribution to global warming you would think that it should be treated as a priority issue. There is also no shortage of calls for stakeholder engagement. As workers have a key stake in the organisation that employs them it ought to follow that they should be engaged in consultations on how best to address it in the workplace.

Unfortunately, this is often not the case.

This is the reason why unions have called for the statutory recognition of green reps on a par with health and safety and union learning reps. Under UK employment law, there is currently no legal right to appoint union reps to represent workers on this issue. In 2017, the TUC Congress *passed a motion*[44] (which has since been reiterated several times) calling on unions to "lobby to demand rights for workplace environmental reps."

In addition to changes in the law, unions have called for amendments to the Acas (Advisory, Conciliation and Arbitration Service) code of practice, *Time Off for Trade Union Duties and Activities.* **This would allow facility time for:**

- › appropriate training
- › conducting environment- and climate-related audits
- › raising issues with the employer.

Even without a change in the law, in some workplaces, unions have been successful in extending the consultation agenda to cover a widening environmental agenda at work. And they have succeeded in getting employers to formally recognise the role of union green representatives and put in place voluntary agreements on facilities and facilities time.

Whether or not the role is taken on by an existing rep it is crucial that additional facility time is negotiated.

Making the case for facility time

Organisations should engage with staff on sustainability issues. Trade unions provide the most effective and democratic way of facilitating this engagement.

Employers' sustainability and corporate social responsibility strategies will have more credibility if there is a commitment to recognise the role of green reps and consult with staff unions on sustainability issues. This is true across both the public and private sector. The implementation of sustainability policies will be more effective with union support and participation. And it is more likely that successful joint approaches can be developed.

There's a model joint environment and climate change agreement *available in Section 4*, which you may find a

useful tool for formalising your green rep's facility time and duties with your employer.

The following arguments can support making the case for facility time to an employer: consider which are most relevant to your particular situation.

Key arguments:

- Green reps can play a key role in workplace consultation. They can help to secure the active participation of union members in environmental initiatives at work. Union communication and consultation networks can offer ready-made links with workers on the ground. Employers may otherwise find it hard to reach these workers.
- Unions have the confidence of their members. This means union involvement in environmental projects will reassure them that their interests are being taken into account. It can help reassure workers that a new green initiative isn't just 'greenwashing'. That is, only paying lip-service to environmental concerns for the sake of appearances.
- Setting up joint management and union environmental committees and negotiating framework agreements with employers can secure workforce engagement on carbon reduction. This can help to embed environmental sustainability into the way organisations work. Obtaining senior management buy-in is crucial to making a difference.
- Best practice guidance for companies with publicly traded shares (eg on the London Stock Exchange) includes the need to report on just transition measures as part of their climate-related disclosures — see for example the *recommendations of the Transition Plan Taskforce*.[45]
- If an organisation manages its environmental performance via an environmental management system (EMS), union involvement will strengthen the EMS. Union engagement can form an important part of the evidence employers use to gain accreditation.
- Unions have networks that go beyond the workplace and can support a community engagement strategy.
- *TUC research* has found that joint work between management and unions on the green agenda helped to develop a mutual appreciation of the benefits of carbon reduction. It also improved industrial relations.[46]

Unions are best placed to:

- monitor the effectiveness of environmental policies and provide staff input
- gain staff support for changes to workplace practices
- use existing union structures and procedures to influence and develop members' thinking and actions
- raise staff awareness and encourage behavioural change
- improve operational procedures.

FACILITY TIME CHECKLIST

- ✓ Arrange time off for training at average earnings to carry out the role. Contact your branch and/or union education officer to find out what is available through your union or the TUC Education programme.
- ✓ Find out if there is any time off with remission from work to carry out your functions as a rep. This may be in the form of a branch allocation for all union duties or a specified number of hours each week for the green rep.
- ✓ If there is no agreement on time off, raise the issue in your union and agree a strategy for raising this with management.

Environment v jobs?

The need for a holistic approach presents itself because there are cases where dealing with one issue can have a negative impact elsewhere. For example, if the union is engaged in discussions about energy management, the employer

could propose that closing a site or certain buildings would considerably reduce carbon emissions. However, such a narrow approach might lead to a loss of jobs or other impacts on conditions of employment, such as overcrowding, travel distance to work, etc

A strategy is needed that ensures improvements aren't made on one issue at the expense of the other.

As a trade unionist, it's the green rep's role to make the case that environmental action is good for workers.

The potential for job creation as a product of climate action needs to be maximised. For example, *the Preston Model*[47] is a local authority initiative that seeks to increase the number of local jobs generated by council procurement policies. It is a 'community wealth building' strategy based on collaboration between Preston City Council, the Centre for Local Economic Strategies, and local anchor institutions. The additional spending within the city has created and saved local jobs, and improved employment terms across the area. One of the outcomes is that over 4,000 more employees are in receipt of the real living wage.

GREEN SKILLS AND THE ULR ROLE CHECKLIST

If there is a union learning rep (ULR) in your workplace it will be important to involve them in developing a green skills strategy. The following checklist contains questions to consider.

What opportunities are there to raise the issue in your workplace? Think about:

- discussions in branch meetings
- staff development activities or continuous professional development
- circulating online resource material, eg awareness-raising training.

Employers' current policies

- ✓ Has your employer declared a climate emergency?
- ✓ Is there an action plan that spells out how they intend to reduce carbon emissions?
- ✓ Does it contain any reference to green skills and training the workforce?

Sector policies

- ✓ Has your sector of employment published any material that addresses current and future skills issues?

Local authority policies

- ✓ Has your local authority declared a climate emergency?
- ✓ Is there an action plan that spells out how they intend to reduce carbon emissions?
- ✓ Does it contain any reference to green skills and training the workforce?

A strategy is needed that ensures improvements aren't made on one issue at the expense of another.

CASE STUDY

UCU ENVIRONMENT REP SHOWS THE WAY TO A GREENER FUTURE AT CARDIFF UNIVERSITY

UCU environment rep Paul Rock has played a key role in making Cardiff University a greener place to work and study. Working together with students, *UCU recently ran a successful campaign* calling on the university to *declare a climate emergency*.[162]

Alongside the climate emergency declaration, the university has committed to becoming carbon neutral by 2030. Behind the scenes, Paul has been working for many years in his role as a *trade union environment* rep to try to make the university more sustainable.

Survey reveals groundswell of support

Paul says: "My first step was to run a survey, to ask staff what was important to them in terms of green issues and where they wanted to see the union push for change. We had a large number of responses, enough to make the results quite powerful. There were lots of ideas and a real groundswell of support for change."

Getting the environment rep role recognised

Armed with the backing of staff from the information gathered from the survey, Paul was successful in securing union representation on the university's environmental steering group. Paul also requested a meeting with the university's environment manager and deputy vice chancellor. They agreed a list of practical things to improve sustainability that they could work on together.

Key wins:

- One key area of change staff wanted to see was action to support sustainable travel, where Paul secured key new schemes for staff (you can read more about this on *page 124*).
- Paul has also campaigned successfully for more sustainable, ethical investment in the university's investments and pension fund.

Following up on the climate emergency declaration

Paul says: "The university has appointed a dean for environmental sustainability and he has been keen to ensure that unions are fully part of this work. We would like to see sustainability as part of all the academic course programmes. And a task and finish group has been set up to come up with ideas of what we should do to meet the university's commitments in view of our climate emergency declaration."

"The role of unions is vital in the changes that will need to come because we also need to think through impact on people. It's not just about being an eco-champion. We need to say, hang on is this going to be good or bad for the people who work here and the people in the supply chain?"

Developing transition plans and agreements

Introduction

In Section 1, we looked at why unions need a just transition. Some unions are looking to extend this by negotiating 'transition agreements'. This is also referred to as adopting a 'green new deal' approach.

In preparing for transition planning and agreement negotiations, it is important to remember that negotiations do not take place in isolation from a broader campaigning approach. Rarely do employers take action simply because we ask them to.

Emissions reduction and other environmental measures that are introduced by the employer may have an adverse impact on staff and their terms and conditions of employment. Branches will need to ensure that actions are only implemented following effective consultation and that the principles of a just transition are adopted.

©MPCA Photos

WHAT IS A GREEN NEW DEAL?

The term 'green new deal' was first used in January 2007 by journalist Thomas Friedman in the *New York Times.* He used it to describe the level of ambition needed to address the climate crisis in a way which was not dissimilar to the New Deal policies of the US government in the 1930s that were designed to deal with the financial meltdown after the Wall Street Crash.

Since then, 'green new deal' has been used to describe various sets of policies that aim to make systemic change. In the UK, it has broadly been described under five principles to guide a policy plan that will fundamentally restructure our economy to deliver good jobs and a habitable future:

1. Decarbonising the economy
2. Creation of millions of new, well-paid and secure jobs ensuring sustainable and meaningful livelihoods for all workers, including those in today's high emissions sectors
3. Reduction of social and economic inequality
4. Protecting and restoring vital threatened habitats and carbon sinks, and ensure the provision of clean water, clean air and green spaces, securing a safe and healthy environment for all
5. Building a resilient society prepared for the impacts of climate change, in ways that protect the most vulnerable

CASE STUDY

PUSHING FOR A GREEN NEW DEAL AT ROLLS-ROYCE

Union members and reps in aviation manufacturing are campaigning to retool their sites to produce zero carbon technology.

Across three Rolls-Royce sites, union reps have developed plans for green manufacturing that could future-proof jobs by providing a long-term future and security.

The reps described that the best way to get buy-in and members excited about a just transition was to:

- include union members in discussions from the start
- present a vision where the green industrial revolution will be delivered by workers and communities, not by managers
- place workers in the driving seat in coming up with ideas for new products.

Keeping the plants open

Union representatives in Rolls-Royce across three UK sites, together with local environmental and community activists, have developed their own transition plans for sustainable and green manufacturing, and lifted threats of closure. Their plan covers three Rolls-Royce sites, in Ansty (near Coventry), Barnoldswick (Lancashire), and Inchinnan (Renfrewshire), that currently produce turbine blades and other parts for jet engines.

In May 2020, in the middle of the shutdown of aviation due to the Covid-19 pandemic, the three sites were targeted by the company for closure as part of a major restructuring plan that would have cut at least 9,000 jobs globally.

After protest and strike action by Unite and GMB members, a memorandum of understanding (MOU) was finally negotiated for each site in February 2021. The company agreed to keep Barnoldswick open for at least 10 years, and Ansty and Inchinnan open for five years.

What's more, the union agreement secured a commitment by Rolls-Royce to open a centre of excellence training school at the Barnoldswick site to support the development and manufacturing of zero carbon technologies.

Kevin Wright, Inchinnan Unite convenor, described the agreements as a short-term solution to stop the site closures and temporarily save jobs: "The danger we've got is we've got five years left, there are small little bits and pieces of work coming in, but it's all legacy work."

Creating sustainable jobs

In the autumn of 2020, while the agreements were being negotiated, Derek Texeira, Unite convenor at the Ansty site, began working with Zarah Sultana (MP for Coventry South and Coventry) for a green new deal that would keep jobs and secure a long-term future for the plants.

Texeira explained: "We got the team together, the green new deal team, which was based on the Lucas plan. And then it grew arms and legs when I started talking to Kevin in Inchinnan and Mark in Barnoldswick."

Together, the combine designed a series of workshops to explore diversification at the Ansty site toward alternative and sustainable production, inspired by the much-celebrated Lucas Aerospace alternative plan for jobs developed by shop stewards in the 1970s.

CASE STUDY

Wright explained, "We built up a framework… what we designed is a series of three workshops where the workers themselves would come up with ideas and develop ideas for new products and commodities that we could start to manufacture."

The combine's workshops are designed to use workers' skill and knowledge to develop alternative production plans. In a trial run of the workshops with Coventry GND, Unite convenors discussed manufacturing wind turbine gearboxes at the Ansty site.

The combine presented its proposal of workshops to Rolls-Royce management who "were pretty lukewarm" according to Texeira, taking issue with it being a worker-led initiative. Six months on, management are still yet to reply. Despite "hitting a brick wall", the combine continues to push their just transition campaign inside the workplace, among politicians and across the communities.

"We've got a lot of community support in all of our sites," according to Texeira. "A lot of people didn't know what was going on, that's the thing… We've had to reach out to various community groups. And that work will continue".

Researched and written for the TUC by the Global Labour Institute.

Key transition bargaining objectives

Each union and branch will establish their own priorities. Transition for one workplace will necessarily look quite different from transition at another, not least because of the hugely different environmental impacts and carbon intensity of different sectors and businesses. Greening a grocers and greening a steel mill will look quite different! Nonetheless, common bargaining objectives will exist and could include:

- Recognition of the climate and nature emergency and the need for a rapid, just transition (via a declaration or statement) by the employer, with associated policies and plans to be developed.
- Industrial relations, where recognition of green reps (including provision of facility time to carry out functions and training) and inclusion of all environmental matters in the bargaining agenda with unions, with agreed joint consultation structures.
- An agreed joint approach to ongoing transition planning, which acknowledges the principles of a just transition and provides reassurances of security for jobs, pay, terms and conditions, access to training, equality, pensions, health and safety etc
- Carbon footprinting and environmental management (to be carried out in full consultation with unions).

Additional areas that could be included in a transition agreement/GND claim are:

- upgrades to industrial processes
- sustainable travel
- resource management
- ethical procurement, investment and banking
- food and land use
- water
- air pollution
- community engagement.

Be ambitious and clear about what your members need the transition to look like. Your transition arrangements may be the most fundamental plans that your employer has to negotiate, so make sure that works for your colleagues.

Transition planning — a general guide

Below is a guide adapted from UCU's *Green New Deal for Colleges and Universities: a UCU bargaining guide for branches.*[48] Branches will be at different stages of development in dealing with the issue, and it's important to check with your own union about their approach to this area. This plan sets out a five-step process for developing a transition agreement or green new deal claim.

Step 1: Assess current position

- Review current branch organisation.
- Note if anyone is leading for the branch on this issue and whether they have attended a green reps training course.
- Review employer's position on the climate and nature emergency — have they issued any other climate or environmental policy related information, statements or plans, eg climate risks assessments, carbon management plans?
- Review employer's business development plans — are these compatible with addressing the climate crisis and are jobs safe?
- Speak to your union to see what guidance and support is available.

Step 2: Decide on your priorities and identify support

- Put transition agreement negotiations (or green new deal negotiations) as an agenda item for a branch committee discussion.
- Circulate this guidance to branch committee members.
- Introduce the topic and ask for views on priorities and ways to progress them
- Put transition agreement negotiations as an agenda item for a members' branch meeting. Use the 'What is a 'green new deal?' section above as a guide to introduce the topic and ask for members views on priorities and ways to progress them.
- Liaise with any other recognised trade unions and seek their views on a transition agreement claim.
- You could also consider surveying members.

- Identify priority areas for action (some of the key ones are listed in Section 3).
- Establish focus groups of members on specific priority areas. Use the checklists and sources of information in Section 3.
- Ensure the equality impacts of all issues are considered by focus groups. These should consider the impacts on people with protected characteristics (eg women and disabled people) and also wider considerations of equality and fairness (eg impacts on lower paid workers or those with caring responsibilities).
- Carry out an environmental and sustainability audit/ inspection alongside other trade unions (see 'Walk-round inspections' on *page 67*).

Step 3: Submit the claim to your employer

- Once you have decided on and researched your priorities, start the process of submitting your claim by writing a formal letter to your employer. Adapt the version in Section 4 'Model letter to the employer'.
- Set a time frame for a response and request a date for a meeting.

Step 4: Progress negotiations and build your campaign

- Collate audit/ inspection results.
- Organise an awareness-raising sustainability event.
- See if your union has any campaign materials or design your own (free online design resources such as *Canva* can be useful for this).
- Use union communication channels (newsletters, social media, noticeboards etc) to build support for the campaign. *Megaphone UK*, the TUC's shared online campaign platform allows unions to run their own petitions and email actions. The TUC's *Pocket Guide to Organising and Campaigning* gives some suggestions for effective campaigns.
- Review progress of negotiations to prevent claims drifting.

Step 5: Monitor and review

- Has the employer met the claim in full? Monitor and review.
- Have you reached partial agreement? Review, consolidate and then refresh and relaunch the claim.
- Have you reached a failure to agree? Consider escalation to a formal collective dispute.

At any step:
Seek advice from your union's regional and national office.

At all steps:
Equality proof — a transition plan/green new deal approach must ensure that equality issues are addressed. The adoption of some policies may have unintended consequences for some individuals or groups that the union will need to monitor. Liaise with your branch equality rep if you have one.

Transition planning for high-carbon workplaces

In workplaces where phasing out carbon emissions presents a fundamental challenge to the business model (eg in a steel plant, ceramics kiln, or car factory), transition planning is likely to be a more complex process that requires involvement across the union branch, and in-depth consideration of the technological, economic, skills, and process aspects of the transition.

If this applies to you, the TUC's ongoing Worker Led Transition project can support you — please contact *climate@tuc.org.uk* to find out more.

The following five components likely need to be considered:

1. Technology

- What needs to change for the manufacturing site to thrive in a future (zero carbon, increasingly digitised) economy?
- Will demand for the business's outputs change?
- Will the availability of inputs - including parts or raw materials - change?
- What do the possible technological pathways look like to sustainable ongoing production? How can this technology upgrade be delivered on-site?

2. Skills

- What's different about skills needed for the future business model (and for the transition) to the current skillset of the workforce?
- What training and skills support from your employer is needed to close that gap?

3. Investment

- How much will the proposed upgrades cost? When is this investment necessary?
- Who can provide this investment (eg from within the business, from private sector, government)?

4. Job quality

- What are the opportunities and risks for pay and conditions (safety, flexibility, etc) through the transition?
- Are there opportunities for job increases and risks of job losses in the transition?
- How should job quality and job numbers be protected?

5. Worker voice and governance

- What processes and structures should be set up to give workers a deciding role in the transition process (eg via a just transition agreement or a revised collective bargaining agreement)?
- Once there is agreement between the workforce and employers on a transition plan, how should it be implemented and monitored?

SCOTTISH SOUTHERN ELECTRIC'S JUST TRANSITION PLAN

Energy company Scottish Southern Electric (SSE) has become the first company in the UK's energy sector to publish a just transition strategy. It sets out 20 principles that will underpin its strategy to move toward net zero. These principles aim to protect workers and communities. It includes four principles "for good, green jobs":

1. guarantee fair and decent work
2. attract and grow talent
3. value employee voice
4. boost inclusion and diversity.

It says:

"SSE has long-standing and mature frameworks to facilitate partnership working with trade unions and recognises the critical role trade unions play, particularly in times of change, for ensuring that employee voice is factored into decision-making. The appointment of a non-executive director with responsibility for employee matters has also elevated the strategic nature of the employee perspective to SSE's board.

"Listening to, and acting on, employee voices in the green transition will inform SSE's decision-making at a strategic and workforce level."[163]

Environmental management systems, labelling and accreditation

Introduction

Green reps will need to know who has environmental responsibilities within the management structure. In some larger workplaces there may be an environmental team dealing with different aspects of the sustainability agenda. In others it will be one person combining the role with other duties, or, no one designated at all. Many workplaces will use a specific Environmental Management System (EMS) or standard to manage environmental or climate issues. At the branch induction for green reps this should be part of the information that is passed on.

To find out or to make sure your information is still up to date, follow these steps:

- Obtain the latest copy of the environment, sustainability or climate policy. The information you need may be in more than one document. Ideally it should be dated with a review date so that you can judge whether it is the latest one.
- Check who has been delegated responsibilities in the policy.
- Seek a meeting or make contact with the person(s) who has been given a lead role. Introduce yourself as the green rep and prepare for the meeting by drawing up a list of questions or points that you would like clarified. You may want to send these in advance depending in the urgency of the issue or the potential difficulty in obtaining the information requested.
- Check the policy to find out what it says about staff engagement and the procedures for dealing with sustainability issues.
- Check if the employer is registered with an accredited EMS.

Schemes

There are a large number of organisations offering accreditation, and these may be an incentive for employers wishing to promote their green credentials to their customers, workforce or more widely. Some of the better-known ones are listed below:

International Standards Organisation (ISO). ISO 14001 is a generic management system standard, meaning that it is relevant to any organisation seeking to improve and manage resources more effectively.

This includes:

- single-site to large multi-national companies
- high-risk companies to low-risk service organisations
- the manufacturing, process, and service industries, including local governments
- all industry sectors, including public and private sectors
- original equipment manufacturers and their suppliers.

ISO 14001 sets out the criteria for an environmental management certification system. It maps out a framework that a company or organisation can follow to set up an effective environmental management system. Designed for any type of organisation, regardless of its activity or sector, it is intended to provide assurance to company management and employees as well as external stakeholders that environmental impact is being measured and improved.[49]

British Standards Institute (BSI). This is linked to ISO 14001 and is seen as more appropriate for small to medium sized organisations. It provides guidance on the phased implementation of an EMS allowing organisations to implement and maintain an EMS via a staged approach. Users have the option to stop at any

stage or to continue and attain a level suitable for ISO 14001 certification.[50]

Eco-Management and Audit Scheme (EMAS). The requirements of ISO 14001 are an integral part of the European Union's EMAS. EMAS's structure and material are more demanding, mainly concerning performance improvement, legal compliance, and reporting duties.[51] EMAS organisations acknowledge that active employee involvement is a driving force and a prerequisite for continuous and successful environmental improvements.[52]

Sector-specific. You may work in a sector that has its own performance system. For example, the Environment Association for Universities and Colleges (EAUC) has introduced a self-assessed *sustainability leadership scorecard*.[53]

Carbon Trust. The *Carbon Trust Standard* recognises organisations that follow best practice in measuring, managing and reducing their environmental impact.[54]

Institute of Environmental Management and Assessment (IEMA). This is an organisation for environmental professionals.[55]

Union activities that can contribute to accreditation

Unions should ensure they are consulted when an employer is looking at bringing in an EMS. Systems that have an 'engagement/communication with the workforce' criteria provide an ongoing opportunity for a union voice. It will be important that it isn't just a token consultation exercise to tick a box. The reality is that in many workplaces there will not be an EMS due to cost and capacity factors. Agreeing an internal audit process may be a joint activity that could influence environmental performance.

Audits

These are concerned with checking that people are doing what they are supposed to be doing and that policies and procedures are working. They can deal with the whole environment management system or particular issues such as waste or energy.

They can be done by internal or external auditors. In small organisations it may be difficult

to do internal audits because the auditor needs to be independent of the audited activity. In order to avoid paying outside consultants EMAS guidance suggests arrangements with other organisations to ensure a degree of independence.

What should be audited depends on the type of audit. For example, it could look at compliance with environment legislation or single issues like resource/waste or noise management. It also depends on the type of workplace.

Most workplaces would benefit from auditing areas such as:

- energy efficiency
- water usage
- resource efficiency/waste minimisation
- transport including transportation of goods
- reduction of emissions.

These issues are covered in more detail in Section 3 of this toolkit.

Other areas will depend on the business but could include:

- product planning
- selection and use of raw materials
- production processes.

What are the benefits?

- ensuring compliance with legislation
- assessing and anticipating problems
- raising staff awareness
- improving operational procedures
- more efficient use of resources.

What are the stages?

The exact content will be determined by the type of audit and management system but the following steps are recommended:

- select a management-union audit team and identify sites
- establish audit parameters
- inform national, regional and site management and unions of the timescale for auditing
- on-site audit commences
- off-site research
- draft environmental audit report with numbered list of recommendations
- discuss draft with site and regional management and unions, and modify where necessary
- final draft
- management response, acceptance/rejection of recommendations, adopting of timescale
- implementation of recommendations
- closure of the audit once all the recommendations have been implemented or rejected
- final report to management and unions
- communication of the report throughout the organisation
- publicity for the report
- set a date for the next audit.

ENVIRONMENTAL MANAGEMENT SYSTEM OR COLLECTIVE AGREEMENT?

This will be influenced by how much you know about your current EMS.

If the organisation is not signed up to an EMS, evaluate whether you think it should be and what system should be introduced. Seek a meeting with management to obtain its views and prepare a union response. If it is, check which scheme and ask for copies of the relevant documentation associated with it. Use this information to help you assess whether it is addressing the right issues and whether 'continuous improvement' is taking place.

Whether or not your organisation is signed up to an EMS, it should always be backed up by a collective agreement if possible.

ENVIRONMENTAL MANAGEMENT TOOLS FOR BIODIVERSITY

Biodiversity footprinting
Workplaces and work-related activity can have a huge impact on nature. Biodiversity footprinting helps organisations to understand the impact of their operations on the natural environment. It can help to identify changes needed to reduce harm and increase positive impacts.

An organisation's activities can have both direct and indirect impacts on biodiversity and 'ecosystem services.' Ecosystem services are the benefits to humans provided by the natural environment and from *healthy ecosystems*. These offer services such as natural pollination of crops, clean water, clean air, extreme weather mitigation and human mental and physical wellbeing.

What should be accounted for?
Direct impacts. These are the organisation's own operations and activities that have a direct physical effect on the surrounding land, air or water environments and the wildlife that inhabit them. These are often related to land use and waste generation.

They can include:

- Habitat loss and degradation, erosion, species loss, air and water pollution, soil and water contamination.
- The introduction of non-native species which can disrupt surrounding ecosystems.
- Reduced access to natural resources or disrupting ecosystem services, such as erosion control and natural flood defences.

Indirect impacts. These are often the most significant risk and can be more difficult to identify, assess and control. They may involve the cumulative effect of the operation of several companies.

They include:

- Activities carried out by third parties in an organisation's supply chain. For example, sourcing materials from countries where rainforests are not sustainably managed and are destroyed to produce commodities eg, palm oil is often produced through harmful practices.
- Impacts associated with the use of an organisation's products or services. An example of a negative impact would be a product that cannot easily be reused or recycled and produces harmful substances as it breaks down.
- Induced changes in behaviour by others, such as workers or local people, which are prompted by a company's operations. For example, habitat loss, eg due to unplanned settlements and agricultural expansion, or increased demand for and depletion of natural resources as a result of displacement.

Impacts can be positive as well as negative. An example of a positive direct impact would be a workplace wildflower garden that benefits wildlife, increases biodiversity and provides benefits for workers' health and wellbeing.

Biodiversity footprinting tools

Biodiversity footprinting is not as well established as carbon footprinting. The *International Union for the Conservation of Nature (IUCN)* has produced *a new guide on biodiversity footprinting tools*.[56]

Negotiating on environmental issues

Introduction

This section includes information to support you to set up or improve a process for negotiating with your employer on climate and environmental issues, including assessing available negotiation options, making the case for negotiating on climate issues, reviewing your employer's climate strategy and assessment of climate risk.

Setting up a joint environment committee

Check what the current arrangements are for progressing environment/climate-related issues. If these procedures are working effectively then there will be no need to change them. If there are no procedures or they are not working effectively you will need to prepare a response. Make sure this is done in conjunction with branch officers and any other unions in the workplace. The environment policy should indicate what the current procedures are including the committee or committees where specific issues are raised.

If you are not able to obtain agreement on a course of action with management, you will need to discuss the best way to progress the issue. In some cases, this may involve declaring a failure to agree and use of the grievance procedure.

Joint environment committee or alternatives?

Try and get as much done without going through formal committees. Generally speaking, informally discussed mutual agreements tend to lead to change better than agreements forced on employers. However, there will be some things that require formal decisions. Get advice on which procedure to use if you are not sure.

Unions in a workplace or sector may decide that existing structures are the best place to conduct negotiations rather than a Joint Environment Committee. There may also be less formal arrangements to take up particular issues. Whatever the approach it will be important to ensure that:

- unions are recognised in the process
- consultations take place in good time rather than last-minute
- the discussions are not treated as a box-ticking process
- where there is no agreement, that unions register a failure to agree.

Making the case for business action

There are different drivers for business action. These include:

- legal requirements
- a moral duty
- sector or higher-level policy demands
- public relations purposes
- financial considerations
- workforce/community pressure.

The combination of these factors will be different for each sector of employment. Unions need to do their research to establish the best pressure points to support improvements.

Making the case for trade union involvement

The central principle is that union representation is an essential requirement. In the absence of legal rights, reference can be made to:

- social partnership agreements
- the obligations contained in international protocols such as the UN Paris Agreement to consult with workers as part of the just transition principle
- the references from national bodies, eg the Committee on Climate Change that endorse the just transition principle

- stakeholder engagement — this is a much-used term in climate change policy. In a workplace the most important stakeholders are the workforce — without the consent of the workforce, employers may struggle to make changes stick
- best practice guidance to companies (eg transition plan task force guidance) that invites companies to report on their just transition and stakeholder engagement plans as part of climate disclosures.

Workers and their representatives will often have detailed knowledge of the work process and how it can be improved. Consultation and negotiation will be the best way to ensure effective input and buy-in from staff.

What climate action measures is your employer taking?

Actions fall under two main categories: mitigation and adaptation. It's vital that unions have access to information on climate risk to understand how these could impact on members. Unions must also be fully consulted about any actions being considered in mitigation or adaptation measures.

Climate mitigation

Mitigation refers to the measures that need to be taken by governments and employers to reduce their carbon emissions, for example switching to zero-emissions forms of transport and heating, or redesigning production processes to eliminate emissions.

Find out what mitigation measures your employer has already made and is planning.

The CCC publishes an annual report on UK progress in reducing emissions, and the carbon budgets that guide interim targets. These can be used to check whether any targets set by your employer are in line with scientific evidence.

In Section 3 we look at look at specific types of mitigation

CASE STUDY
UNIVERSITY OF LIVERPOOL GREEN NEW DEAL FRAMEWORK

The *green new deal framework*[164] — put together by UCU national and SOS (Students Organising for Sustainability) — outlines how branches can use collective bargaining to implement sustainability and climate action at their universities using a green new deal bargaining claim.

The UCU green rep explains: "We passed a branch motion in 2020 to get started on this and began co-working with the Guild of Students and the UNISON and Unite branches at the university. A group of members and reps co-wrote our claim based on five key areas:

- local and global emissions reductions
- sustainable employment
- decolonisation and decarbonisation of the curriculum
- sustainable research
- divestment.

It's mapped onto the UN sustainable development goals (SDGs) which our university is a signatory to, and each area contains a list of demands/ways forward that we want the university to agree to in order so that the green transition that must happen within our institutions is both effective and just."

"We submitted the claim to the employer in October and we had our first negotiation meeting last week. We took representatives from each of our unions and our green new deal action group, and we came away with a commitment from the university to a series of meetings to discuss each area of our claim."

CASE STUDY
NATIONAL FURTHER EDUCATION PAY CLAIM

2023 saw the first ever UK example of mainstreaming green new deal bargaining into a national pay claim. The joint unions in the further education sector — GMB, NEU, UCU, UNISON and Unite — have submitted an historic pay claim for 2023—24.

One of the five 'heads of claim' is for "a national green new deal agreement on a just transition for the sector which will include a just transition commission in FE. The scope of which could include sustainability, new skills, climate justice and a road map to achieving a carbon neutral sector by 2030."[165]

such as workplace carbon management plans.

Climate adaptation

Adaptation refers to the measures needed to be taken by government and employers to combat the risks already present and locked into the system from global warming and in particular the extreme weather events associated with it.

Find out how your organisation is planning to adapt to the risk and opportunities. This should cover key areas such as investment strategy, and business plans. It will also cover the control measures needed to adapt to occupational risks associated with climate change impacts. For example, responding to extreme weather events. Increased incidences of flooding and working in higher

CLIMATE PROOFING ON JOBS AND SKILLS

The checklist below could help you to develop a union jobs and skills strategy.

Branch organisation

- ✓ Has the impact of climate change on future employment and skills been discussed?
- ✓ Has there been liaison with other unions to coordinate a response?
- ✓ Is there a branch officer leading on climate change and green skills? This could be a green rep or a union learning rep. If both have been appointed, it will be important that there is liaison between the two.
- ✓ Have any potential health and safety and equality impacts been factored into considerations?

Conduct a skills audit

- ✓ Have the views of members been obtained on the jobs and skills required over the next ten years? Consider a survey to help generate data that could be used in discussions with management.

Formulate a claim

- ✓ Have green job creation and skills mapping been discussed with the employer? Based on the information generated from the questions above:
  - —What are the main risks for current staffing arrangements as a result of climate change policies?
  - —What are the main opportunities for future staffing arrangements as a result of climate change polices?
  - —What general training arrangements need to be prioritised to minimise the risks and maximise the opportunities?
  - —What job specific training arrangements need to be prioritised?
  - —How will you progress green jobs and green skills as a bargaining issue with management?

temperatures are some of the hazards that may need to be addressed in a climate risk assessment register.

In Section 3 we look at specific types of adaptation measures eg workplace responses to extreme weather.

Understanding the impact of climate risk on organisations

There are different types of climate risk, some examples are:

- **Physical risks,** eg operational impacts from extreme weather events.
- **Transition risks,** eg changes in technologies, regulation or markets that may increase business costs, undermine the viability of existing products or services, or affect asset values. This includes the risk of 'stranded assets', ie if the world succeeds in phasing out greenhouse gas emissions on time, a significant proportion of assets such as fossil fuel fields are likely to lose their value.[57]
- **Liability risks,** eg the potential for liability for the damaging effects of greenhouse gas emissions

(such as legal action against fossil fuel companies).

Risks related to climate change are now ranked as top global risks. According to the World Economic Forum's *Global Risks Report 2022*,[58] climate action failure and extreme weather are Earth's two greatest risks over the next five to 10 years. These two factors are drivers for additional environmental risks such as biodiversity loss, natural resource scarcity, and human environmental damage. 2022 was the first year in which environmental risks dominated the top five global risks.[59]

From 2021 the Financial Conduct Authority required all UK premium-listed commercial companies to report on a comply or explain basis, using the TCFD framework. This applies to accounting periods starting on or after 1 January 2021, and companies must put a statement in their annual financial report.

Two-thirds (67 per cent) of UK corporates disclosed climate-related risks and opportunities in their 2019 annual reporting, according to the Carbon Trust.[60] However, fewer than a quarter (23 per cent) of companies are expected to fully report in line with the recommendations of the *G20 Financial Stability Board's Task Force on climate-related financial disclosures (TCFD),* released in June 2017.[61]

If you work for a private sector organisation, check the company financial report to find out whether climate risk has been reported. If you work in the public sector check relevant annual reports to see if it has been included. If your employer is not yet assessing its climate risks this is something the union should raise. It is in the interest of members that these risks are identified as well as in the business interests of the organisation.

GREEN REPS AND CLIMATE EMERGENCIES

Unions should check whether their employer has declared a climate emergency. This action has been adopted by some private and public sector bodies. It may provide the union with an opportunity to leverage support for additional measures.

If the organisation has not declared a climate emergency, it would be worth checking best practice in the sector. Presenting best practice examples may help to convince your employer to do something similar.

Just making a declaration will not mean much unless it is backed by actions that will achieve carbon reductions and any other environmental goals.

Example of a climate emergency checklist: The Greener Jobs Alliance has published *guidance on what to look for in an employer's climate emergency declaration.*[166]

Awareness raising

Introduction

As with any industrial relations issue it is important that members understand what the union is doing and the reasons why.

Promoting climate and environmental education will include demonstrating to members that climate change can be dealt with as a trade union issue and something that should be prioritised in the workplace. Surveys show that there is plenty of public support already.

According to a 2021 poll for the TUC, the vast majority (86 per cent) of workers support the UK moving to a greener economy to tackle climate change, with even greater support among younger workers.

Two in three workers (65 per cent) want their employer to actively help tackle climate change. But only one in three (33 per cent) say that their employer has taken action.

Most workers (71 per cent) believe employers should consult with them about how to tackle climate change in their workplace. But only one in eight (13 per cent) has been consulted. And this drops to one in ten (10 per cent) of workers earning less than £29,000.

The rest of this section provides some suggestions for awareness raising activities to consider.

There are a lot of organisations operating in the climate change space. Some of them have a blind spot when it comes to the trade union movement. Often reports will be issued talking about 'just transition' of workers that will contain no reference to union engagement. Unions will need to take every opportunity to stress the collective approach compared to an over-reliance on individual solutions.

Communications and campaigning

Maintain a visible physical and online presence, and try and maintain a visual presence on the issue. Posters on noticeboards can help to raise the profile of union action. *These posters were produced by UCU*, for example.[62] There are lots of free online resources that can help you to design your own posters and images for social media campaigns. There are some *Wales TUC campaign videos that you can share*.[63] The TUC's *Pocket Guide to Organising and Campaigning* [64]has some useful suggestions for building campaigns.

Using images. Showing real people and situations that people can relate to has been found to be the more effective at engaging people. Images showing local communities affected by extreme weather are more effective than images of polar bears or smoking chimneys.

Conversations and group discussions with members:

- Encourage members to share their ideas for action.
- Encourage everyone to listen to and share concerns.
- Focus on what can be done collectively through the union — give positive, practical examples.
- Make the links to other 'co-benefits' for members (see boxed section) as well as making a moral case for taking action.

Be prepared that sometimes group discussions can become side-tracked toward either individual 'behaviour change' (which can become a bit confrontational/judgemental

and make people feel defensive) or the need for very high level societal/structural changes (which can be a bit overwhelming and make people feel that things are hopeless). Of course, it's important to acknowledge and listen to everyone's concerns. But be prepared and have a strategy for redirecting discussions in a more constructive direction when needed.

Talking to climate change deniers and doubters

Most people accept the science of climate change. It might be hoped that we have now moved past the point of having to defend the science. But there are still a small minority who think climate change is a 'hoax', or conspiracy theory. These people often don't respond to reasoned arguments or evidence.

Where the position someone holds is one of doubt or uncertainty, they may be more willing to be persuaded of the case for action. Recent research has *exposed how a decades-long campaign to spread doubt about climate change* was a deliberate strategy to shape public opinion and delay action to tackle it.[65]

Some things to consider in a conversation are:

- Start with shared values: can you ground the conversation in things that you do agree about?
- Appreciate the value of scepticism: scientists do not all agree on everything, and while the evidence for human-caused climate change is overwhelming, there are things that we don't know yet or cannot predict. It is good to question and be curious.
- Come round to positive solutions: the actions we need to take can create other benefits, eg cleaner air, more green spaces, more convenient public transport systems. The next section considers these in more detail.

CO-BENEFITS

The term 'co-benefits' is used to describe beneficial things that happen when, by tackling one issue, we create significant benefits in other areas. It can be helpful to highlight these when talking about climate change and nature loss as they can be a good way of maximising support for action.

For example, reducing transport emissions can improve air quality and improve the health and wellbeing of workers. Creating workplace green spaces can benefit wildlife and nature, provide areas for relaxation for workers and support better physical and mental wellbeing.

It may also be easier to achieve results in discussions with employers if the union can present change as a win-win outcome. For example, energy reduction measures can cut carbon emissions and also save the employer money. Action to improve air quality and support active travel may help to reduce sickness absence, time lost to congestion and improve staff health and wellbeing.

Running workplace events

Events should engage with people. As with surveys and inspections you need to decide whether to organise on a joint basis with management or union only. For it to be successful you need to plan in advance. Identify key dates in the calendar that could provide a focus for your event. For example, Climate Week in September or World Environment Day in June.

When you have decided on the focus think about:

- duration
- members of the organising team
- target audience
- general or specific issues, eg transport or energy

CASE STUDY
INTELLECTUAL PROPERTY OFFICE (IPO), NEWPORT, SOUTH WALES

Becky Lander is a workplace rep and a specialist trade union environmental rep for Prospect at the Intellectual Property Office (IPO), near Newport in South Wales. She and her fellow Prospect rep, Conal Clynch, ran an awareness-raising event to coincide with the FridaysforFuture school strike in September 2019.

Becky explains: "The IPO has an environmental suggestions group on Yammer which comes up with lots of ideas. Interest really picked up around the time of the school climate strikes last year."

The reps decided to hold an event to coincide with the school climate strike. They set up a stall in reception and showed a Greta Thunberg video as part of the event. This sparked a lot of interest from members and helped kick off discussion. And it also helped to raise the union's profile on the sustainability agenda.

Becky explains: "I represented Prospect at the event and afterwards was asked to be involved in a staff 'green team' that was being set up by the IPO environmental team."

- objective — general awareness or more focused
- content — speakers, quiz, film etc
- resources needed — money, equipment, publicity etc
- arrangements — depending if online or face-to-face, booking a room, liaison with management
- publicity
- any other considerations.

Awareness-raising training

It's important to ensure the union is involved in discussions about any environmental awareness training the employer plans to introduce at an early stage. It will of course be important to involve the ULR on this. There may be opportunities for involvement through co-design and delivery of training to ensure it is relevant and suitable. For example, *UNISON environment reps in Stockport Metropolitan Council have been helping to deliver peer-to-peer carbon literacy training to colleagues.* This helped to equip staff with the knowledge they needed to protect and improve the environment.[66]

Planning for the future's skills needs

Introduction

The changes every workplace needs to make to deal with climate change all have implications for what skills our jobs will need in the future. Around three million workers in the UK will require significant re-skilling and three million will see increased demand for their skills. But every job will require some changes to practices and, therefore, to skills.

What skills will workers need in the transition to a net zero, zero waste economy?

The first thing that many people think of are the skills related to the climate critical sectors, such as energy, transport, construction or areas such as waste management or nature restoration. But the key point to remember is that every job will require green skills. They will be needed across all sectors and at all levels.

There is no agreed definition of 'green jobs' or 'green skills'. Green skills can encompass the huge and diverse range of technical and practical skills, knowledge, values and attitudes that will all be needed to develop and support a sustainable society. The concept

Around three million workers in the UK will require significant re-skilling and three million will see increased demand for their skills. But every job will require some changes to practices and, therefore, to skills.

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SKILLS GAPS

Technological change, globalisation, ageing populations and climate change will dramatically increase the pace of change in labour markets. This will have impacts on skills needs for new and current jobs alike.

Today, skills gaps are already recognised as a major bottleneck in sectors. This can be seen in areas such as renewable energy, energy and resource efficiency, renovation of buildings, construction, environmental services and manufacturing. The skills landscape in this area currently seems very limited in terms of qualifications. Packages of training and qualifications will need to be developed at pace.

The adoption and spread of clean technologies requires skills in technology application, adaptation and maintenance. Skills are also crucial for economies and businesses, workers and entrepreneurs. All need to rapidly adapt to changes as a consequence of environmental policies or climate change.

Meeting skills needs is a critical factor for productivity, employment growth and development. The transition offers significant opportunities for job growth and simultaneous emergence of new occupations, job profiles and therefore skills. The 2016 New Skills Agenda for Europe of the European Commission identified the development of green jobs and of green skills as a priority. It identified *10 key actions that could support their development*.[167]

of green skills and jobs will also continue to evolve over time.

Some organisations have adopted a framework for anticipating green skills that is based on the *US O*NET classification of green occupations*.[67] These are:

- green increased demand occupations
- green enhanced skills occupations
- green new and emerging occupations.

Planning for the types of skills and the number of jobs in each sector of the economy needs to be based on research and consultation across each sector of employment. This has been recognised by the *Scottish Just Transition Commission in its interim report* from 2020:[68]

"There is a great deal of information and research regarding the number of jobs that may result from investment in a net zero economy. However, what these job numbers mean in terms of job quality (contractual security, skills, earnings, voice) and the extent to which they offer fair work, is too often unclear. More understanding is also needed on the scope of the 'just transition challenge' in Scotland, for instance, detailed mapping of jobs and skills in both existing and emerging industries will help shape transition plans."

According to Cedefop, "There tends to be a weak connection between organisations involved in national policy making on environmental topics and those involved in labour markets and skills policy, including skills anticipation… There are also gaps in policies and regulations in relation to gender issues and to monitoring and evaluation of policies or activities relevant to green skills."[69]

There is currently a lack of detailed information which is

Each workplace requires an audit of current jobs and skills and how the transition to a zero carbon economy will impact on these

CASE STUDY
GREEN SKILLS IN STEEL

A survey of steel workers carried out by the union Community demonstrates some of the challenges in planning for the future's skills needs.

Most of the workers (84 per cent) who participated in the survey have a good awareness of the green transition. Most judged it as a necessary step forward for the industry (only 8 per cent did not consider it necessary). More than half of the participants (55 per cent) were confident in possessing the right skills for the transition, with 17 per cent expressing a lack of confidence and the remaining 28 per cent was neither confident nor unconfident.

Research on the technological transformation of the steel industry has highlighted that transversal skills (such as digital skills, communications and teamwork) will play a greater role in the industry. Among the 10 most cited skills, UK steel workers most commonly received training in teamwork (63 per cent), followed by environmental awareness (55 per cent) and negotiation and communication skills (46 per cent). The most neglected areas appeared to be training in entrepreneurial skills (only 4 per cent have received such training), advanced digital skills (10 per cent), analytical thinking (16 per cent), resilience (21 per cent), and sustainable development (24 per cent).

A significant proportion of the workforce (28 per cent of the respondents) had no time allocated for training as part of their job, and 18 per cent had less than one day in a year. 66 per cent of the respondents had no more than three days allocated for training and continuous development in one year. Only 15 per cent of the respondents have had the opportunity to train for more than two weeks.

needed to help fully anticipate and plan for the 'green skills' that will be needed for the transition in the UK. There is a crucial research role here for the education sector in collaboration with employers, unions and local and national authorities.

Transferring existing skills

Each workplace requires an audit of current jobs and skills and how the transition to a zero carbon economy will impact on these. This requires advanced planning. It should not be done as a last-minute exercise when threats to existing employment patterns begin to be implemented. The starting point is that every job will be affected by the transition. Of course, some jobs will change more than most, while others will disappear completely.

In order that the potential benefits outweigh the costs an assessment will be needed of the current workforce skills profile. It should consider the extent to which it can be transferred over to new ways of working. Where there are gaps, training programmes will need to be introduced in consultation with staff and their representatives.

THE ROLE OF ULRS AND WORKPLACE SKILLS AUDITS

Unions can have a key role in developing and supporting green skills development at a workplace level. See 'Green skills and the ULR role checklist' on *page 37*.

Skills planning, policy and funding in the UK

There are a number of funded skills programmes available that can provide access to training and qualifications to equip people for jobs in the green economy. Some are aimed at workers and some at employers.

It is important to note that many of the skills programmes are project based and therefore, by definition, time bound. This means the skills funding picture can change rapidly. The TUC believes it is vital to embed funding for skills in the green economy into mainstream further education and higher education funding.

Local skills improvement plans (LSIPs) and Local skills improvement funds (LSIFs) have been set up by the Department for Education. Trade unions will need to engage with them to ensure that green skills are at the top of the agenda in regional employment and skills plans.[70]

Employer representative bodies (ERBs) have been designated to lead the development and review of LSIPs for all 38 areas of the country. Trade unions have not been designated as stakeholders in the composition of these bodies. Unions should review each LSIP three-year plan and highlight any weaknesses. Membership of the ERBs should be sought to ensure that the worker voice is heard.

Apprenticeships

It is clear is that new qualifications and frameworks need to be developed at pace to reflect the green agenda.

The TUC believes that it is urgent and essential that funding incentivises both:

- the development of new qualifications in the green economy
- and the recruitment of apprentices into green roles.

This is needed to address areas where there is a weak connection between environmental and skills policy.

Further sources of information

For more information about green skills, see the unionlearn publication, *Cutting Carbon, Growing Skills.*[71]

Green skills manifesto

The *Greener Jobs Alliance* has produced a *Green Skills Manifesto* to address the concerns about the lack of alignment between green skills and jobs in England under UK government policy.[72] Learning and skills are devolved in Scotland, Wales, Northern Ireland, and, to some extent, in the English combined authority areas. So, also check what resources and strategies are available wherever you are.

1. **Equalities.** Many of the potential low-carbon growth areas such as construction and engineering do not adequately reflect the potential workforce. The under-representation in apprenticeships and employment in these sectors must be addressed to ensure access to job opportunities by all disadvantaged groups. A recognition that climate change and energy prices will hit the poorest sections of society hardest.
2. **Fair and decent jobs:** The move to a low-carbon economy must be based on fair wages and decent terms and conditions of employment. These should include opportunities for career progression and rights to health and safety and trade union recognition.
3. **Coordination and coherence.** Stimulating demand for jobs and training requires a long-term strategic approach in areas such as low-carbon sector incentives and procurement policies.
4. **Communication and engagement strategy.** Partnerships across civil society at national and local level are needed to promote training, job opportunities and inclusiveness.
5. **A just transition.** Workers and communities must be consulted about the opportunities and threats to employment in each sector of the economy. Provision to retrain and upskill in good time must be built into all jobs and sectors at risk

Anchor institutions

Introduction

Anchor institutions are organisations that:

- have an important presence in a place, usually through a combination of being largescale employers, the largest purchasers of goods and services in the locality, controlling large areas of land and/or having relatively fixed assets.
- are tied to a particular place by their mission, histories, physical assets and local relationships. Examples include local authorities, NHS trusts, universities, trade unions, large local businesses, the combined activities of the community and voluntary sector and housing associations.[73]

Unions representing workers in local authorities, universities, and other anchor institutions will have potential for influence that extends far beyond their specific shop floor. Influencing the purchasing, planning, curriculum, or other aspects of such an institution will likely have a more powerful impact than focusing narrowly on the environmental footprint of the institution's operations.

Unions looking for support to promote climate change issues or impactful organisations to influence may find it useful to identify 'anchor institutions' in their area. These are bodies that may have capacity to support efforts by workers to tackle workplace concerns.

If you work for an anchor institution

If your workplace has an important presence in or power over a local economy, consider how your negotiating agenda on just transition could have influence beyond the shop floor. For example, local authorities are usually directly responsible for between two and five per cent of greenhouse gas emissions in a local area. But through their policies, powers and partnerships can influence over one-third of greenhouse gas emissions in a local area.[74] The checklist on the following page provides a non-exhaustive set of questions to consider, building on the Local Government Association's workbook for councillors.

Regional authorities and local councils

Councils and combined authorities set local rules and devise local plans that affect decisions made by thousands of local workplaces and homes. These could include:

- Rules on procurement of goods and services.
- Environmental policies, such as on limiting air pollution or incentivising reduction in emissions.
- Transport policies that affect travel to or during work.
- Transport plans that set goals and ambitions around bus, tram, and train availability, pricing, and operators.
- Rules on building efficiency.
- Licensing conditions which put responsibilities on employers.
- Skills and training plans.
- Long-term climate adaptation or mitigation plans.

If you work for any other employer, existing local policies and stated ambitions can be used to put pressure on them, and also as a baseline to argue for your employer to exceed them. Relatedly, local authorities have to consider 'social value' when awarding contracts for goods and services: campaigning for your employer to become a supplier for your local authority can put pressure on them to improve their offer to workers and the environment.

Local councillors and officers (especially sustainability officers,

economic development officers, and neighbourhood officers) are usually well-connected to businesses, charities, and resident or tenant groups, and can be useful allies and contacts to further your cause. Councillors in most local authorities also have access to 'ward funding' to support local initiatives and fund community campaigns.

All devolution deals that create combined authorities are different. Precisely what your local combined authority (if you have one) has power over will vary, however, this often includes operational aspects of climate adaptation and climate change mitigation. No council has specific statutory responsibilities for climate or environmental action, but central government and other government bodies have made clear that they expect that devolved and local governments will play a large part in devising area plans to meet national net zero targets.[75]

Local climate action plans

Most local authorities have set local net zero targets, and many have climate action plans (known by many different names!) which, to varying degrees, commit the council to taking or encouraging action to adapt to a changing climate, to reduce carbon and other emissions, and to protect or expand natural environments locally.

Climate Emergency UK has created *climate action scorecards to assess* (and rank) climate action plans across the country, and these can be useful to check how much your local authority is already doing and to identify gaps.

IF YOU WORK FOR AN ANCHOR INSTITUTION

- ✓ Capacity: does your employer have a dedicated officer or team tasked with its climate change actions, including maximising its impact as an anchor institution?
- ✓ Capacity: is your employer taking steps to grow in-house capacity for key climate transition tasks — for example, buildings retrofit, electric vehicles charging maintenance and installation?
- ✓ Buildings: are there plans to retrofit buildings owned by your employer to bring them up to the highest energy efficiency standards; and to replace heating with low-carbon options? If your employer has planning powers, do these require retrofits where possible?
- ✓ Buildings: are new buildings built by the employer (or on their land) being built to be net zero? If your employer has planning powers, do these require new buildings to be net zero?
- ✓ Land use: does your employer have a biodiversity strategy for its owned or managed land that sets a target for increasing the number of trees?
- ✓ Waste: what steps is your employer taking to minimise emissions from waste and to move toward a circular economy model? Is your employer working with other organisations in its sphere of influence to support them to do the same?
- ✓ Skills: is your employer participating in a Local Skills Improvement Plan and has it incorporated skills needed for net zero?
- ✓ Skills: how is your employer using its educational initiatives to promote climate and just transition goals?
- ✓ Procurement: is your employer using net zero alignment and just transition principles as criteria as part of a Social Value procurement framework?
- ✓ Procurement: is your employer engaging with its current and potential supply chain on its carbon reduction ambitions?
- ✓ Through powers above, and others, what other workplaces does your employer influence? Can you link up with trade union branches in these workplaces?

The Greener Jobs Alliance has published a *similar checklist of questions* that will help unions to review the quality of local authority policies, and Friends of the Earth also has *guidance* on how you can get your local council to adopt or improve their plan.

Recent research by Greener Jobs Alliance and TUC Yorkshire and the Humber found that, while most local authorities across Yorkshire and the Humber conducted some external consultation and all have trade union recognition agreements, none specifically consulted with trade unions when developing their climate action plans. This pattern is likely to be the case throughout England.

LOCAL AUTHORITY ENGAGEMENT

- ✓ Does the local or regional authority have a climate action plan?
- ✓ Does it say anything on issues that could impact your employer and their operations?
- ✓ Does it (or another policy document, such as a local skills policy) make any reference which you could leverage to the training needed for workers in the future/green economy?
- ✓ Does it refer to any funding opportunities (for training, environmental projects, awareness raising, or similar) which you could use to further your aims at your own workplace?
- ✓ Does the authority have access to equipment that you could borrow to conduct environmental monitoring? For example, air quality monitors.
- ✓ Does the authority have emissions, air quality, or planting targets for the geographical area that could influence your employer's targets?

Higher and further education institutions

Many HFEIs have mission statements that require engagement with local business and their communities. They may have research organisations and departments that are specialists in sustainability. These may be interested in linking up and providing some capacity to support union priorities.

They may have students who are looking for research opportunities linked to sustainability. They may have students who are looking for work placements or experience that could be linked to an environmental project the union is conducting.

They have an important role in relation to skills development, and ULRs in particular will need to assess their training offers.

HIGHER AND FURTHER EDUCATION INSTITUTIONS

- ✓ Identify universities and colleges in your region.
- ✓ Contact your regional TUC to find out the union contacts in these organisations.
- ✓ Is there a faculty or student body that is active on climate issues?
- ✓ Do you have any potential projects that could lend themselves to outside support? For example, advice on staff training or monitoring of carbon emissions
- ✓ Is the university or college represented on the Employer Representative Body (ERB) which oversees the Local Skills Improvement Plan (LSIP)?

Community focal points

GP surgeries, schools, corner shops, pharmacies, school uniform suppliers, local department stores, markets, transport hubs, parks, post offices - these are all points in local geography that touch people from across the community. Finding trade union or other allies at these sites and expanding community engagement and activism to these places (even if it's just using their storefront window for a poster) can make a big difference to a local campaign.

COMMUNITY FOCAL POINTS

- ✓ Identify community focal points in your locality.
- ✓ Are there overlaps between these focal points and the campaigns you and your branch would like to run — for example, healthcare sites that could link into a clean air campaign?

Wider community engagement

Unions may find it useful to develop alliances on issues that can impact the workplace from outside or vice versa, where the workplace activities could impact on the local community.

For example, construction activities taking place close to the workplace may create hazards such as air pollution. Alliances with neighbourhood organisations and communities could bring about improvements.

Alternatively, if you are concerned about operations from your workplace that could have a negative impact on the surrounding environment you may want to link up with those organisations campaigning on it.

Trades union councils are local representative bodies of the national TUC and bring unions at a local level together. Trades councils often have good links with anchor institutions, local and national charities and campaigning groups, and local politicians too. They may be able to provide contacts that can help with climate actions in your workplace.

BATTERSEA AND WANDSWORTH TRADE UNION COUNCIL

Battersea and Wandsworth Trade Union Council has been campaigning on climate issues over a long period. It has engaged with the local authority, London Borough of Wandsworth, on a range of climate-related issues. It has been recognised by the council as a key stakeholder on policy development across a range of forums set up to deliver council climate and related policies. This includes:

- Air pollution: membership of the Air Quality Oversight Panel that included setting up a citizens assembly, monitoring and influencing the air quality action plan.
- Wandsworth Sustainability Partnership: membership of the group tasked with overseeing the net zero strategy.
- Wandsworth Employment and Skills Taskforce: membership of the body that consults on green jobs and related employment issues.
- Wandsworth Cost of Living Commission: membership of the body set up to consult on measures to support low paid workers and families.

3

SECTION 3

WORKPLACE ISSUES

SECTION 1

WORKPLACE ISSUES

Introduction

The chapters in this section provide an overview of different just transition or green issues reps may work on in a workplace. There are many potential environmental issues in the workplace. In order to find the ones that are likely to be most salient to your workplace, *you can use the flowchart at the start of this handbook*, and/or research the breakdown of your sector's greenhouse gas emissions (if the most carbon-emitting activity of your workplace is travel by car, for example, then travel is likely to be an issue to look at). But to decide on priorities, it is important seek the views of union members.

Surveying members

This can be done informally by initiating a discussion with colleagues or by circulating a survey. It will be important before raising matters with management that the union has sought the views of members. Seek to find issues that resonate with members' immediate needs and provide security and comfort in the long-term: There are likely to be 'win-win' actions that lower your employer's carbon emissions or environmental impact while improving the working lives of your colleagues.

More formal surveys can be time-consuming and suffer from a low response rate. However, done correctly, they can provide a valuable tool for bringing concerns to the attention of the employer. Check the sample survey in the *resources section of this toolkit* to help with ideas on how to customise something to use at work.

Identifying issues

Once you have sought the views of members and other reps you will be in a better position to establish the range of issues in the workplace. You may need to reinforce this by checking policies and minutes of meetings. You will then need to think about the priorities to raise with management. To make this judgement consider issues like:

- Is it something members feel strongly about?
- Will it make a significant difference to environmental performance or carbon emissions?
- Will it make a difference to health and safety, skills, fulfilment, or something else about workers' experience at work?
- Will it have unintended consequences?
- Are any improvements achievable within a fairly short time frame? It's always good to start with something where you can make progress, especially if you are a new rep.
- Do you have the latest information and a clear set of objectives?

Walk-round inspections

One way to check on the state of play is to carry out an inspection. The principles to adopt on this are similar to those for a health and safety inspection. There is a *sample checklist* in the resources section of this toolkit. Think about:

- whether you can complete it in one go, depending on the size of each workplace and number of buildings and sites that you represent
- whether you want to conduct a joint inspection with HR/ management or do it alone

- what type of information you will need prior to and during the inspection process
- how you will record the information
- how you will use the information to get things done.

Document inspections

You can also conduct inspections of your employer's plans and standards by reading the governance and procedural documents that they produce. Check your employer's environmental policies, working procedures, business strategies, HR policies, training policies, and any press releases they've made about environmental action. **Think about:**

- whether these documents say something different from what's really happening or misrepresent how green the employer really is
- whether any internal rules or ways of working are inconsistent with green plans or present barriers to green action
- if there are any policies or statements that your employer has made but not implemented.

Adaptation and resilience

In Section 1 of this toolkit, we outlined how the UK government is under a legal duty to conduct climate adaptation risk assessments. Unions are calling for employers to conduct their own assessments on how they plan to adapt to the impacts of climate change. Local authorities are required to have adaptation plans and unions should interrogate these as they have implications both for their own workplaces but also their wider communities.

In most cases these will need to address risks associated with *the following hazards*:

- air temperature increase
- extreme temperature/ heatwaves
- extreme cold
- changes in extreme rainfall
- average/maximum wind speeds
- humidity
- solar radiation
- relative sea level rise
- seawater temperature
- water availability/drought
- storms
- flooding (coastal and fluvial)
- ocean ph
- dust storms
- coastal erosion
- soil erosion
- soil salinity
- air quality
- ground instability/ subsidence/landslides
- urban heat island
- growing season.[76]

EDUCATION UNIONS HEAT PROTOCOL

Heatwaves are becoming more and more common because of the climate crisis. In the education sector, the NEU joined with the eight other unions representing education staff to publish a joint union heatwave protocol to prepare for future heatwaves, so that learning is disrupted as little as possible and the health, safety and welfare of staff and pupils are protected.

***The protocol,* endorsed by all education unions (ASCL, Community, GMB, NAHT, NASUWT, NEU, UCU, Unite and UNISON) and taking account of guidance from the DfE, Acas and the UK Health Security Agency (UKHSA), is packed full of practical suggestions for ensuring a more comfortable working environment.**

Extreme weather

The frequency and extent of extreme weather such as heatwaves, storms and flooding in the UK are such that they can no longer be seen as one off or adverse weather events. While heat stress or other impacts may be more immediately associated with outdoor workers in construction or agriculture for example, all workers are at risk in conditions of increasing heat, flooding, or storms.

The UK has no legal limit on extreme temperatures in the workplace. Research shows that human productivity falls by 3.6 per cent for every 1°C the indoor temperature rises above 22°C. The British Council for Offices (BCO) recommends temperature in buildings should be maintained at between 20°C and 24°C.

The UK has no legal limit on extreme temperatures in the workplace.

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TAKING ACTION ON ADAPTATION AND RESILIENCE

Adaptation Scotland, UNISON and STUC have produced a *workbook on climate hazards and resilience in the workplace* [168] that provides tools and checklists to:

- assess which climate hazards are most relevant to your workplace and who will be most vulnerable to them
- conduct a site walk round to identify specific risks
- develop a risk assessment of workplace-specific climate risks
- create a weather emergency plan for your workplace
- turn a risk assessment into adaptation actions.

PCS EXTREME WEATHER MODEL AGREEMENT

Developed by the public sector trade union PCS, this model agreement covers a range of measures to protect workers from impacts of extreme weather. See *Section 4* for model agreement text.

Air pollution

Air pollution is the greatest global threat to human health according to the latest report from the Air Quality Life Index (AQLI).[77] If the world were to permanently reduce these pollutants to meet the World Health Organization's (WHO) guideline limit, the average person would add 2.3 years onto their life expectancy, according to the data.

There is growing awareness of the damage caused by air pollution. The pollutants that contribute to harmful air pollution are not necessarily greenhouse gases themselves, although some of them do contribute to climate change. But the causes of air pollution and greenhouse gases are often the same. Both are caused by the burning of fossil fuels. Key sources of air pollution include transport, industrial processes and domestic burning.

There is a mounting body of evidence demonstrating the devastating impact of air pollution. It harms our lungs, heart, brain and reproductive health and has lifelong impacts for children. Exposure to air pollution has also been *linked to a greater risk of dying from Covid-19*.[78] It is a public and occupational health emergency of huge proportions.

Worldwide, it is estimated that nearly *nine million people die from air pollution related diseases per year*.[79] In the UK, it is estimated to contribute to as many as *40,000 deaths per year*.[80]

Work-related emissions (including work-related travel) make a large contribution to the problem. Air pollution is blighting communities and affecting the health of workers on their journeys to and from work. It also harms workers while they are at work (both those working indoors and out). This is why tackling air pollution is a key priority for unions.

Trade unions in the UK have set up the *Trade Union Clean Air Network (TUCAN)*.[81] This supports the call for workplace action and for much greater recognition of it as a major contributor to occupational ill health.

TAKING ACTION ON AIR POLLUTION

For further guidance please see:

Green Jobs Alliance Air Pollution course, *Air Quality — a trade union issue*. This contains a workplace action checklist.

TUCAN's *guidance on air pollution for union reps*

CASE STUDY

A BREATH OF FRESH AIR — A CWU REP'S CAMPAIGN AGAINST AIR POLLUTION

Union reps from the Communication Workers Union (CWU) are taking action in workplaces across the north-west of England to drive decarbonisation efforts and fight for clean air.

"It certainly is for trade unions to really to start holding our employees to task on getting to zero carbon."

Mark Holt is a green/health and safety rep for the CWU covering 14 Royal Mail and BT offices across the North West. Holt has been working together with other reps to improve health and safety for workers and communities in the region.

As part of its decarbonisation efforts, Royal Mail has recently announced an investment in electrification of its vehicle fleets in a drive to reach zero carbon by 2030. The company is trialling the use of micro electric vehicles across the UK, as well as vehicle replacement for older heavy emitting diesel vehicles. The changes will bring down Royal Mail costs and Union reps are driving the decarbonisation plans forward across the regions.

CWU health and safety reps have taken a leading role in the consultations around the electric vehicle roll-out to ensure workers skills, knowledge, and concerns are taken to account and that there are no negative consequences for workers. The trial sites are mutually agreed upon at the national level between Royal Mail and CWU, and implemented together with union reps at the local level in joint working groups. Health and safety reps are also helping to decide where electrical charging points should be placed to reduce the risk of workplaces accidents.

Holt explains: "What we've found is that in a couple of sites the consultation hasn't been great. We really do need a consultation at a local level… because the majority of our local reps have the most knowledge of their sites."

Consultations have revealed local reps are concerned about the impact that the changes will have on the way their jobs are structured. There is concern about how micro electric vehicles, which are smaller than the current vehicles, will fit parcels for delivery in the tight delivery timescales. Reps are using consultations to raise their concerns with the company.

Many Royal Mail delivery workers are also exposed to air pollution in their day-to-day jobs. Holt believes that this is a major occupational health and safety issue which the transition to electric vehicles could help to address. "There is a positive for using these vehicles and there's a positivity in terms of health for our members."

CWU health and safety reps across the north-west are building a sectoral campaign to raise awareness around the need to address clean air as an occupational safety and health issue. Reps are working with the Greener Jobs Alliance and Trade Unions Clean Air Network to hold educational workshops around the fight for clean air. They are also planning to push greater protection for workers to reduce the impacts of air pollution, including the need for personal protective equipment, and flexible working patterns to allow workers to avoid rush hour. Holt explained his motivation: "it's for the next generation, you know, I think that as a trade union we can't pull the ladder up on the next generation, we've got to be pushing for this now."

Biodiversity: supporting nature in the workplace

Introduction

Workplaces have a huge impact on nature and biodiversity. More obvious negative impacts can include high-profile industrial incidents such as toxic spills. But many employers take land management decisions that impact nature. And there can also be more subtle impacts, such as the vehicle emissions generated by workers commuting to the office or the impact of purchasing decisions.

As well as negative impacts, there is also huge potential for workplaces to make a positive impact. Both by changing existing practices to prevent harm and by introducing positive, practical actions to actively support nature.

What are the issues?

The costs and consequences of nature loss and damage to ecosystems are very grave for all life on Earth, including people. At the UN's COP 15 Biodiversity conference in Montreal in 2022, a historic deal was reached with nearly 200 countries (including the UK) committing to halt biodiversity loss by 2030.[82] Alongside 300 other organisations in Wales, Wales TUC has supported the 'nature positive' campaign, calling on the Welsh Government to put legally binding nature recovery targets into law.

While action at a national level is crucial, all organisations need to understand the impact of their activities on nature and what action they can take to address the nature emergency. The best way to do this is by carrying out biodiversity footprinting and developing a biodiversity action plan.

CASE STUDY
OXFORD UNIVERSITY'S BIODIVERSITY FOOTPRINT

The University of Oxford has conducted a *comprehensive assessment of biodiversity losses associated with its activities*.[169] It used data on purchasing, travel bookings, utility bills and other information. The 60 activities it assessed included the day-to-day running of buildings and transport services; travel (including flights) for students and researchers; construction of laboratories and other buildings; consumption of food and beverages at restaurants and cafeterias; and use of medical supplies and other materials in research labs.

Its aim was to demonstrate what it would take for a large organisation such as the University of Oxford to bring about a net gain in biodiversity — meaning that, thanks to its actions, the world's biodiversity is left in a better state than it was before. As part of the analysis, they assessed how the university's various activities and operations also affect greenhouse gas emissions, and how those, in turn, affect biodiversity by driving climate change.

The researchers are confident that the approach developed for Oxford could be applied more broadly. It has disclosed a full assessment of its biodiversity footprint in the hope this will offer powerful inspiration for others.

Why is biodiversity and nature loss a trade union issue?

Workers and communities are all dependent on nature for food, health, security and clean

air. The evidence shows that we must act now to restore nature to protect current and future generations and to help support the fight against climate change. Workers should have a key voice in planning and action for nature recovery — to make the most of opportunities to create new jobs offering fair work and training for new skills that will be needed. If it is done right, action to support nature can create new jobs and help make our workplaces and communities greener, fairer and healthier places to live and work.

Biodiversity footprinting

Biodiversity footprinting can help organisations to develop a more comprehensive understanding of the impact of their operations on plants, animals (and other organisms) and ecosystems. It can help to identify changes needed to reduce negative impacts and increase positive impact, which can be developed into a biodiversity action plan. Environmental management systems can also help to drive improvements on biodiversity. See 'Environmental management tools for biodiversity' on *page 48* for more information on carrying out biodiversity footprinting and action plans.

Practical action in the workplace

Alongside biodiversity footprinting, there are also many simple, practical actions that can be taken at a workplace level to create workplace green spaces and support nature.

Making the business case for action

Biodiversity loss can have a direct impact on businesses. For example, with products becoming unavailable or more expensive because of scarcity of supply. There can be significant supply chain risks and cost implications for some businesses.

As awareness grows, more customers are demanding ethical and sustainable products and services. Organisations that can demonstrate that they operate sustainably and have a biodiversity action plan are likely to be more competitive in attracting procurement contracts and customers in future.

Investing in green spaces in the workplace can have a positive impact on staff morale, motivation and wellbeing. Schemes are often popular and the changes don't have to be expensive. And the physical and mental health and wellbeing benefits of access to green spaces are well documented. These can lead to organisational improvements such as better retention of staff, fewer sick

CASE STUDY SCIENCE-BASED TARGETS NETWORK

The UN has called for businesses to assess and disclose their impacts on nature by 2030. The idea of the *Science-Based Targets Network (SBTN)* framework is to ensure that there is consensus on how companies do that.

As part of the pilot, 17 companies, including H&M, Nestlé and Tesco, have agreed to submit data on their impacts on nature. Those targets will be validated as in line with science-based targets from early 2024. The SBTN say the idea is to 'get nature into the boardroom' in the same way as climate footprints.[170]

SBTN will validate targets if they align with the overarching UN aim of halting and reversing nature loss by 2030. Only once its targets have been validated can a company can say it has set science-based targets for nature. SBTN is providing companies with guidance on how to set science-based targets and is working alongside the Taskforce on Nature-Related Financial Disclosures.

days, and improved productivity and performance.

Legal and policy framework

As from 2023 public authorities who operate in England must consider what they can do to conserve and enhance biodiversity in England. This is the strengthened 'biodiversity duty' that the Environment Act 2021 introduces. This means that a public authority must:

- consider what can be done to conserve and enhance biodiversity
- agree policies and specific objectives based on this consideration
- act to deliver policies and achieve the objectives.[83]

Private sector companies who are required to report annually on greenhouse gas emissions under *UK government environmental reporting guidelines* are advised to aim to integrate biodiversity and ecosystem reporting into environmental reporting.[84] Organisations that have an environmental management system (EMS) in place should already be identifying the risks their activities may pose to biodiversity.

The *Taskforce on Nature-related Financial Disclosures*[85] has developed a set of disclosure recommendations and guidance for organisations to report and act on evolving nature-related dependencies, impacts, risks and opportunities.

Some organisations produce a *dedicated biodiversity management plan*.[86] Others integrate it into other environmental management plans, rather than having a separate plan.

Taking action

Ideas for workplaces with outdoor space

- Allow a patch of grass to grow longer. This can provide shelter for small mammals such as wood mice, voles and shrews, and food insects.

BIODIVERSITY MANAGEMENT BARGAINING CHECKLIST

- ✓ Consultation with the union on the biodiversity plan is essential. This could be as an official stakeholder as defined by standards or codes. But ideally it would be as the elected voice of the workforce as part of the bargaining agenda
- ✓ Health and safety implications related to any impacts identified should be raised and investigated (eg air quality). Risk assessment and thorough consultation specific to work processes and shift patterns are vital.
- ✓ Ensure that any change of policy doesn't create negative induced impacts for workers.
- ✓ Ensure actions to increase positive impacts on biodiversity also maximise benefits for worker and community wellbeing (eg by providing increased access to nature and green spaces).
- ✓ All changes should be fully assessed for equality impacts with thorough consultation. Consideration should be given to different protected characteristics alongside other equality and fairness considerations (eg, impacts on lower-paid workers, people with caring responsibilities). Adjustments should be made where necessary.
- ✓ The scope, priorities and duration of a biodiversity plan will determine direct implications on members' work behaviour and performance - briefings and information on targets, ambitions and pathways to change are also important.
- ✓ Where there is new equipment or processes re-training is vital. Also, disruption of work due to new installations or changes to buildings should be taken into consideration where this is linked to performance indicators.
- ✓ Biodiversity management plan implementation should be well communicated to staff with reporting routes and a responsible person/department identified.

SUPPORTING NATURE AND DEVELOPING WORKPLACE GREENSPACES CHECKLIST

- ✓ Do some research and speak to members to gather ideas. Is there a disused area of land in the workplace that could be converted to a green space? Or are there other ways to support wildlife?
- ✓ Find out if members would like to be involved in setting up and maintaining green spaces.
- ✓ Can green spaces also be used to provide areas for staff, visitors and the wider community? Consider how it could help provide opportunities relaxation, or for gardening and other recreational/nature-based activities.
- ✓ Speak to your ULR and consider if any opportunities for learning and development could be linked to the project.
- ✓ You may be able to get advice from local community gardening organisations or wildlife groups to help develop your plans. And organisations such as the Woodland Trust and the RHS are also good sources of information.
- ✓ Find out who is responsible for managing the estate and find out what resources the employer is prepared to commit in terms of land, money and staff time. It may be helpful to make a business case as well as a moral case for taking action.
- ✓ Speak to other unions in the workplace to see if they want to be involved.
- ✓ If the employer is initiating a workplace green space, ensure a full consultation takes place so that the development of proposals fully involve workers and that opportunities to create wellbeing benefits for staff are maximised.
- ✓ Longer-term, push for a broader approach to supporting nature — call on the employer to carry out biodiversity footprinting and to develop a biodiversity management plan.
- ✓ Encourage the employer to sign up to a recognised accreditation scheme, such as the 'Bee Friendly' scheme. And see if the employer will sign up to an environmental management system — see 'Environmental management systems, labelling and accreditation' on page 45. These help organisations to identifying the risks their activities may pose to biodiversity and drive improvement.
- ✓ Celebrate success - publicise the union's role in securing workplace green spaces and support for nature. Keep members updated on progress via a noticeboard or workplace intranet.

- › Create an area of wildflower meadow with a *mix of wildflowers and grasses*. This can work even as just a small patch; it doesn't have to be a large area. They are great for supporting pollinators and insects, low maintenance, and less labour-intensive than lawn.[87]
- › Develop green areas that include mix of *native trees*, climbers, *shrubs or hedges*.[8889] These help to provide food and shelter for a huge range of wildlife. The Woodland Trust has advice on *how to choose and plant trees*.[90]
- › Set up a small rock garden or *gravel garden*; they require little water and with the right plants, can attract pollinators.[91]
- › A *rain garden* can help absorb water run-off and support wildlife.[92]
- › Create an insect hotel by leaving a pile of dead wood in a shady spot; decaying wood will support insects and fungi and can provide cover and hibernation sites. Wood must be unstained and untreated.

BEE FRIENDLY SCHEME FOR POLLINATORS

Bee Friendly,[171] or Caru Gwenyn in Welsh, is a Wales-wide accreditation scheme where communities, schools, universities and businesses can achieve 'Bee Friendly' status.

Developed by Friends of the Earth Cymru, in partnership with Welsh Government, the scheme is thought to the first of its kind in the world. It aims to combat the decline of bees, butterflies and other pollinators. It aims to make Wales the first pollinator-friendly nation in the world.

There are lots of simple things you can do to make your workplace 'Bee Friendly'.

- Don't be too tidy; piles of leaves and twiggy debris provide both food and habitat for lots of wildlife.
- Ponds are one of the most effective ways to support wildlife. Size doesn't matter; even a tiny pond can support lots of wildlife. Ideally ponds should be dug, but a large pot will be effective. Ponds should be shallow and have at least one sloping side to allow creatures an easy way out.
- Set up bird feeders. Providing food and water for birds can help give them a better chance of survival when there are food shortages (these can be all year round, not just in winter). Check the *RSPB's feeding guidelines*.[93]
- Can you set up composting on site? Composting reduces waste, helps produce free, healthy soil, and supports a huge range of organisms.
- Maintain all green spaces sustainably. Avoid pesticides, peat-based composts, use recycled/reused materials and save water wherever possible (collect rain water in water butts).

Ideas if there are no suitable outdoor spaces

- Is it possible to install window boxes and planters with native species? These can encourage wildlife and improve the look of workplaces.
- *Green roofs.* These can range from roof gardens with raised beds and pots, to rolled-out green carpets, or planting cells that are filled with soil or compost and planted up with low growing perennials and grasses. For example, *FBU reps created a rooftop mindfulness garden at a London fire station*.[94]
- Could the organisation sponsor a species or habitat and raise funds for a local wildlife trust or charity?
- Consider your own supply chain - how are your purchases affecting biodiversity in other parts of the world?
- Could the employer release staff who wish to take part in a conservation day to volunteer for nature?

Sources of further information

- *The Woodland Trust*[95]
- *The Wildlife Trusts*[96]
- *RSPB*[97]
- *RHS guidance on encouraging wildlife*[98]

Ponds are one of the most effective ways to support wildlife.

CASE STUDY

UNISON REP CREATES A HAVEN OF GREEN SPACE FOR PATIENTS, STAFF AND NATURE AT HOSPITAL

Workplace union rep Stuart Egan came up with the idea of creating an orchard and community wildlife garden in a disused area at Llandough hospital. Just a few years later, over 150 trees have been planted in the orchard after a huge fundraising drive supported by UNISON members, the hospital and the local community. It's become the first of its kind in the UK, offering huge benefits for wildlife, plants and people.

The seed of the idea

Hospital worker and UNISON branch chair Stuart first came up with the idea after talking to colleagues. He explains: "It was during a conversation with some public health nurses that the health benefits of trees came up. In my 30 years plus at Llandough, I've seen the original hospital site expand to the extent that all the green spaces which might have been used by staff and visitors for peace and reflection have gone.

"I knew there was a parcel of land right down at the end of the hospital site. It was a greenway that couldn't be built on. I could see the potential for an orchard and green space to offer huge benefits for mental and physical wellbeing for staff, patients and the wider community. I decided to look into the idea more and gather as much information as I could."

Putting a plan together

Stuart put together a proposal which he took to the hospital board. It won the unanimous support of the senior executives. A project group was set up and a garden designer was commissioned. The project, named *Ein Berllan/Our Orchard*[99] covers 15 acres and cost £250,000. It had to be entirely funded through charitable donations. A huge fundraising drive was made by the Cardiff and Vale Health Charity and by UNISON members who got involved with everything from cake sales to sponsored head shaving.

A haven for staff, patients and families

Stuart is proud of what the project has achieved: "We want the world to know about the orchard we are creating at Llandough Hospital to benefit staff, patients and their families. The orchard will be a haven to relax, have a cry or drink a coffee and you can even volunteer to help with the gardening. It will be the first of its kind in the UK, offering a place where you can get away from noisy wards, and be outside in the fresh air.

"There'll be allotments growing vegetables for use in the hospital canteens and we're keeping bees. In a pioneering partnership with Cardiff University, the honey produced — and the antibacterial properties contained — will be used as a basis for research into antibiotics to help save lives."

Stuart says: "It's definitely something I'd encourage others to do in their workplace. If you can see an area of land with potential, do some research and come up with a proposal. Get help from experts if you need to. With the Wellbeing of Future Generations Act now, it's very unlikely anyone will say no. The support we've had has been fantastic and it's something that will be of huge benefit for generations to come."

Carbon management

Carbon footprinting

Half of UK carbon emissions are produced by work activity. Workplaces burn fossil fuels, consume resources, and generate waste. It means unions are uniquely placed to hold their employers to account. This may be challenging given the number of statistics and different formulations that are in use. Some institutions will have a wealth of data and full-time staff. Some private sector companies are *required to report annually* on their greenhouse gas emissions and environmental performance.[100] Others will have limited capacity and a lack of comprehensive information.

What has to be accounted for?

Scope 1. All direct emissions from the activities of an organisation or under their control. This includes fuel combustion on site such as gas boilers, fleet vehicles and air conditioning leaks.

Scope 2. Indirect emissions from electricity purchased and used by the organisation. Emissions are created during the production of the energy and eventually used by the organisation.

Scope 3. All other indirect emissions from activities of the organisation, occurring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with business travel, homeworking, procurement, waste and water.

The principle that 'you can't manage what you can't measure' is relevant here. An employer who is serious about climate change action will need to know their carbon footprint and have a clear strategy for reducing it in line with targets. As a minimum, these targets need to be aligned with carbon budgets that are consistent with the international target of keeping global warming to below 1.5°C.

NATURAL RESOURCES WALES' CARBON MANAGEMENT PLAN

The *Carbon Positive Project* aims to show leadership how the public sector can reduce its carbon impact to tackle climate change.[172] The project is funded by Welsh Government and aims to become an exemplar in carbon management.

Natural Resources Wales has been taking positive steps to reduce its carbon emissions, and to enhance and protect carbon stored on the land it manages. Through sharing its experiences and examples of best practice in carbon management, it aims to encourage further decarbonisation in Wales.

The project advocates a *comprehensive five-step approach to carbon management*:[173]

1. Calculate the organisation's net carbon status.
2. Evaluate options for mitigation.
3. Develop demonstration projects.
4. Communicate and work with others.
5. Record experience and plan future implementation.

Establishing baselines

The best way to do this is to adopt a carbon management and reduction plan. The plan should contain ambitious targets for reducing greenhouse gas emissions and an agreed mechanism for tracking carbon reduction performance.

There are a number of different independent standards for measuring greenhouse gas emissions. There are different strengths and weaknesses across the different standards available. The Carbon Trust provides resources on ways of checking *carbon footprints.*[101]

Carbon management plans

A carbon management plan is the way that organisations organise, measure, manage and report on their greenhouse gas emissions.

Prospect has produced a helpful workplace bargaining guide *Carbon Management Plans and Your Work Footprint.*[102]

An employer who is serious about climate change action will need to know their carbon footprint and have a clear strategy for reducing it in line with targets.

CARBON MANAGEMENT PLANS — A BARGAINING CHECKLIST

- ✓ Consultation with the union on the carbon management plan is essential. This could be as an official stakeholder as defined by standards or codes. But ideally it would be as the elected voice of the workforce as part of the bargaining agenda.
- ✓ Ensure that any change of policy or offsetting does not shift carbon emissions from the organisation's carbon footprint to the individual member.
- ✓ The savings resulting from carbon reduction (for example electricity) should be invested in people, skills, retaining jobs and continuous efficiency improvement.
- ✓ The scope, priorities and duration of a carbon management plan will determine direct implications on members' work behaviour and performance. Briefings and information on targets, ambitions and pathways to change are also important.
- ✓ Where there is new equipment and new low-carbon processes re-training is vital. Also, disruption of work due to new installations or refurbishment of buildings should be taken into consideration where this is linked to performance indicators.
- ✓ Risk assessments (heating and lighting for example) and thorough consultation specific to work processes and shift patterns is vital.
- ✓ All changes should be fully assessed for equality impacts with thorough consultation. Consideration should be given to different protected characteristics alongside other equality and fairness considerations (eg, impacts on lower-paid workers and people with caring responsibilities). Adjustments should be made where necessary.
- ✓ Carbon management plan implementation should be well communicated to staff with reporting routes and a responsible person/department identified.

Adapted from the Prospect bargaining guide *Carbon Management Plans and Your Work Footprint*. Check this guide for detailed lists of specific bargaining considerations.[103]

Building upgrades: heating, cooling, ventilation, and insulation

Introduction

Cold and draughty buildings with poor air quality affect our wellbeing and health at work. Running buildings is increasingly expensive due to the cost of living and energy bill crisis. It's estimated that 80 per cent of current buildings will still be in use in 2050. Yet the UK current building stock is some of the least energy efficient in Europe.[104]

Buildings consume a huge amount of energy — heating alone represents 10 per cent of the nation's carbon footprint. Any new build or major refurbishment offers an opportunity to try to ensure energy savings are factored in at the earliest stage. Research has shown that environmentally friendly buildings cost 2 per cent more to build than conventional buildings, but reduce energy use by an average of 33 per cent. The potential energy savings from a green building more than offset the initial cost premium of construction.[105]

Done in the right way, maintenance and retrofit can fix these issues.

What are the issues?

Legal requirements

The *Energy Performance of Buildings Regulations 2017* require an *Energy Performance Certificate (EPC)*. When a commercial building over 50m^2 is built, sold, or rented, a non-domestic EPC is needed. This EPC is displayed in a similar way to that of a domestic property, with the energy rating shown on a scale of A-G. As with a domestic EPC, a commercial EPC is valid for 10 years.

A non-domestic EPC will:

- Show an indication of current carbon dioxide emissions of the building; expressed in kgCO_2/m^2
- List cost-effective improvements that if implemented, will reduce energy use and save money.

A *Display Energy Certificate (DEC)* is required if you work in a public building with a floor area of more than 250m^2 and that is frequently visited by members of the public. It must be displayed in a prominent place. Reps can check this as a quick visual check on energy performance standards.

Overlap with health and safety law

Heating and ventilation at work are covered by health and safety legislation. The *Workplace (Health, Safety, and Welfare) Regulations 1992* requires 'effective and suitable' ventilation (Regulation 6), and a 'reasonable' temperature to be maintained (Regulation 7). Safety reps must be consulted on how these standards are implemented. Green reps can use this opportunity to assess the environmental implications of achieving these standards.

To avoid potential conflicts of interest it is vital that there is effective liaison on the union approach. It will be important that decent standards are maintained on thermal comfort while still reducing carbon emissions.

Overlap with homeworking issues

Now that homeworking is much more common, unions will need to assess how far the costs of carbon reduction achieved by employers because their offices are less full are being passed on to workers. Any reduction in workplace emissions may be at the expense of bigger increases in domestic emissions from homeworkers keeping heating on during the day. See

FUNDING FOR ENERGY EFFICIENCY PROJECTS

A whole-building retrofit that eliminates a building's carbon emissions costs a lot of money! But there are government schemes available to help fund upgrades to business premises and homes owned by landlords.

Energy regulator Ofgem compiles opportunities of support for business energy efficiency projects: *Find Business Energy Efficiency Grants and Schemes*

C40 has developed a guide for city municipal authorities on financing retrofit: *How to Finance the Retrofit of Municipal Buildings*

NEGOTIATING PLAN FOR BUILDING UPGRADES

- Collect information from workers in your workplace (see suggested questions to the right).
- Liaise with fellow reps and agree on responsibilities (eg for health and safety rep, green rep).
- Raise issues on your members' behalf, framing your negotiations in terms of protecting workers and saving money on energy bills.
  - Agree a heatwave plan.
  - Suggest 'quick win' savings.
  - Agree on working together to future-proof your building.
- Work toward a long-term plan for building upgrades.
  - Get advice from a specialist. Careful and qualified assessment, design and monitoring is essential!
  - Identify who can be involved. What can be done in-house? Are there related training needs?
  - Are nearby organisations looking into retrofit? Can you team up?
  - Look into available funding sources — there are government grant schemes and loans to help. Investments in energy efficiency tend to 'pay back' in 3–10 years.
  - Consider opportunities to improve different building issues.
  - Make sure retrofit is good, unionised work! Get your employer to sign up to a good jobs charter or commit to prioritising good jobs as part of the procurement process.

BUILDING ISSUES — SUGGESTED QUESTIONS FOR TALKING TO MEMBERS

Talk to all workers, not just members.

- Have they been too hot or cold at work, or had problems with ventilation or damp?
- Are they feeling OK? Have they got ideas for how to deal with building issues?
- Do they understand how the temperature could be adjusted?
- Are there particular times or parts of their work process when temperatures are a problem?
- What issues (eg damp, gaps, cracks in walls) have they noticed?
- Make sure incidents or ill health are reported to your employer and recorded in the accident book.
- Are building works (such as boiler, ventilation, and cooling systems) completed by outside contractors being signed off and handed over by a professional?

QUICK WINS FOR ENERGY EFFICIENCY AND COMFORTABLE WORKING TEMPERATURES

Very simple adaptations can improve energy efficiency as well as health and wellbeing. By starting with suggestions of small, low-cost actions, you can begin a discussion and prompt action. Remember to ask your members if they have ideas! Having an understanding of the benefits of different retrofit measures and existing environmental issues at work helps to be credible and confident in conversation with employers and colleagues.

- Move workspaces away from cold or hot surfaces.
- Ensure radiators are not covered. Check them for even temperature.
- Report any draughts, leaking gutters and wet walls for repair.
- Close curtains at dusk.
- Is there enough ventilation? Closing windows for warmth often reduces air quality — you could decide to monitor this.
- Check that appliances aren't left on when not in use.
- Check heating, hot water and lighting timers — are they on at times when they're not needed?
- Take advantage of free cooling. Where external temperatures are colder than the required internal temperature, you can ventilate the building with fresh air
- Use sensors to track temperature and test turning thermostats down — is it comfortable?
- Visually inspect for draughts and damage in external walls.

'Homeworking' on *page 92* for further considerations

Sources of further information:

- *TUC reps' guide to dealing with high temperatures at work*
- *TUC guide to retrofit at work*
- *Carbon Trust's heating, ventilation and air conditioning guide*
- *Energy Savings Trust*
- *LETI Climate Emergency Retrofit Guide*

Lighting and electrical equipment

Introduction

Lighting and electrical equipment account for a high proportion of the energy use in a building. According to the Carbon Trust, lighting uses some 20 per cent of the electricity generated in the UK.[106] With the majority of current lighting systems still reliant on inefficient light sources, there remains significant potential to move to low-energy lighting such as LED.

What are the issues?

Health and wellbeing

Low lighting levels can cause discomfort for employees if they are insufficient to easily complete the tasks required. Glare and flicker can have an even more disruptive effect, including triggering headaches and eyestrain, especially for desk-based tasks.

Lighting levels also have an impact on health and safety at work. This is especially pertinent for sectors where risk of accidents is high, such as the manufacturing, construction, and catering industries. The *Workplace (Health, Safety and Welfare) Regs 1992*[107] state in Regulation 8 that every workplace must have "suitable and sufficient" lighting, which should be natural lighting "as far as is reasonably practicable."

Lighting levels

It is important that levels are checked to ensure minimum standards for the type of work being done.

Cost savings

Replacing legacy light sources with LED technology can reduce lighting energy costs by 70 per cent.

Sources of further information

- *Carbon Trust's lighting overview guide*
- *Energy Saving Trust*

Low lighting levels can cause discomfort for employees if they are insufficient to easily complete the tasks required.

Table 2: **Required lighting levels for various activities**

Illuminance (lux)	Activity	Area
100	Casual seeing	Corridors, changing rooms, stores
150	Some perception of detail	Loading bays, switch rooms, plant rooms
200	Continuously occupied	Foyers, entrance halls, dining rooms
300	Visual tasks easy/moderate	Libraries, sports halls, lecture theatres
500	Visual tasks moderate/difficult	General offices, kitchens, laboratories, retail
750	Visual tasks difficult	Drawing offices, meat inspection, chain stores
1,000	Visual tasks very difficult	General inspection, electronic assembly, paintwork, supermarkets
1,500	Visual tasks extremely difficult	Fine work and inspection, precision assembly
2,000	Visual tasks exceptionally difficult	Assembly of minute items, finished fabric inspection

Source: *Carbon Trust Lighting Guide*

LIGHTING AND ELECTRICAL EQUIPMENT CHECKLIST

The checklist below is compiled from a combination of Carbon Trust and Prospect checklists:

- ✓ Can staff individually control heating, cooling and lighting in their workplace?
- ✓ Are all bulbs low energy (LED or compact or modern fluorescent)?
- ✓ Is lighting on in areas, or at times of day, when there's enough daylight? Why?
- ✓ Do you have individual desk lamps?
- ✓ Do all staff turn off lights whenever and wherever they're not needed?
- ✓ Are motion sensor lights used in low-use areas?
- ✓ Is equipment regularly serviced and clearly labelled?
- ✓ Is any equipment left on when not in use? Why?
- ✓ Are there automatic power-reducing features, eg, motion sensor lights, timers on water coolers, IT power-downs?
- ✓ Are all computer monitors flat screen?
- ✓ Are the energy saving features on your office activated, eg PCs, monitors and printers?
- ✓ Is equipment labelled with the amount of energy it uses?
- ✓ Does equipment have an energy monitor?
- ✓ Is new equipment installed in a way that makes it easy to use its eco-features?
- ✓ Are staff fully trained in its use?
- ✓ Do PCs automatically power down after working hours?
- ✓ Do you have seven-day timers (which ensure appliances are not left on overnight and at weekends) on shared equipment, eg printers, vending machines and water coolers?

Finance and investment

Introduction

Organisations should consider their environment strategy in terms of both their investment in other organisations and attracting investment into their organisation. In recent years there has been a debate about the tactics of trying to influence the investment policies of the finance and investment sector. Whether this be through engagement or calling for divestments that break the link with companies that have a poor record on climate change or other social justice issues.

In the UK around £3tn is invested in pensions. It's important that any action on pension funds, investment and banking is linked with just transition principles. Strategies should focus on better reporting and managing of climate change risk alongside social dimensions. For example, consideration should be given to the impact on and support for workers and communities who are directly affected by the move away from fossil fuels (eg oil and gas workers).

What are the issues?

Global context

Finance is one of the five themes of the Paris Climate Agreement. Countries that have contributed the least to global warming are most likely to be the hardest hit. They have rightly insisted that wealthier countries must provide support for their efforts to adapt and reach net zero. Estimates from the Intergovernmental Panel on Climate Change (IPCC) suggest that as much as $1.6tn to $3.8tn in financing is required annually between 2016 and 2050 in order to alleviate the climate crisis in line with the goals of the Paris Agreement. The international trade union movement backs calls from Global South countries to ensure that climate finance is provided primarily as grants rather than loans, which add to the problem of government debt.

Responsible investment

Responsible investment is an investment strategy which integrates environmental, social, and governance (ESG) factors into investment analysis and decisions. It recognises that ESG factors can have an impact on the financial value of an investment and, also that investments have an impact on the world around us. A responsible approach to investment recognises that long-term prosperity and wellbeing requires a move away from short-term profit as the only definition of value.

Climate investment

This is an extension of the environmental factor and calculates the climate and carbon strategy of an organisation. Mark Carney, ex-governor of the Bank of England, has said *banks should link executive pay to climate risk management*, as part of efforts to align the finance industry with Paris climate goals.[108]

The transition to a decarbonised economic system will require unprecedented levels of investment; estimates from the Committee on Climate Change suggest that investment in the UK's power sector alone needs to rise from around £10bn to £20bn annually to achieve this goal.

Standards

New disclosure requirements mean those running pension funds now need to explain how environmental, social and governance (ESG) factors are used in investment decisions. Recent high-profile

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campaigns have resulted in investment changes at the largest pension funds, and the pressure is set to build with greater public awareness of impact investing and fossil fuel divestment strategies.

The Task Force on Climate-Related Financial Disclosures (TCFD)

TCFD provides a framework for organisations to foresee the impacts of various scenarios of global warming on their future viability.

In 2019, the UK government published its *Green Finance Strategy.* This includes larger pension schemes. This has an 'expectation' for all listed companies and large asset owners to disclose in line with the TCFD recommendations by 2022. The problem with this voluntary approach is that it is unlikely to deliver at the speed required.

Parts of the investment management industry are calling on the UK regulator to make TCFD disclosure mandatory for all commercial companies with a premium listing. The Investment Association (IA), which represents 250 members with £8.5tn in assets, *has thrown its weight behind calls for compulsory environmental disclosures*, amid concerns that listed companies are not being transparent about how climate risks are influencing the way they invest and spend.[109]

Mark Carney has recognised this by pointing out that voluntary disclosure frameworks have left 'loopholes' enabling corporates to continue de-prioritising or externalising their climate risk — most commonly not taking account of their Scope 3 emissions.[110]

Pension funds

Pension funds are uniquely placed to help meet the challenge of delivering ethical finance to support the green recovery. They own almost a fifth of British companies! This gives pension schemes enormous influence over company behaviour on environmental and social issues. Companies have a huge impact on people and the environment: their attitude to climate change, child labour, or arms sales can affect the lives of millions. Despite this, few pension schemes ever raise such issues with the companies they own.

The *Occupational Pension Schemes (Investment and Disclosure) (Amendment) Regulations 2019* require that the statement of investment principles (SIP) of a defined benefit (DB) or a defined contribution (DC) scheme with 100 or more members must now state the trustees' policy in relation to:

- Taking account of "environmental, social and governance considerations (including but not limited to climate change), which the trustees … consider financially material" over "the length of time that the trustees … consider is needed for the funding of future benefits by the investments of the scheme" when making investment decisions.
- Taking account of "the views of the members and beneficiaries including (but not limited to) their ethical views and their views in relation to social and environmental impact and present and future quality of life of the members and beneficiaries of the … scheme" when making investment decisions.
- "The exercise of the rights (including voting rights) attaching to … investments … and… undertaking engagement activities in respect of the investments …including the methods by which, and the circumstances under which, trustees would monitor and engage with relevant persons about …performance, strategy, risks, social and environmental impact and corporate governance".
- The trustees of DB or DC schemes with 100 or more members must update their SIP (and any DC default SIP) to include their policy in relation to a number of points concerning their "arrangement with any asset manager". The policy must cover five points, including: (i) "how the arrangement … incentivises the asset manager to align its investment strategy and decisions with the trustees" wider investment policy (for example, on the kinds of investment to be held and on environmental, social and governance factors).[111]

Transition Pathway Initiative

The Environment Agency Pension Fund has joined forces with the Church of England's National Investing Bodies to launch a major initiative identifying companies that pose the biggest climate change risk.

The Transition Pathway Initiative (TPI) launched 11 January 2017, introduces a free online tool, developed with the Grantham Institute at the London School of Economics (LSE) and using data from FTSE Russell, the index provider.

The online tool ranks companies by two measures: how well their management is dealing with climate change risks, and how effective they are at achieving carbon reduction.

The business case

A growing body of evidence indicates businesses that prioritise ESG factors perform better in the long term. Being environmentally sustainable, socially responsible and well-governed reduces business risk and ultimately improves the bottom line. At a time when historically low interest rates and gilt yields make returns harder for pension funds to find, harnessing the green recovery promises better outcomes for their members.

Examples of action on finance and investment

Pensions

The South Yorkshire Pensions Authority, responsible for administering the county's £9bn local authority pension scheme for its 160,000 members, has adopted a net zero by 2030 policy to govern its portfolio.

Asset owners

Thirty of the world's largest asset owners, with portfolios worth a combined $5tn (£3.8tn), have committed to cutting the carbon emissions linked to companies they invest in by up to 29 per cent within the next four years.

Members of the *UN-backed Net-Zero Asset Owner Alliance* — which includes Aviva, the Church of England and the

DOZENS OF BANKS, INVESTORS AND INSTITUTIONS COMMIT TO FINANCING A JUST TRANSITION FOR THE UK

Banks, investors and financial institutions have joined forces with universities and trade unions to launch the UK's first alliance to finance a just transition.

Coordinated by the Grantham Research Institute on Climate Chance and Environment at the London School of Economics, the *Financing a Just Transition Alliance (FJTA)* is supported by almost 40 organisations.

The objective of the Alliance is to translate the growing commitment to a just transition across the financial sector into real world impact. This means delivering the UK's climate goals in ways that provide positive social results in terms of workers and communities and leave no one behind.

"As we rightly ramp up our national efforts to reach net zero, it is vital we secure a just transition so that working people aren't left behind. that's why we welcome this new alliance, which will help finance a just transition to a fairer and greener economy with decent work at its heart," said Paul Nowak, deputy general secretary of the Trades Union Congress.

$400bn US fund CalPERS — will each set decarbonisation targets for 2025 as part of wider efforts to align their portfolios with the Paris climate goals and achieve net zero emissions by 2050. They will also identify the top 20 emitters responsible for the bulk of their portfolio emissions and set goals for slashing emissions in key sectors including oil and gas, utilities, transport and steel.

Raising awareness

Unions seeking to start a campaign for responsible investment will need to get the support of their members. There are a number of ways to do this:

Moral responsibilities

In addition to highlighting the need to protect the planet for future generations, there may be factors that are linked to your sector of employment. For example, Medact and other leading health and climate NGOs, argue that the UK health community must phase out its investments in the fossil fuel industry, with air pollution from fossil fuels being responsible for approximately five per cent of all UK deaths.

Medact's report *Unhealthy Investments – fossil fuel investment and the health community,* warns that investment in the fossil fuel industry is incompatible with health organisations' moral and professional responsibilities to address these direct health implications, and the longer-term health impacts of climate change.[112]

Stranded assets

Generally accepted to be assets that cease to earn an economic return (meet the company's internal rate of return), at some time prior to the end of their economic life (as assumed at the investment decision point), as a result of changes linked to the transition to a low-carbon economy. It means members pensions may be at risk if investments in oil and gas, and other high carbon sectors is continued.

Guidance for pension trustees

The Pensions Climate Risk Industry Group have developed for occupational pension schemes on integrating climate risk in general — and the recommendations of the Task Force on Climate Related Disclosures (TCFD) in particular — into decision-making and reporting.

Negotiating for change

Unions will need to understand the range of finance and investment activities of their employer. This could include:

STATEMENT OF INVESTOR COMMITMENT TO SUPPORT A JUST TRANSITION

Principles for Responsible Investment (PRI) is supported by the UN. It has issued a *Statement of Investor Commitment to Support a Just Transition on Climate Change* which has been endorsed by 161 investors, including the UNISON Staff Pension Scheme.

The statement says:

"There is an increasing recognition that the social dimension of the transition to a resilient and low-carbon economy has been given insufficient attention, notably in terms of the implications in the workplace and wider community. Achieving a just transition, in line with the 2015 Paris Agreement on Climate Change, will help to accelerate climate action in ways that deliver the Sustainable Development Goals.

"Investors can make an important contribution as stewards of assets, allocators of capital and influential voices in public policy to make sure that the transition produces inclusive and sustainable development…

"As investors, we commit to take action to support the just transition by integrating the workforce and social dimension in our climate practices. We will draw on the evidence and recommendations contained within the *investor guide on the just transition* take action in one or more of the following areas:

- **Investment strategy.** Integrate workplace and community issues into climate change policies and investment beliefs, dialogue with stakeholders and investment mandates.
- **Corporate engagement.** Include workforce and community issues in climate-related engagement on corporate practices, scenarios and disclosures.
- **Capital allocation decisions.** Design investment mandates across asset classes that link decarbonisation, climate resilience, decent work, and inclusive growth
- **Policy advocacy and partnerships.** Support the inclusion of the just transition in regional, national and international policies and contribute to place-based partnerships.
- **Learning and transparency.** Develop systems to review and communicate progress on just transition activity as well as share best practices.[174]

- banking arrangements
- pension funds
- investment portfolios.

Finding information

Unions may need to get some specialist support prior to agreeing a negotiating plan. Sources of information and advice include:

- *Fair Pensions* aims to mobilise the financial power of pension investments to create change: as major shareholders in companies, pension funds have enormous power to improve corporate behaviour on the environment and human rights.
- *ShareAction* is a charity campaigning for responsible investment. It considers that "the majority of asset managers demonstrate a substandard approach to responsible investment". This is a reason why it is important to link up with organisations who have a track record of supporting responsible investment actions.

A negotiating plan could include:

- Contact organisations that provide support for unions on ethical investment.
- Secure a commitment to an ethical investment policy and engagement strategy that supports a just transition. That is, one that scales up climate action and delivers positive social impact, both in terms of maximising the social benefits of net zero and making sure no one is left behind.
- The establishment of an investment committee with union representation.
- Full disclosure of investment portfolios.
- Calling for an ethical banking policy, the main aim of which is to switch accounts to a bank which has an ethical investment policy which supports climate action and delivers positive social impact.
- Calling on asset owners, asset managers and service providers to sign up to the *Statement of Investor Commitment to Support a Just Transition on Climate Change.*

FINANCE AND INVESTMENT CHECKLIST

- ✓ Has your union got a pensions officer you can contact?
- ✓ Do you know the investment policy of your pension fund?
- ✓ Is there union representation on the board of trustees or any subsidiary bodies?
- ✓ Does the policy contain any references to ethical investment?
- ✓ Does the ethical investment policy or other investment documents make specific reference to taking action on climate or other environmental and social considerations?
- ✓ Does the policy make any reference to aligning with Paris Agreement climate targets?
- ✓ Has your organisation on environmental, social or governance grounds a) divested from fossil fuel companies, b) invested in more ethical assets, c) engaged with companies as a shareholder to change behaviour?
- ✓ Are there opportunities to raise membership awareness on the importance of this issue?

Sources of further information

- *Transition Pathway Initiative*
- Grantham Research Institute on Climate Change and the Environment's *Financing a Just Transition*
- *Fair Pensions*
- *ShareAction*
- *Principles for Responsible Investment*
- *The Task Force on Climate-Related Financial Disclosures*

Homeworking

Introduction

During the Covid-19 pandemic, more people than ever before have been working from home. Many organisations have moved to a hybrid working style. This combines home and office-based working, with some workers remaining at home full-time.

What are the issues?

From a trade union perspective, there are both challenges and opportunities thrown up by the economic, social and environmental impacts of a longer-term shift to homeworking. Trade unionists report that members often have very different experiences and opinions on homeworking, depending on their circumstances. The issues are far from straightforward.

The main purpose of this chapter is to consider the environmental issues, and what practical action trade unions can take to support greener homeworking. But of course, trade unionists will know that there are also other important considerations. The health and wellbeing, social, equality and economic impacts of homeworking must be looked at too.

Is homeworking really greener?

Understanding the overall impact of homeworking on an organisation's environmental footprint is complex. For example, if staff commute to a workplace by car, there are obvious benefits in terms of reduced congestion and air pollution from fewer transport emissions. At the same time, homeworking entails a significant increase in home energy use.

There are common issues across many workplaces, but also variations. This can affect the overall balance of environmental impacts, which also depends on the individual circumstances of each worker.

Factors that affect the environmental benefits of homeworking include:

- **Emissions of normal mode of transport and distance of travel to/for work.** If large numbers of the workforce normally use a private car to travel to/for work, working from home could result in a significant reduction in greenhouse gas emissions. But if the majority of the workforce normally travel to/for work by public transport or cycle or walk to work, this won't be the case.
- **Energy efficiency of workers' homes.** Factors such as insulation, sources and types of energy used for heating, lighting, cooling and ventilation, efficiency of equipment, use of technology and occupancy levels of homes can all be a factor. Whether a worker is renting or is an owner-occupier will also make a difference as it is likely to affect how much control they have over the energy efficiency of their home. The location, construction type and fabric of homes is also an important factor. For example, some locations have more homes that are reliant on solid fuel.
- **Location, weather, seasons.** Factors that affect the demand on heating/lighting are important. For example, during summertime with warmer temperatures and longer daylight hours, the energy demands of homeworking will be much lower than during winter, when the cold and low light levels hugely increase energy consumption.

- **Equipment, digital technology and digital services requirements.** Changes in the demand for and consumption of digital technology and services due to increased home-working practices will affect the overall environmental impact of homeworking.

Potential environmental advantages of homeworking

- Reduced transport emissions.
- Reduced traffic congestion.
- Improved air quality.
- Fewer cars mean people feel safer on the roads, which could encourage more people to make non-work-related journeys by bike or on foot rather than by car.
- No commuting time could mean a better work-life balance and more time to develop environmentally friendly habits such as using up more leftovers, reducing household food waste.

Potential environmental disadvantages of homeworking

- Increased domestic energy consumption for heating, lighting and technology.
- Risk of employers outsourcing emissions and costs to workers.
- Greater difficulty in calculating an organisation's carbon footprint. The work-related energy consumption and carbon emissions of homeworking should be included in an organisation's Scope 3 emissions. But homeworking emissions can be more complicated to calculate, as they vary depending on individual's different circumstances.
- Potential duplication of workplace and home emissions with mixed office/homeworking arrangements, eg energy being used to heat and light a large office space and workers' homes
- Increased 'life cycle' costs and emissions of additional digital technology and homeworking equipment.
- Unions report that some employers have used the 'green' benefits of home and hybrid working as an excuse for office closures.
- The lack of face-to-face time in arrangements where workers only work from home can be a challenge from the point of view of workplace organising on any issue.

Research into the environmental impacts of homeworking

The Centre for Research into Energy Demand Solutions at the University of Sussex carried out a *review of research into the energy and climate impacts of homeworking*. The researchers concluded that to understand whether homeworking is truly sustainable, "we need to look beyond the direct impact on commuting and investigate how it changes a whole range of daily activities."

They highlight that there may be unintended and indirect environmental consequences (or 'rebound effects') from a shift to more homeworking. For example, mixed home/office working could result in greater average distances between the workplace and the home, with workers living further away from the workplace. This could result in longer car journeys on days spent in the office.

The researchers noted that other measures, such as a transition to lower carbon modes of travel, could potentially provide a greater overall emissions benefit than increased homeworking.

WHAT ARE THE LIFE CYCLE EMISSIONS OF DIGITAL WORKING?

Homeworking has become increasingly dependent on new energy intensive forms of digital technologies. The production of computers and mobile devices is very energy intensive. Various rare earth elements are required for their production and energy intensive processes for their operation. Estimates of the emissions from digital technologies vary from 1.4–5.9 per cent of total global emissions.[175] And this figure is expected to rise unless we change the way we use digital technology.

Overall: "The main source of savings is the reduced distance travelled for commuting, potentially with an additional contribution from lower office energy consumption. However, the more rigorous studies that include a wider range of impacts (eg non-work travel or home energy use) generally find smaller savings… The available evidence suggests that economy wide energy savings are typically modest, and in many circumstances could be negative or non-existent."[113]

Taking action

It's vital to consult with others in the branch committee when approaching this issue, in particular reps with responsibility for health and safety, and equalities issues. You will need to decide how best to consult with members on the issue of greener homeworking in the context of the wider bargaining agenda on homeworking issues. It's also important to make links with the health, safety and wellbeing agenda.

Homeworking policy

This will determine your starting point for action. Is there already established homeworking in place with a formalised policy? Does the branch have any plans to negotiate a new policy or revise the existing one? And does the homeworking policy cover any environmental issues?

Surveys

Has the branch carried out a survey to identify workers' experiences of and preferences regarding longer-term homeworking? If not, does it plan to? It may be possible to gather useful information from this. For example, how many members are working from home full or part-time and how many work full-time in the workplace. You may be able to add some specific questions on the issue of greener homeworking and link them to any wider wellbeing issues (eg concerns about additional energy bills due to homeworking, or difficulties in keeping the house warm).

It may be helpful to set up a focus group to look at the issues around greener homeworking for members in your workplace and identify key areas for action.

What can employers do to support greener homeworking?

Ensure emissions (and costs) are not outsourced to workers

Employers shouldn't see homeworking as a convenient solution to reduce costs and outsource emissions. For example, employers could provide a homeworking allowance for workers to cover the costs of increased energy consumption and other associated homeworking costs (heating, lighting, electrical equipment, broadband etc). A survey of 1,500 workers carried out by Opinium on behalf of Wales TUC in 2023 found that one in six workers reported that their employers paid toward their utility costs when they worked from home.

It's important that additional emissions related to homeworking are considered in the organisation's carbon footprint. They should be included within Scope 3 emissions. Homeworking carbon calculator tools are available to help employers to estimate and include these emissions. Some of the information required to make the calculations may result in employers asking workers to provide additional information about their home and living arrangements. It is important that this is gathered in a way that is not intrusive and protects individual worker's privacy.

If financial savings are being made elsewhere by reduced need for office space or fewer travel expenses, there is a case that some of these savings should be reinvested in funding to help reduce homeworking emissions. For example:

Employer-sponsored energy efficiency measures

Some employers provide an offer of a financial contribution toward the costs of home energy efficiency assessments and energy efficiency measures for homeworkers. Where this is mutually agreed, this could help employers to reduce the organisation's carbon footprint

from homeworking. It could also help workers reduce both their homeworking and domestic emissions. However, such schemes may not be accessible to all workers, such as those who rent their homes.

The Carbon Trust says: "Employers could potentially find ways to improve domestic energy efficiency for employees, potentially as an incentive or benefit." It notes that companies including Accenture, EDF Energy, Aviva and HSBC have piloted approaches to encouraging employees to implement home insulation.[114]

Employer sponsored solar benefits

There are schemes that allow employers to offer workers an employee benefit scheme with shares or credits in cooperative/community owned renewable energy schemes such as solar parks or wind farms. These can allow workers to benefit from solar energy without the need to own their own rooftop, for example. The energy is generated away from their homes and then they receive a reduction in their electricity bill or credits through payroll. The idea is that this can cover the cost of the worker's homeworking electricity use and reduce both their and the organisation's carbon footprint. However, the pros and cons of such schemes for workers need to be carefully considered. For example, schemes may only be available with certain energy providers, and so tie workers to these if they wish to benefit from the scheme.

Sustainable procurement

Employers should ensure sustainable procurement practices for homeworking equipment and technology as part of a wider sustainable procurement policy. They should aim to purchase items that are long lasting and can be repaired and updated rather than needing to be replaced. Short lifespan digital equipment should be avoided. Employers should review the intervals at which items are upgraded; it may be possible to extend these without negative impacts. For example, extending the average lifespan of laptops from four to six years across an organisation can create a big reduction in emissions. See 'Procurement' on *page 101* for more.

Promoting greener digital working practices

Employers should provide information on lower impact digital working practices that can reduce emissions while working from home. As well as the obvious tips such as not leaving devices on standby thinking about how digital technology is used is important. For example, simple changes such as downloading rather than streaming videos, or streaming standard definition instead of high definition, can help cut emissions. Even reducing unnecessary emails can make a difference.

Ensure a jointly agreed homeworking policy is in place

Ensure a homeworking policy, jointly agreed with unions is in place. This will put in place the foundations needed to support safe, fair and sustainable homeworking. It should clearly set out the agreed definitions and parameters around homeworking and include a commitment to consider all requests fairly and not to impose homeworking arrangements or costs on workers.

It's important that risk assessments should be carried out for homeworking. Consideration should be given to people with different protected characteristics alongside other equality and fairness considerations. Adjustments should be made where necessary. *Guidance on good practice is also available from Acas.*

Offer homeworking as an option, alongside a range of other measures

A better work-life balance can help workers to have more time to develop sustainable habits. But homeworking is not the only way to achieve this. For example, a shorter working week (without loss of pay), flexible working hours are other ways to help improve work-

life balance. Some employers have signed up for *schemes offering additional annual leave or 'travel days' for workers taking holidays via land-based travel*.[115]

There are lots of ways to support wellbeing and more sustainable behaviours. Employers should also offer flexible start/finish times and support for greener travel to reduce the impact of transport emissions on office days where workers are on a mixed home/office working pattern.

GREENER HOMEWORKING: A BARGAINING CHECKLIST

- ✓ The key starting point is to ensure a jointly agreed homeworking policy is in place. Check with your own union for guidance on developing a homeworking policy. *Guidance on good practice* is also available from Acas.
- ✓ Ensure the homeworking policy includes a commitment that emissions are not outsourced to home-workers and consider what measures will be taken to measure and manage homeworking emissions. There should be a commitment to cover any additional costs incurred to the worker.
- ✓ Ensure that any savings the employer makes from increased homeworking (eg reduced travel expenses or reduced running costs for premises) are reinvested into financial support for the costs of homeworking and measures to support greener homeworking, as well as jobs, skills and other areas of continuous improvement.
- ✓ Ensure homeworking is offered alongside a broader package of support — such as other work-life balance measures and support for greener travel.

UNISON has produced a *home and hybrid working guide which includes a model policy*.[116]

A just transition for energy

Energy unions have highlighted the importance of ensuring a just transition for workers in the energy sector and securing a balanced low-carbon energy mix. They say: "We need a long-term plan with decisions taken to secure a long-term future for all, not one simply based on continued short-term profits or convenience." And they point out that: "It is essential that energy supply is secure, reliable, works in the interests of the nation and is affordable to all consumers with costs shared on an able to pay basis."

Other countries that have a less privatised energy system have been able to protect both household budgets and energy jobs in a crisis much better than the UK has. TUC research has found that a publicly owned energy company could return £3 to the public purse for everyone £1 spent, and speed up the pathway to net zero.[117]

Conclusion

Widespread homeworking developed as a necessary response to the Covid-19 pandemic. Understanding of the impacts and long-term implications of a more permanent shift to home and hybrid working are still developing.

Unions continue to call for an approach that supports the needs of different workers to benefit from workplace, home and hybrid working options and considers and balances the full range of economic, social and environmental impacts. Employers must ensure that home and hybrid working doesn't simply outsource costs and emissions to workers.

Sources of further information

- *Acas guidance on home and hybrid working*
- *Climate Action Wales*
- *Energy Savings Trust*
- *Carbon Trust report on homeworking*
- *The energy and climate impacts of homeworking*
- *UNISON home and hybrid working guide*

WHAT ABOUT SWITCHING TO GREEN ENERGY TARIFFS?

If you type 'greener homeworking' into a search engine, one of the top suggestions that comes up is for individuals to consider switching to a green energy tariff. Although very few people having been switching suppliers during the energy crisis, more tariffs are becoming available again. So, can switching to a green tariff be helpful?

A green tariff either means that the energy supplier matches your usage with renewable energy generation or that they contribute toward environmental schemes on your behalf (through schemes such as offsetting).

Green tariffs can be a positive way to support renewable energy and potentially reduce emissions. But the *green aspect of the tariffs isn't always straightforward.*[176] Some are greener than others. And although costs have come down over time, green tariffs can be more expensive, and go above the general energy price cap.

WHAT CAN WORKERS DO TO MAKE HOMEWORKING GREENER?

Trade unions support a collective approach to tackling the climate and nature crisis. Individual behaviour change alone will not be enough without wider systemic and structural changes. It is not our job as trade unionists to tell members how to lead their lives. But with many more members working from home, workers may want information on what they can do themselves to help reduce their emissions and environmental impact. Ideas and further sources of information include:

- The World Wildlife Fund (WWF) has a good *online calculator* that helps you to understand your personal environmental footprint and ways to reduce it.[177]
- The BBC's *Smart Guide to Climate Change* has information on the most effective strategies individuals can use to reduce their carbon footprint.[178]
- With the energy crisis, most people already use *energy saving tips* such as those recommended by the Energy Savings Trust.[179] It also has advice on *ways to save on energy bills in the longer term* when working from home. For example, energy performance certificates (EPCs) and energy efficiency measures.[180] However, with so many struggling to pay bills in the cost of living crisis, affording such measures won't be possible for many without government support or an employer benefit scheme.
- Some people may be eligible for a grant for energy efficiency measures, depending on their circumstances. For example, the *Great British Insulation Scheme* funds insulation measures for low-income households and less energy efficient homes in lower council tax band areas.

Offsetting

Introduction

The idea of carbon offsetting is to cancel out the carbon released by an individual or business, by paying for reductions elsewhere. For example, paying for someone else to install energy efficiency measures or renewable energy. Another well-known route is paying to plant or protect trees (which absorb CO_2 in their lifetimes).

Although offsetting can fund worthwhile schemes, and also raise awareness, there has been criticism that some offsetting is ineffective or not well regulated. It's vital to look at reducing emissions through cutting energy use and using more climate-friendly energy sources before considering offsetting — the previous sections give more guidance on this.

What are the issues?

Arguments against — a licence to pollute?

Paying for greenhouse gas reducing projects to cancel out our own polluting activities seems straightforward. And

its very simplicity is part of the appeal — just pay someone else to take care of it. There's a danger that it simply provides an excuse not to take action to cut back on polluting activity, and possibly doesn't even lead to an overall reduction in emissions, because it just pays for schemes that would have happened anyway. And, perhaps more fundamentally, we can't cancel out all the effects of pollution through offsetting.[118]

Arguments for

Good carbon offsetting programmes can have benefits by:

- raising awareness and understanding of an organisation's carbon impact
- paying for energy efficiency measures for people in poorer, usually developing countries
- leading to overall reductions in emissions (if done properly)
- promoting the idea of 'the polluter pays', which has been a long-standing demand of the environmental movement.

Costs

The cost of offsetting can vary dramatically, but cheaper schemes are likely to have compromised on some of the areas below. A failed scheme will mean no environmental benefit, and potentially damage to your company or organisation's reputation in the process.

The Carbon Trust suggests you look for a scheme that deals properly with:

- **Additionality** — proving the scheme funds work that would not otherwise have happened.
- **Verification** — checking the work was carried out, and had the carbon impact that was promised. There are a number of different third-party verification systems in place for offsetting schemes (see the Carbon Trust guidance for details).
- **Permanence** — preparing for risks, such as the trees burning down or the project failing in some way. For example, insurance, or a range of different kinds of projects in different countries.
- **Leakages** — acknowledges and deals with carbon impacts that the project causes indirectly, such as displacing damaging agricultural practices to another area.
- **Double counting** — a clear accounting system to make sure emissions aren't double counted.

Adapted from The Carbon Trust's *detailed guidance on developing an offsetting scheme*

Taking action

Remember it's vital to look at other ways to reduce emissions before considering offsetting:

- **Step 1.** Find out your organisation's carbon footprint.
- **Step 2.** Reduce energy use and emissions (both direct and indirect, eg products purchased), using the guidance in this handbook.
- **Step 3.** Consider high-quality offsetting projects, or funding investment in renewable energy for your own organisation.

Offset options

Ethical Consumer has produced a *Short Guide to Carbon Offsets*

Official offsets

Renewables are the best form of official offset, as they address the central structural issue that is causing climate change: our reliance on using fossil fuels for energy. Within the renewable options wind and solar projects should be favoured over biomass because of concerns about the sustainability and social justice issues linked to some biomass projects. Ethical Consumer recommends offsetting at the level of individual projects, rather than just giving to a company's whole portfolio, because this is the level at which there is most information available.

Problems with official offsets

Nearly all carbon offsetting is done by for profit organisations, not charities. It has been calculated that with some schemes anything up to 70 per cent of the money is taken by verification costs, overheads, and project developers' profits.

Buying and retiring EU Emissions Trading Scheme (ETS) Credits is another offset option. However, a big problem is that the EU ETS is dysfunctional, most notably because of a large oversupply of credits.

Certified Emissions Reductions (CERs)

Companies can buy themselves out of their legal obligations through a UN scheme called the Clean Development Mechanism (CDM). Offsets certified by the UN are called CERs in contrast to Voluntary Emissions Reductions (VERs). However, experience has shown that even the UN-backed CERS do not always achieve high standards.

DIY offsets

This is where the organisation makes its own direct investments. It involves giving to projects that are not official offsets but have a good chance of cutting emissions. This may include those that could create more transformational change, such as political and educational projects. This type of approach will not have certification and may not be considered as offsetting because of the difficulty of identifying a quantifiable amount of carbon cutting.

No regulation but there are standards

There is no single accreditation scheme for voluntary offsetting schemes, which means it's very hard to know whether your offsetting is really having the impact you thought. Tree planting schemes in particular have come in for a lot of criticism. Trees take a lifetime of growth to absorb carbon, and they also release that carbon again if they are burned or rotted. Large plantations may also limit biodiversity, and push local communities off their land.

Third-party standards are supposed to ensure that offsets exhibit a set of features known as VALID. (See the checklist to the right).

Verification systems

There are a number of organisations that monitor carbon markets. One called the *Gold Standard* is favoured by some environmental groups as it requires projects to benefit the local population as well as cutting carbon.

OFFSETTING CHECKLIST

- Does your organisation carry out carbon offsetting?
- Is the amount of offsetting set at an appropriate level compared to other parts of the carbon management strategy?
- If your organisation uses an offset scheme does it comply with the VALID test?

THE VALID TEST FOR OFFSET SCHEMES:

- **Verifiability** — there is a robust audit trail.
- **Additionality** — the carbon savings are additional to what would have happened anyway.
- **Leakage avoided** — emissions are not just moved elsewhere.
- **Impermanence avoided** — carbon savings will be sustained over time.
- **Double counting** should not occur — reductions are only claimed once.

Sources of further information

- The Carbon Trust's *Developing a Robust Offsetting Strategy*
- Ethical Consumer's *A Short Guide to Carbon Offsets*

Procurement and supply chain

Introduction

The outsourcing of production, goods and services has grown significantly in the last 40 years. The end result has often been domestic loss of jobs, worse pay and conditions, lack of union recognition, and poorer health, safety, and environmental standards. Not surprisingly unions have campaigned against these measures and called for the return of in-house services.

In 2014, the TUC motion 'Ethical procurement and union recognition' noted:

"Congress welcomes the TUC's engagement with the Ethical Trading Initiative, and supports the principle that consumers, companies, and organisations should consider the position of workers in the supply chain of goods and services before making purchasing decisions."

Unions have called for the use of social value commissioning and procurement to support jobs, local employment and skills initiatives, apprenticeships, equalities, and other social and environmental criteria.

Policy and legal framework

Defra's *Sustainable Procurement in Government: guidance to the flexible framework,* says: "All public procurement in the UK is required to achieve value for money and is governed by the public procurement rules to ensure that it is fair and open. Importantly, there is no legal barrier to embedding sustainability within public procurement."[119]

The *Public Services (Social Value) Act 2012* makes it a legal requirement for contracting authorities to consider how 'social value' could be achieved through a given procurement exercise.[120] Public authorities can include climate change, job quality, job creation, and more in their social value frameworks.

What are the issues?

Up to 90 per cent of an average organisation's environmental impact lies in the value chain - either upstream (supply chain) or downstream (product use phase). Analysing and taking action on your value chain is therefore a vital step for any business that wants to become more sustainable and prepare for a low carbon economy.

What an organisation buys, who it buys from, and how it uses the goods and services once bought, can have a huge influence on everything from performance and employee wellbein to reputation and stakeholder relations. For this

The *UN Guiding Principles on Business and Human Rights (UNGP)* are a set of guidelines for States and companies to prevent, address and remedy human rights abuses committed in business operations.

"Private companies delivering public services are covered by the *UNGP* and the *Modern Slavery Act* (as are higher education institutions) but Wales has shown that a more ethical approach to procurement can be championed at government level and implemented across the whole of public services."

From *UNISON's guide to Responsible Procurement in Public Services*

reason, the purchasing function of an organisation can play a key role in social responsibility and help integrate it at the governance level.

Procurement generally makes up a substantial part of an organisation's budget. In the public sector alone, it accounts for around 12 per cent of GDP and 29 per cent of government expenditure in the member countries of the Organisation for Economic Co-operation and Development (OECD).

Making the business case

Reputational risk and corporate social responsibility

Companies run reputational risk when environmental and human/workers' rights abuses are identified in their supply chains. Many consumers want to buy ethically and there is increasing pressure on companies to ensure they take these considerations seriously.

Some employers have already developed strategies to ensure a more ethical approach to purchasing, and public employers are mandated to work toward these aims. Are they producing policies and statements which show that they are being responsible buyers? A number of employers have produced codes on animal welfare, sustainability, environmental impact, slavery and child labour. But all organisations should be developing ethical procurement policies.

> "Sustainable procurement is a process whereby organisations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organisation, but also to society and the economy, while minimising damage to the environment."
> *Procuring the Future*, UK Sustainable Procurement Task Force, June 2006

The benefits of circular economies

A procurement strategy that strives toward a circular economy — ie one that reuses and regenerates resources — can have economic benefits including:

- savings (by repairing equipment instead of paying for disposal and buying new),
- additional local job creation,
- shorter supply chains that are protected against volatile global markets.

Taking action

A comprehensive ethical procurement policy, which considers both environmental and social protections, is vital to securing change.

The carbon footprint of an organisation needs to be calculated against all activities. This includes the goods and services that are provided by external bodies.

Some aspects of ethical procurement can be quite challenging and complex, because the issues are outside of an organisation's direct control. It may be helpful for the employer to engage with a recognised scheme to help support change.

For example, the Carbon Trust has international certification for organisations working to measure, manage and reduce carbon emissions outside their direct operational control.

To achieve the *Carbon Trust standard for supply chains,* organisations need to complete a detailed hotspot analysis to identify the most significant areas of carbon emissions within their supply chain. This is then used to determine a baseline for emissions reduction and prioritise suppliers for future engagement. To retain the standard on an ongoing basis, organisations must demonstrate evidence of supplier engagement, demonstrate reductions in specified parts of their supply chain, and then expand their approach to engage different areas or suppliers.

ISO 20400, Sustainable Procurement Guidelines provides guidance for organisations wanting to

integrate sustainability into their procurement processes. It is a sector-specific application of ISO 26000 (guidance on social responsibility), which it complements by focusing specifically on the purchasing function.

It is important that an ethical procurement policy considers both human and workers' rights and environmental issues. Employers who treat workers badly often show little regard for the environment. And environmental degradation can have devastating consequences on people. It's important that both issues are addressed within procurement.

PROBLEMS OF THE SUPPLY CHAIN IN THE RENEWABLE SECTOR

The dangers of de-coupling environmental considerations from domestic social concerns is highlighted by the offshore wind industry in Scotland. On the one hand the growth of renewable energy is welcome, but it has failed to adequately address the supply chain issues of local jobs. Unions have criticised the failure to invest in Scottish manufacturing yards which has led to North Sea windfarm contracts being awarded to Spain, Indonesia, the UAE and China. Unless there is a strong commitment from industry and governments to develop a domestic manufacturing sector it will be difficult to get support for a green industrial strategy.

BARGAINING CONSIDERATIONS CHECKLIST

- ✓ Does any procurement policy contain any assessment criteria dealing with ethical employment in the supply chain?
- ✓ Does the policy require companies in the supply chain to report on their environmental policy, including their carbon emissions?
- ✓ Does the policy and practice support the sourcing of goods and services from local and regional businesses/apply community wealth building principles?
- ✓ Does the policy and practice support *circular economy* approaches to procurement?
- ✓ Is there an opportunity to make the case for bringing services and the production of some goods back in-house?
- ✓ Has the employer published a *modern slavery statement?*

Sources of further information

- Future Generations Commission's *procurement guidance*
- UNISON's guide to *Responsible Buying in Public Services*
- Ellen MacArthur Foundation's *Circular Economy Procurement: a guide for businesses*
- *Centre for Local Economic Strategies — centre of excellence for community wealth-building*
- *Anti-Slavery International*
- *Clean Clothes Campaign*
- *Electronics Watch*
- *Ethical Trading Initiative*
- *Global Justice Now*
- *Good Electronics*
- *Labour Behind the Label*
- *War on Want (WoW)*
- *Worker Rights Consortium (WRC)*

ACTION PLAN - PROCUREMENT AND SUPPLY CHAIN:

Step 1. Research

- Find out who is responsible for procurement.
- Gather any existing policies and data.
- If there is already a procurement policy, check if it covers the Bargaining Considerations questions above.

Step 2. Engage

- Speak to the branch committee about the idea of pursuing an ethical procurement policy (or improvements to an existing one)— get a motion to the branch.
- Get it on the agenda for a members' meeting.
- Talk to other unions in the workplace to build support.

Step 3. Plan

- Put together a plan for what should be included in an ethical procurement policy, using the resources in this chapter, plus any guidance from your own union or suggestions from members etc
- Plan a campaign to build support for change—it may be helpful to use key dates such as Workers' Memorial Day, World Environment Day or World Day for Decent Work to highlight the need for change.
- Get help and advice from external organisations if needed — see the resources section.

Step 4. Negotiate

- Make a business case and a moral case for a comprehensive ethical procurement policy that addresses both environmental and social responsibility
- Set ambitious long-term goals for improvement and measurable interim targets.

Step 5. Consolidate

- Set a date to review the policy and progress.
- Encourage the employer to sign up for relevant accreditation schemes, eg the Code on Ethical Employment in Supply Chains, Carbon Trust and ISO certification, Electronics Watch monitoring to support continuous improvement.
- Ensure training and awareness raising is put in place so all staff understand changes
- Publicise success and make members aware of the union's role in securing improvements.

Renewable energy

Introduction

Renewable energy is energy that comes, not from finite fossil fuels, but from naturally replenished sources such as wind, sun, water, ground heat, and biofuels like wood, crops, and organic waste.

Some workplaces are good sites for renewable energy generation. If you are not in a residential or very scenic area, planning permission is easier to obtain. They can install renewable energy on a larger, more efficient scale, and by building renewable energy on or near the site ('decentralised energy'), a lot of the problems associated with centralised power generation (losses in transmission, impacts on wildlife) can be avoided. For many sites, installing on-site energy generation can significantly reduce the energy costs of running a workplace.

The cost of renewable energy, and the technologies that generate it, have fallen dramatically in recent years. This means the length of time it takes to repay any investment and start saving money (the 'payback time') is a lot quicker than it used to be, particularly as oil and gas costs continue to rise. There is also a wide range of financial help available to organisations.

From a trade union point of view, renewable energy has other benefits besides the obvious environmental ones: if designed well, it can create more jobs, and the investment a company makes is a good indication of its greater commitment to the future of the company.

A BALANCED NET ZERO CARBON ENERGY MIX

The TUC supports a balanced energy policy that enables the UK to meet its net zero commitments. A crucial part of the pathway toward this is a greater role for public institutions, including new public energy companies, in championing new clean power generation and energy grid upgrades. Find out more in *Public Power: turning it into reality*

Is installing renewable energy right for my workplace?

Before installing renewable energy, an organisation should do what it can to reduce its energy use. There is no point generating lots of 'green' electricity if it is then wasted.

The Carbon Trust recommends the following energy hierarchy:

1. Reduce the need for energy.
2. Use energy more efficiently.
3. Use renewable energy.
4. Any continuing use of fossil fuels should be clean and efficient.

Types of renewable energy

Wind

Offshore and onshore turbines produce electricity by capturing the natural power of the wind to drive a generator.

Solar photovoltaic electricity (PV)

PV materials are usually solid-state semiconductors which generate electric current when exposed to light. The Committee on Climate Change projects that 40GW of installed solar capacity will be needed by 2030 to keep on track to achieve net zero by 2050. As of January 2020, the total installed

capacity of solar PV in the UK is 13.4GW.

Solar thermal or solar hot water systems

These work by absorbing energy from the sun and transferring it, using heat exchangers, to heat water.

Ground source heat pumps (GSHPs)

GSHPs take low-level heat which occurs naturally underground and convert it to high-grade heat by using an electrically-driven or gas-powered heat pump.

Air source heat pumps (ASHPs)

ASHPs take low-level heat, which occurs naturally in the air, and convert it to high-grade heat by using an electrically driven or gas-powered pump.

Hydroelectric power

Uses water flowing through a turbine to drive a generator that produces electricity.

Wave and tidal power

Electricity generated from the movement of wave and tidal flows. Wave power is much more predictable than wind power and it increases during the winter, when electricity demand is at its highest.
Tidal stream energy is also predictable and consistent. It is estimated the UK has around 50 per cent of Europe's tidal energy resource, and a study in 2004 estimated the UK's technical resource at around 16 terawatts per hour per year (TWh/year) (4 per cent of overall supply).

Biomass

This refers to the use of a wide variety of organic material such as wood, straw, dedicated energy crops, sewage sludge and animal litter for the generation of heat, electricity or motive power.

Anaerobic digestion (AD)

AD is one method for converting biomass. It is a process in which bacteria break down organic material in the absence of oxygen to produce a methane-rich biogas, which can be combusted to generate electricity and heat. The organic material used may include industrial wastewater, manure, garden waste and organic food residues such as vegetable peelings.

Hydrogen

Hydrogen is viewed as one of the most economic options to decarbonise industry. At present, however, it is overwhelmingly produced from fossil fuel sources.

- Blue or grey hydrogen is produced from natural gas, with carbon capture and storage (CCS) technology scooping up the resulting CO_2.
- Green hydrogen is produced from renewable electricity sources.

Hydrogen as a fuel could be used:

- for industrial applications, eg to produce zero emissions steel
- In transport, especially heavy transport, eg to power HGVs and container ships
- in heating homes by using hydrogen gas boilers or hybrid boilers, and/or in power stations at peak times

On a workplace level, at present, hydrogen will be a relevant technological option for some industrial decarbonisation projects, some transport manufacturing sites, as well as for pilot projects in other areas.

Related issues

Carbon Capture, Utilisation and Storage (CCUS)

CCUS encompasses methods and technologies to remove carbon dioxide (CO_2) from the flue gas and from the atmosphere, followed by recycling the CO_2 for utilisation and safe and permanent storage options.

CCUS is a necessary technology: official bodies such as the Climate Change Committee recognise that deployment of CCUS is essential to achieving climate targets, including particularly for hard-to-decarbonise sectors such as cement production and chemicals.

At the same time, CCUS does not cancel out the need to phase out emissions in other ways wherever possible. It has technological, economic and environmental limitations. Many environmental organisations and unions have voiced strong

critiques of over-reliance on CCUS.

On a workplace level, CCUS is primarily relevant for high-emitting sites in industrial clusters linked into CCUS projects under development.

Energy storage

As the deployment of renewable generation increases, storing cheap renewable power, and when there is an excess, discharging it when demand is higher, will become vital to the future functioning of the grid.

Combined heat and power (and cooling) (CHP)

Combined heat and power is not in itself a renewable energy, but is a more efficient way of generating heat and electricity, typically using a third less fuel than conventional sources.

Electricity is generated on-site and waste heat captured for space heating, water heating, industrial processes, and cooling/refrigeration.

District heat networks

One of the low-carbon technology options for heating our buildings is heat networks, also known as district heating. A heat network is a distribution system of pipes that takes heat from a central source and delivers it to a number of buildings. The heat source can be a Combined Heat and Power (CHP) plant, energy from waste, canals, rivers etc It is estimated by the CCC that around 18 per cent of UK heat will need to come from heat networks by 2050 if the UK is to meet its carbon targets cost effectively.

RENEWABLE ENERGY CHECKLIST

- ✓ Does your employer have any written policies that reference renewable energy? This could be in the environment/climate or energy policy if they exist.
- ✓ Does your workplace generate any renewable energy?
- ✓ If so, what type(s) of renewable energy have been installed, and how much power is being generated?
- ✓ Are there opportunities to install or increase the existing amount of renewable on-site generation? Think about the current buildings and their location to make some initial judgements on potential deployment.
- ✓ Are there any local organisations you can contact to provide technical advice on potential options?
- ✓ Has your local authority got a policy on supporting industrial or commercial renewable energy generation?
- ✓ Does your employer purchase their energy supply from companies that support renewable energy?

Sources of further information

› The Carbon Trust's *Renewable Energy Guide for Business*

Resource efficiency – reduce, reuse, recycle

Introduction

The extraction of the world's resources is responsible for almost half of carbon emissions and around 80 per cent of biodiversity loss. Resources are being extracted from the planet three times faster than in 1970. This is despite the fact that the population has only doubled in that time.[121]

Due to increased consumption and demand, we are extracting the world's resources faster than they can be restored, and some are in danger of being exhausted. Waste and pollution are being released faster than the planet is capable of absorbing them or breaking them down in to something harmless.

This is an issue for us as trade unionists because it is not compatible with sustainable development. It is also a social justice issue. It is well documented that the more industrialised countries in the Global North consume far more of the world's resources than countries from the Global South.

Urgent action to improve resource efficiency and reduce waste is needed, to address the climate and nature crisis and support sustainable development for all.

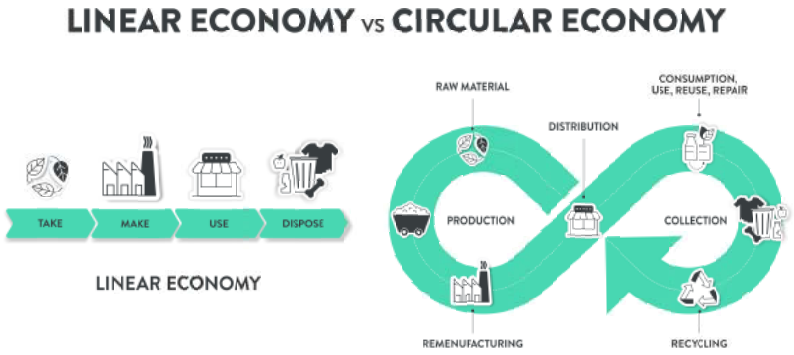
The move to a circular economy

A circular economy is one that keeps resources in use as long as possible and avoids waste. It's a different model to the traditional 'linear' economy. This is based on extracting resources to make products which are used and then disposed of — the 'take-make-use-dispose' model.

In a linear model, waste is the end point. But in the circular model it becomes the start of something new where a product or material can be recovered and regenerated for another cycle.

It's a system that extracts the maximum value from products and resources while they are in use. A circular economy also offers opportunities to increase the value from a product's use through different ownership models, such as sharing, renting and service-based models.

This graphic from the Ellen MacArthur Foundation illustrates the differences between 'linear' and 'circular' economic systems.



Credit/source: Whale design

The foundation has also produced a short 'explainer' *video on the basics of the circular economy*

ZERO WASTE?

The term zero waste means that no residual waste goes to landfill and everything is either reused or recycled. Zero waste seeks to eliminate rather than merely manage waste.

Why do we need a zero-waste, circular economy?

A report by the Ellen MacArthur Foundation found that circular economy strategies could reduce *"global CO_2 emissions from key industry materials by 40 per cent or 3.7 billion tonnes in 2050".*[122]

"The circular economy tackles climate change and other global challenges, like biodiversity loss, waste, and pollution, by decoupling economic activity from the consumption of finite resources." Ellen McArthur foundation[123]

As well as helping the climate, eliminating waste will bring huge benefits for nature and wildlife. For example, eliminating plastic waste will help to reduce plastic pollution in oceans and its impact on marine animals.

The circular economy could also have much to offer in terms of new jobs in local supply chains. Many jobs will be needed to support reconditioning, remanufacture, servicing and repair. According to the Carbon Trust, a circular economy offers "strong job creation opportunities as the circular economic model is focused on extracting greater value from resources, so opening up new opportunities across material and product loops that do not exist in linear, waste creating models." [124]

For manufacturing sectors, remanufacturing offers opportunities to onshore production and jobs, and make the most of shorter supply chains.

While recycling will continue to have an important role, in a circular economy it becomes less significant. There will be less emphasis on recycling and a greater focus on preventing waste in design. More products will be repaired and reused, so they can be kept in use longer.

WHAT DOES THE CIRCULAR ECONOMY MEAN FOR WORKERS?

The European Federation of Public Service Unions has produced resources which make visible the crucial role of workers in delivering the circular economy. EPSU says "A key concern is that we need to ensure quality jobs and decent pay and conditions, high health and safety standards, fight against social dumping and develop social dialogue."[125]

For more detail, see: *Safe Jobs in the Circular Economy* and *Waste Management in Europe: good jobs in the circular economy*.[126]

Union involvement will be vital in moving toward the circular economy. Workers on the ground can be one of the best sources of ideas for identifying ways to reduce unnecessary waste. They also have ideas about ways that products could be designed better to support repair and reuse. It is important that workers are involved in any new schemes so they can share ideas and help to identify issues.

What is the current picture?

In many workplaces, there has been substantial progress in resource efficiency, recycling and waste reduction but there remain some significant challenges. While recycling is now familiar and widespread, many recyclable materials are still going to landfill or incineration. According to government data, England has failed to meet its headline target of 50 per cent waste from households recycled by 2020. "In 2020, the 'waste from households' recycling rate was 44 per cent, down from 45.5 per cent in 2019," a change attributed to the impacts of the Covid-19 pandemic.[127]

England produces approximately 9 million tonnes of industrial and 25 million tonnes of commercial waste each year. That is, workplaces in England produce more waste than homes (responsible for 23 million tonnes of waste).[128] Unlike in Wales and Scotland, there are no up-to-date detailed government data on types of commercial waste produced.

Few large businesses have integrated circular economy approaches into their strategies.[129] General awareness of 'circular economy' approaches is low: 9 in 10 adults in the UK in a recent survey have said they are not familiar with the concept.[130]

Laws, regulations and policies

The UK government has set 'strategic ambitions' in England:

- all plastic packaging placed on the market to be recyclable, reusable or compostable by 2025
- eliminate food waste to landfill by 2030
- eliminate avoidable plastic waste over the lifetime of the 25 Year Environment Plan,
- double resource productivity
- eliminate avoidable waste of all kinds by 2050.[131]

Defra's Waste Management Plan for England also contains measures to:

- extend producer responsibility for packaging waste
- roll out a deposit return scheme for drinks containers
- phase in bans of certain kinds of single-use plastics.

Scottish and Welsh governments have both set in place more detailed, more ambitious circular economy strategies: see *Welsh Circular Economy Strategy*[132] and *Scottish Circular Economy Bill.*

EMS systems and accreditation schemes

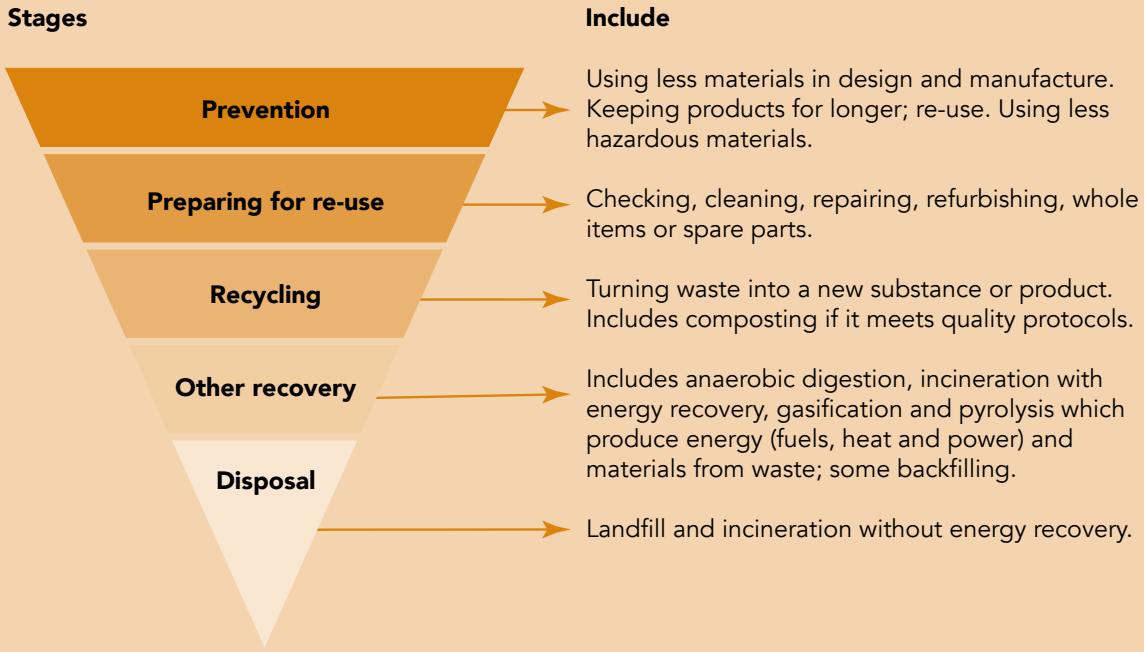
Organisations can implement an environmental management system (EMS) to improve resource efficiency, reduce environmental impact, clarify responsibilities and ensure compliance with legislation.

More information on different EMS systems can be found

THE WASTE HIERARCHY

The waste hierarchy underpins the legal and regulatory framework that governs how organisations should prevent and manage waste.

Crucially, the hierarchy ranks actions in priority order. It prioritises prevention and reuse ahead of recycling, with disposal as the last resort. In line with legal and regulatory requirements, all organisations should be applying the hierarchy of waste. *Guidance on applying the hierarchy of waste can be found here*



Source: *Welsh Government*

Zero waste organisations have called for the waste hierarchy to be adapted so more emphasis is placed on prevention. For example, with a 'refuse, rethink, redesign' stage first, followed by 'reduce and reuse'. They point out that the 'disposal' stage would need to become 'unacceptable' in a zero-waste system.[181]

under 'Environmental management systems, labelling and accreditation' on *page 45.* International standard ISO 140001, the EC's Eco-Management and Audit Scheme (EMAS) or the British Standard (BS 8555 are examples of systems available. Some organisations have developed their own in-house systems.

There are also some sector specific schemes promoting best practice in the sector such as the *Courtuald Commitment* in the food and drink sector.[133]

Life cycle assessments

Life cycle assessments are a key part of the circular economy because they take into account all stages of a products' life, including the 'end of life' stage. This shows the true cost of materials, products and services

in terms of their impact on people and the planet.

Everything that is created goes through a series of 'life cycle' stages, from material extraction, manufacture, packaging and transport, through to end of life. A life cycle assessment is a tool that can be used to help assess and understand something's true environmental footprint at every stage. It includes over 90 different impact categories that are linked to ecosystem health. It considers areas such as the use of finite resources, land and water use, greenhouse gas emissions and human toxicity.

Benefits of life cycle assessments include:

- being able to assess and understand the impact of material choices and operational processes and to make informed decisions about the most sustainable options
- identifying cost savings
- identifying supply chain improvements
- shaping and contributing to corporate sustainability strategies
- supporting communications about environmental credentials of products/services/processes
- improved environmental performance and reputation

There are a number of organisations that offer life cycle assessments. *International standard ISO 14040* governs life cycle assessment practice and sets out what is considered a good assessment.[134]

More information about life cycle assessments can be found on the *European Platform on Life Cycle Assessments.*[135] The Life Cycle Initiative, a programme hosted by the UN Environment Programme, also has a *useful website.*[136]

Taking action

Waste audits

An audit of the amounts and different types of waste and recycling is a good starting point for workplace action. It is the best way to understand where the issues are and identify areas for improvement. WRAP has a *Waste Audit Guide for Businesses.*[137]

It will be important to find out who in the organisation has responsibility for waste management and ideally work together on setting up an audit. An audit will make it possible to cost potential savings in waste disposal costs, making a business case for change.

Apply the waste hierarchy

The key with this step is a focus on prevention first. A good starting point is to consider ways to reduce the amount of resources your workplace is using in the first place. This will help you to identify areas where the most effective changes can be made and identify opportunities to improve existing practice. This will particularly be the case if the audit finds that recyclable materials still being disposed of as a part of the residual waste stream or co-mingled with other recyclable wastes.

There may be further opportunities to eliminate or reduce the use of hard to recycle products and materials. Or to reduce the need to send items for recycling by introducing reusable items.

See the waste hierarchy chart on *page 111*

Procurement and purchasing review

Reviewing procurement is a key step in preventing waste. Does the organisation have a green procurement policy? How can the organisation work with suppliers to make improvements, eg procuring products that use less packaging and goods that can be reused and repaired, using more recycled and recyclable materials? Where reclaimed or recycled materials cannot be used, do any new materials used meet standards to minimise the environmental impacts, eg FSC certified wood? Ensuring information on life cycle assessments is obtained and used to inform procurement decisions is a key step. Sustainable and ethical procurement considerations (eg fair work) should be closely linked in any procurement policy. See 'Procurement' on *page 101*.

RESOURCE EFFICIENCY BARGAINING CHECKLIST

- ✓ Do your research — the best starting point is a waste audit. Gather any existing relevant data or policies on waste, procurement etc and review. Identifying potential cost savings will be vital in making a business case for action during negotiations.
- ✓ In making the case for action, ensure employers and members are aware of the link between waste and greenhouse gas emissions and the problems caused by over-extraction of the planet's finite resources. Better resource management and reducing waste can make a significant contribution toward reducing the organisations carbon footprint, as well as reducing other environmental impacts.
- ✓ Ensure employers are aware of important role that unions have in engagement on this issue. Often, it's members on the ground who will have the best understanding of the practical barriers to reducing waste and ideas for improving resource management. Securing their support will be vital if new initiatives are to succeed.
- ✓ Where employers are initiating action, consultation is vital in the development of any long-term plans to become zero waste and move toward a circular model of resource management. The scope and pace of plans will determine the direct implications on members' work behaviour and performance — briefings and information on targets, ambitions and pathways to change are also important.
- ✓ Ensure the benefits of savings from waste reduction and more effective resource management are shared. These should be reinvested into people, skills, retaining jobs and continuous efficiency improvement.
- ✓ Where there is new equipment or processes re-training is vital. Disruption of work due to new installations should be taken into consideration where this is linked to performance indicators. These should also be reviewed where new processes take longer to carry out, to ensure sufficient time is provided.
- ✓ New risk assessments should be carried out where appropriate, with thorough consultation specific to work processes.
- ✓ All changes should be fully assessed for equality impacts with thorough consultation. Consideration should be given to people with different protected characteristics alongside other equality and fairness considerations. Adjustments should be made where necessary.
- ✓ Ensure employers' targets are sufficiently ambitious. As a minimum there should be a long-term goal to meet the 2050 zero-waste target, with interim reduction targets.

Review the organisation's own products and processes (where applicable)

How does the organisation assess the environmental impact of its own products of services? A number of issues could be considered. Does it use life cycle assessments? Does it utilise recycled and recyclable materials where possible? Does it offer repair/remanufacture? Has it considered offering alternative models such as shared ownership or service-based models? Does labelling and information about how to recycle its products meet best practice?

Engaging with members

Share the findings of your audit, find out what the issues with systems are for staff and where they think improvements can be made. There is often a lot of support for measures to reduce waste, but communication is key as is ensuring people understand the changes and that the right systems and support are in place to make it work in practice.

Making a plan and setting targets

Use the findings of your audit and consultation with members and others to make a plan to reduce waste and improve resource management. These findings will help you to identify the highest impact actions.

There may be significant barriers to achieving zero waste in the immediate future. But a helpful approach is to focus efforts on interim targets and the highest impact actions in the short term to build momentum, with a longer-term goal to achieve zero waste.

Awareness raising

Does the employer plan to provide any training or awareness raising to support new initiatives? Training should be provided to ensure members are aware of any new procedures and understand how to separate waste effectively and why action is needed to reduce waste.

Negotiating for change: making the business case

Cost savings

Waste reduction produces savings at both the procurement stage and disposal stage (eg avoiding landfill tax). WRAP has a simple online *calculator tool* that can help organisations get a rough estimate of how much they can save by improving waste prevention and how well they are performing against the waste hierarchy.

The Chartered Institute of Procurement and Supply advises: "The true cost of waste is not simply the cost of discarded materials - it encompasses inefficient use of raw materials, unnecessary use of energy and water, faulty products, waste disposal of byproducts, waste treatment and wasted labour." Better resource management can create savings across all of these areas.

The Aldersgate Group has released a *report on new business trials* showing that greater resource efficiency could deliver significant economic benefits to EU businesses.[138]

Competitiveness and access to new opportunities

Moving to a circular model can help open up new sources of income that are less reliant on the sale of products alone eg, developing service-based models associated with maximising the value of resources. As a result, alignment with the circular model is likely to give organisations a competitive advantage in the longer term.

Security

The vulnerabilities of long, linear supply chains were highlighted by many organisations experiencing disruption to supplies during the pandemic. A more localised, circular supply chain can help to reduce these vulnerabilities. Becoming part of the circular economy can also position organisations to better address emerging resource security/scarcity issues in the future.

Reputation

Reducing greenhouse gas emissions and pollution by reducing waste is the right thing to do. It's a key contribution that organisations can make toward tackling the climate and nature emergency and securing the world's finite resources for future generations. These issues also matter to customers and services users. So, being proactive can have a positive impact on an organisation's reputation.

Advice and support is available

Guidance on applying circular economy principles and reducing waste is available from organisations such as:

- *WRAP*
- *Business In The Community* (for the private sector)
- *Circular Economy Procurement: a guide for businesses*

Sources of further information

- *WRAP*
- *Ellen MacArthur Foundation*
- *Libraries of Things*
- *Repair cafés*
- *Zero Waste Week UK*
- *Community Wood Recycling*

FOOD WASTE — WHAT ARE THE ISSUES?

Urgent action is needed on food waste. Food waste has huge economic, social and environmental impacts.

The UN estimates that around one-third of the world's food is lost or wasted, and production of this wasted food generates 8 per cent of all greenhouse gas emissions. That is more than is produced by any individual country, except the US and China.

Food waste releases methane, a potent greenhouse gas. And that's not the only problem. Throwing food away also means that all the resources used to produce it have been wasted. This can include things such as the water and land that have been used as well as transport and packaging.

Recent research has found that just under 30 per cent of people in the UK don't see a link between food waste and climate change.[182]

Most food waste happens at home, but it's a problem in workplaces too. Things such as long working hours, shift work, long commutes and poor work-life-balance can have a knock-on effect on food waste at home. Because they can mean that people don't have enough time to plan and prepare meals to reduce waste. Food waste is also hurting people's wallets. An average family of four can save over £60 per month by reducing food waste.[183]

FOOD WASTE CHECKLIST

- ✓ Are management and members aware of the link between food waste and climate change?
- ✓ Does your workplace offer separate collection facilities for food waste? From 6 April 2024 all workplaces must collect food waste separately.
- ✓ What facilities are available for workers to store, prepare and consume food or drink while at work?
- ✓ Is there a workplace canteen, cafe or shop? How much food waste is generated and what action is being taking action to reduce food waste?
- ✓ Are there opportunities to contribute to food redistribution schemes?
- ✓ Are there opportunities for on-site compositing?
- ✓ Does the workplace offer a good work/life balance and flexible working options?

Food waste resources

- › *Wasting Food: it's out of date campaign* and *Love Food Hate Waste* have resources aimed at raising awareness with individuals
- › WRAP has a suite of *free resources on food waste prevention in the workplace*
- › WRAP Cymru has produced a specific *food waste hierarchy*

PLASTICS — WHAT ARE THE ISSUES?

Plastic is a useful material that has many positive applications - for example in healthcare and the preservation and storage of food.

But there are also many downsides to the way that plastics are produced and used. They are often used unnecessarily or in a problematic way. The excessive use of single-use plastics has created a huge problem of litter and plastic waste in the environment. The BBC's *Blue Planet II* famously highlighted the devastating impact of plastic on our oceans and marine animals.

But it is not just plastic pollution. The manufacture of new plastic uses fossil fuels. If the consumption of new plastics isn't reduced, it could hamper efforts to combat climate change. In fact, an increase in the use of new plastics could potentially wipe out most of the benefit in emissions reductions gained from a switch away from fossil fuels for transport.[184]

There are also health concerns about the potential impact of micro-plastic pollution on human health. Micro-plastics are tiny particles of plastic that escape into the air, water and our food and get into our bodies. The long-term effects on health are not yet known, but scientists believe there may be cause for concern.[185]

An additional problem is that currently, the UK exports most of the plastic waste it creates, creating significant public health and environmental risks overseas.[186]

One of the key ways to address the issue of plastics is to retain them in economic use for as long as possible and avoid escape into the environment.

ACTION ON PLASTICS CHECKLIST

- Eliminate unnecessary single-use plastics, eg some items could be eliminated altogether or reusable alternatives may be available.
- Prioritise recycled plastics instead of new plastics in procurement.
- Ensure easily recyclable plastics are chosen above harder to recycle ones.
- Caution is needed with some privately run/ corporate sponsored collection schemes for hard to recycle plastics and composite materials. These are not always as good as they appear. They can result in items being 'down-cycled' — that is, recycled once into items that cannot themselves be recycled. These will ultimately end up in landfill.
- Remember, it's important to avoid overly demonising one material. In some cases, plastic alternatives may have worse environmental impacts or be unfit for purpose. The sustainability and suitability of alternative materials needs to be fully assessed.
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CASE STUDY

SWANSEA COUNCIL ACTION ON SINGLE-USE PLASTICS

Mark Otten is the UNISON environmental officer at Swansea Council. He has taken action to reduce single-use plastics in the authority.

"As an environmental officer at Swansea Council, I am always looking for ways to work with the employer to reduce our carbon footprint. This is ever so much more important in light of announcement of a climate emergency by our country's government.

"I was working at Swansea Council's Corporate Building & Property Services (CB&PS), which carry out an array of work that includes maintenance of council housing stock and public buildings as well as new builds and upgrades to properties to bring them up to Welsh standards. While there I was keen to tackle the problem of single-use plastics in the workplace. Dealing with a very large turnover of a variety of stock opened my eyes to the amount of single-use packaging that was going through our stores.

"To tackle one item alone, bottled water, would mean a huge reduction in single-use plastic going through the stores. To give an indication of what I mean, during the period of March 2018 to March 2019, the procurement of bottled water (single-use plastic) for staff who were on sites or mobile was recorded at 990,000 bottles. Year on year, the issue of spend on bottled water had continued to raise its head, mainly due to the cost. My concern was that of the impact it was having environmentally.

"During a health and safety meeting at the end of 2018, the suggestion of personal drinks bottles was put forward. I highlighted that to go along this route would benefit both our environment and reduce cost to CB&PS. Over the next few months, a variety of bottles were sourced and tested out. On 20 March 2019, 500 one-litre aluminium bottles were procured and issued out to staff. In total to date (19 November 2020), 900 bottles have been procured and issued to staff.

"During this time, there has been a saving of £10,000 to CB&PS. More so, the staff themselves feel happy that they have helped in tacking a part of our eco problem which is, plastic pollution. In addition to this, other sections within the local authority have followed this up by adopting the same practice."

Travel

Introduction

This chapter explores why sustainable travel is an important issue for trade unionists and looks at what action can be taken in the workplace.

What is sustainable travel?

Sustainable travel benefits, or does the least harm to our environment, prosperity, health, levels of equality, social cohesion and culture.

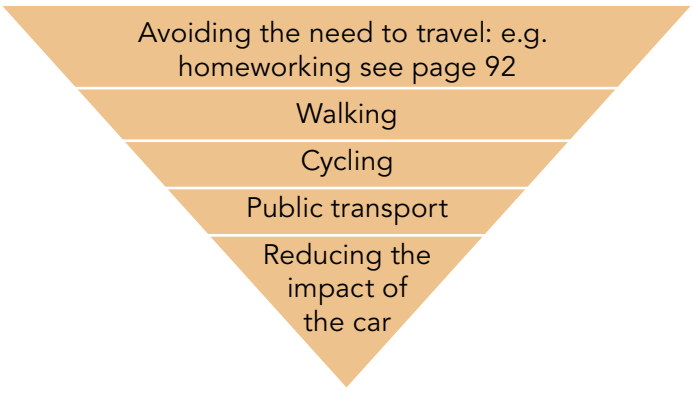
There is a widely accepted hierarchy of sustainable travel with the most sustainable modes at the top and the least sustainable at the bottom.

The sustainable travel hierarchy

The element at the top of the hierarchy, avoiding travel, has increased significantly as a result of the major changes wrought in our society, particularly in the world of work, by the Covid-19 pandemic.

At the 2021 Census, 31.5 per cent of the workforce in England and 25.6 per cent of the Welsh workforce worked mainly from home,[139] compared with 5.4 per cent and 5.3 per cent at the 2011 Census.[140] (For a wider discussion of the issues homeworking poses for trade unionists, see *page 92*). London had the highest proportion of homeworkers, over 40 per cent.

Across the workforce, driving a car remains the most common way of getting to work, at 44.5 per cent of workers in England. This proportion is sharply higher for rural areas as compared with urban ones (eg only 20 per cent of workers in London drove to work).



Note that these figures may overestimate both homeworking and car use, because the census took place during a period of Covid-19 pandemic restrictions.

The car dominates our transport system and will continue to do so. For many of our members it is an essential tool for their daily lives. Moving to a more sustainable travel system does not mean getting rid of the car but trying to mitigate some of the damage caused by our over reliance on this one mode of transport. This guide is about how to enable members to have the ability to choose other, more sustainable modes.

What are the key issues when considering the sustainability of travel?

Climate change

Transport accounts for about a quarter of the UK's greenhouse gas emissions. Over half of this is from cars, with another 35 per cent from vans and lorries.[141]

Health

Trade unionists have long known that health owes much to the environment we live and work in. Trade unionists led the fight for clean air in the workplace. However, the quality of the air we breathe outside the workplace, in our towns

and cities is a growing cause for concern.

Air pollution causes an estimated 28,000—36,000 premature deaths a year across the UK. Dealing with air pollution related health issues costs the NHS £1.6bn annually.[142]

The primary source of both NO_2, and particulate matter pollutants is vehicle emissions, especially those from diesel powered vehicles. Tyres and brakes, too, produce harmful particles. Helping to reduce the number of car journeys will therefore have a positive impact on your members' health.

Driving can be a factor in physical inactivity, contributing to other individual health issues.[143] Supporting your members to increase active travel for short journeys or a combination of active travel and public transport for longer journeys can provide significant health benefits, both physical and mental.

Equalities

The car's domination of our transport system over the past seven decades has resulted in our communities being designed around the assumption that services and employment will be accessed by car. Yet over a fifth of households in England, often families on low incomes, don't have access to a car. Many young people find affording a car particularly difficult because of the high cost of insurance. Women are also less likely to hold a full driving licence than men. Given how many workplaces can only be accessed by car, this can make starting or restarting a career even more problematic.

The negative impacts of high levels of car use have a greater impact on less well-off people, even though poorer people are less likely to own a car. Statistics show that poorer people are far more likely to be injured in collisions with cars: "Children in more deprived wards are four times more likely to be hit by a car compared with the least deprived wards".[144]

The air quality problems caused by road traffic also tend to be worse in poorer areas:

"On the one hand, people in the least deprived communities are more likely to have a car than those in the most deprived areas. On the other, the impact of pollution (particularly NO_2) is felt more in deprived areas, which tend to be located closer to main highways, have a higher proportion of 'imported' traffic (from less deprived areas), and have a higher proportion of people with chronic illness which makes them more vulnerable to air pollution exposure". [145]

High levels of car ownership are also a key factor in the decline of bus services; services which are disproportionately important to less well-off people.[146]

People with disabilities will often find travel to work challenging. It is vitally important that the needs of current and future workers with disabilities are fully taken into account when designing travel facilities.

TRAVEL PLANS BARGAINING CHECKLIST

- ✓ Do your research (see 'Sources of further information' on page 126) to make sure you're not outmanoeuvred and can take the initiative on negotiations if necessary.
- ✓ Raise awareness among members about the more beneficial kinds of staff travel plan packages that can be achieved and the reasons why reducing car use is important.
- ✓ Where there is a proposed change to one aspect of travel-related terms and conditions (for example, car parking fees), this is an opportunity to argue for a coherent, well-developed travel plan, rather than piecemeal measures introduced under the guise of green policy.
- ✓ Where employers are initiating a travel plan, seek to be closely involved throughout its development.
- ✓ Make sure you get clear agreement on terms of reference at the start of travel plan negotiations, which assure staff that the aim is to produce a travel plan with benefits to workers as well as to employers and the environment.
- ✓ Ensure equality impacts are considered. Consideration should be given to different protected characteristics alongside other equality and fairness considerations (eg impacts on lower-paid workers and people with caring responsibilities). Adjustments should be made where necessary.
- ✓ Ensure employers understand that if they want to have a real impact on car use, the most effective measures will include financial incentives.
- ✓ Make sure you get to see anonymous data resulting from management's staff travel surveys.
- ✓ Remember that this is a great opportunity to raise the union's profile.

Prosperity

Our economy depends on the free flow of goods, but our roads are often clogged up by single occupancy cars. Congestion is estimated to cost the UK economy around £8bn annually.[147]

The employer's agenda

Many employers, particularly in the public sector, are under pressure to take a more sustainable approach to travel. To ensure that union negotiators are on the front foot in any discussions with management about a transition to greener travel, it is essential that members have a clear understanding of all the issues involved and the best options for them and their workplace.

Taking action

The type of actions that can be taken will be dependent on the location and individual circumstances of each workplace. Workplaces in rural areas may have little public transport and, with workers often travelling longer distances, active travel may be a less attractive option. However, even in those situations there may be members who do live close enough to the workplace to walk or cycle.

Electric bikes, which are becoming increasingly popular and affordable, make cycling longer distances much easier and can even 'flatten out' hills. There may also be public transport options or even car sharing. At the very least, consideration should be given to providing charging facilities for electric cars.

It is also important to remember that even small changes can be helpful. Cycling or walking instead of driving just once or twice a week will still bring health and environmental benefits.

Where employers rely on workers to carry out work tasks by travelling in their own vehicle ('grey fleet'), eg in care work and healthcare, it is worth considering whether replacing this practice with a zero-emission fleet provided by the employer would be beneficial for workers as well as for carbon emissions.

KEY DATES FOR SUSTAINABLE TRAVEL

Linking in with national events, when the media will be talking about travel, is a great way to raise the profile of your work. These are some of the most important dates:

Bike Week	Usually in June
Walk to School Week	Usually in May
National Walking Month	Usually May
Cycle to Work Day	Usually in August
World Bicycle Day	3 June
World Car Free Day	22 September

For workplaces where a car or van fleet is essential to carrying out services (eg some deliveries, emergency services, construction and many more), the employer will need to replace high-emitting vehicles with efficient, zero emissions ones. Union engagement in this process will be crucial.

Engagement is key

Use the model travel survey (see section 4) to find out how your members currently travel and what needs to change for them to be prepared to try an alternative mode. Encourage discussion about the issues in this guide and how they affect your members and their families. It will be much easier to make a case to management if you have a good understanding of your members views and know the types of changes they will support.

If you are successful in making changes let your members know about them. Make sure that any new facilities for sustainable travel such as bike stands, showers and lockers are prominently advertised so that people are encouraged to use them.

Try to have information on sustainable travel to work included in induction materials and welcome packs. It is often easier to change people's mode of travel when the journey itself changes, such as when starting at a new workplace.

Workplace travel plans

The workplace travel plan should incorporate all the measures being put in place to encourage more sustainable travel choices. Successful travel plans need wide support to succeed. They need to be seen to be fair, be backed by concrete support for change from the company, and be clearly communicated, including listening and responding to concerns.

A useful guide on how to write a travel plan is available on

the *TravelKnowHow Scotland website.*[148] The first step should be setting up a working party or steering group to make sure the travel plan gets the right input and support across the organisation. This could be a joint environment committee or a standalone committee, but either way it would need to involve the facilities manager, personnel manager, union rep, fleet manager, communications manager and managers of any departments whose work generates business mileage.

Gathering the right data is vital to support this, such as:

- site audit
- staff discussion group
- local transport information
- relevant resources, such as car sharing databases
- staff travel survey
- business travel data
- mapping where staff live.

Promoting and enabling walking and cycling to work

Walking and cycling produce zero climate-changing emissions and are the least expensive way to get to work. They also provide significant health benefits, building regular exercise into people's daily routines. See the *Cycling UK website* for the health benefits of cycling and the *Living Streets website* for walking.

Listed below are some of the practical steps that can be taken to make walking and cycling a more attractive option.

Raising awareness

Many members will be unaware of the most convenient walking and cycling routes between their workplace and home or public transport stops. Similarly, people accustomed to travelling by car may not be aware of how little time it can take to walk to local destinations. Many local authorities produce walking and cycling maps that can be pinned on noticeboards. Simple notices giving walking and cycling times from the workplace to key destinations can be very effective.

Infrastructure

People's readiness to walk and particularly cycle will be greatly influenced by the availability of safe routes. Having to share road space with heavy, fast-moving traffic is a major disincentive. Wales' Active Travel Act requires local authorities to develop plans for networks of safe and convenient walking and cycling routes. These plans, known as Active Travel Network Maps, have to be updated every three years and should map routes to most workplaces, at least in urban areas. Contact your local council for more information on how you can have your say on the Active Travel Network Map.

Cycle parking

One of the most important considerations for people thinking about cycling to work is the availability of secure, weatherproof parking for their bike. Ideally, a bike pump and some basic tools should also be available for loan in the cycle storage area. It is worth remembering that six bikes can be parked in the space taken by one car.

Changing facilities

People will find it easier to make longer journeys by bike if there are changing facilities and, ideally, showers available at the workplace. Cyclists and walkers will also appreciate somewhere to store their wet weather clothing.

Help to buy a bike

To make the purchase of a bike and accessories more affordable, employers can give staff access to the UK government's Cycle to Work scheme. This is a salary sacrifice scheme that allows employees to make savings of 31–41 per cent on the purchase of a bike and equipment such as locks and helmets. Companies may administer the scheme themselves or use an external specialist company, such as *Cycle Scheme*, *Evans Cycles* or *Halfords*.

Training

Many people who would like to start cycling lack confidence, particularly if the journey to work involves using busy roads. British Cycling has *a series of videos* to help people negotiate their cycle ride to work. Some authorities, for example Transport for London offers cycle training for adults; contact your local authority for more information. There is also a network of centres

that specialise in providing cycle training for people with a disability, such as *Bikeability*.

Bicycle user groups

This can be simply a group of people in a workplace who have an interest in cycling and want to help encourage others to give it a try. This type of peer support can be very effective in convincing new staff take up the activity. All the group will require from the employer is a space to meet and a noticeboard where they can advertise their activities. More ambitious BUGs may:

- recommend traffic-free or quiet routes to and from work
- provide tips on repairs and maintenance
- help novice cyclists by acting as bike buddies on their journey to and from work
- order and supply leaflets/ maps etc
- meet with management to talk about cycling
- organise rides, events, presentations etc

Workplace walking groups

These could be established on a similar basis to the bicycle user groups.

Walking champions

Living Streets' *Walking Works programme* provides training for walking champions in the workplace who encourage and inform colleagues on how to walk to work.

Accreditation: To give organisations a goal to aim for, Cycling UK has created a *cycle friendly employer accreditation scheme.*[149] The process starts with a self-evaluation using the free online tool. Cycling UK would welcome enquiries from TU reps who are interested in finding out more about the scheme before engaging with the employer. There is also a *useful short guide* to overcoming some of the barriers to cycling to work on the Cycling UK website .[150]

Combining with public transport

Linking active travel with public transport can make it an even more effective alternative to car journeys. You cannot take non-folding bikes on buses in Wales nor on many rush-hour trains. However, you can usually take folding bikes. Another alternative is to have a second bike, preferably an older, not very valuable bike, locked to a bike rack in the station; using it just for the journey from the station to work and back.

Promoting and enabling public transport

Journeys by public transport produce significantly lower carbon emissions than single occupancy cars. This difference will increase as electric buses replace diesel ones. Public transport users also benefit from the physical activity needed to walk or cycle to and from the bus stop or train station. The costs of public transport costs can compare well with commuting by car. Many trade unions have negotiated with employers to secure fare subsidies along with salary advances for the purchase of season tickets.

Buses

Buses are the UK's most often used form of public transport.[151] But the services have been in long-term decline. The number of local bus service routes in Great Britain has almost halved since 2011.[152] Trade unions, alongside local authorities, community groups and environmental organisations, have campaigned to expand the bus service network and enable public ownership of the network.[153]

If there isn't a convenient local bus route to your workplace but you believe you can demonstrate demand for one, it may be worth contacting your local council who are responsible for keeping routes under review.

Trains

If travel by train is relevant for your workplace, it is worth exploring employer-funded schemes that support commuting by train. These could take the form of:

- providing or reimbursing season tickets
- offering loans to employees to buy season tickets
- making a contribution toward the cost of commuting by public transport.

Additionally, train companies offer commuter benefit packages from time to time.

Check with the train operator where you are.

But for many, trains are unavailable or unaffordable. Trade unions are campaigning for a better rail network. Since the Beeching cuts in the 1960s, many areas of the country have lost train connectivity, and privatisation of rail services has resulted in unaffordable prices and ongoing service issues, as well as underinvestment in the physical rail network infrastructure. The climate transition is an opportunity and an impetus to upgrade and expand the network, and trade unions believe this should be done in the public sector.

Reducing the impact of car use

There are ways of mitigating the negative environmental impact of the car without moving to a different mode. Electric-powered cars give rise to significantly fewer emissions than petrol or diesel versions and have less of an impact on air quality. There are various government schemes to promote electric vehicles in preparation for the ban on the sale of new petrol and diesel cars planned for 2035. The UK government's EV chargepoint grant provides funding of up to 75 per cent toward the cost of installing electric vehicle smart chargepoints at domestic properties.[154]

There is also support for installing electric vehicle charge points in workplaces through the workplace charging scheme. More information here. However, electric cars do no nothing for congestion problems and have none of the health benefits of active travel. Even with government grants they are also more expensive than conventional cars putting them beyond the reach of many members.

There are also ethical concerns about the supply chain for electric vehicles which need to be addressed. International trade unions and the ILO have raised concerns over workers' and human rights abuses in the mining of materials for batteries.

Another way of reducing carbon and congestion is to cut the number of cars travelling to the workplace by lift sharing. More information on how this can work can be found on the shared transport organisation *CoMoUK's website*.[155] CoMoUK also has information on using car clubs and car hire that can reduce pressure on parking facilities.

Car use

Unions report that the most contentious elements of travel plans are normally where employers have large uncontrolled car parking that staff use. The criteria for access to car parking should be based on job requirements and transport needs — not seniority. Employers should provide an appeals process for individuals who believe they are particularly disadvantaged by any scheme of car parking charges and restrictions.

Workers issued with permits might include people who:

- have a mobility problem
- need to use a car in the course of their work (but consider whether a car-pool could be an alternative)
- are car sharing
- work out of hours
- have no realistic alternative, eg no bus route and too far to walk
- have responsibilities as carers (eg dropping off children) that cannot be met using available public transport.

Charges can be made more acceptable by:

- making it clear that parking revenue will be used to pay for improving other travel options
- setting parking fees on a sliding scale so that higher earners pay more
- offering a travel allowance or redeemable vouchers; staff can then choose whether to spend the allowance on parking or save money by using other forms of transport
- offering staff a compensatory one-off income adjustment at the introduction of charges.

Workers should expect, and be offered, a combination of financial, and other incentives to use alternatives to sole car use BEFORE they are presented with additional costs such as parking fees.

Travel for work

Travel may also be an essential part of a worker's job. In this case there are many things that can be done to reduce the environmental impact.

- Consider whether face to face meetings could be replaced by video conferencing, avoiding the need to travel.
- Promote the use of public transport, cycling and walking where this is an option.
- Cycle mileage. Staff who use their own bikes for work purposes, to travel to external meetings or to other office locations, can be allowed to claim a mileage allowance. HMRC permit 20p a mile business mileage for bikes. As well as encouraging cycling, this will be a considerable saving for the employer when compared with the mileage paid for using a car.
- Pooled bikes. When staff frequently make short journeys for work purposes, consideration should be given to establishing a pool of bikes that staff can book out.
- *Switch fleets to greener vehicles*, for example smaller, electric or where charging infrastructure coverage is poor, hybrid vehicles.
- Expand zero-emission fleets or carpools to cover workers who need them but previously didn't have access or had to use their own car.
- Give training to drivers on 'greener' driving techniques.
- Make sure any essential car user allowance rewards energy efficient cars.
- Promote the use of train travel rather than flying for short-haul business trips.

CASE STUDY
CARDIFF UNIVERSITY

Paul Rock has been the UCU environmental representative at Cardiff University for seven years. One of his first actions when he took on the role was to conduct a survey of members. This gave him the data he needed to demonstrate the type of changes his members would support, significantly strengthening his bargaining position.

Travel issues made up a significant part of the concerns raised by members and they have been a constant priority for Paul. He has a place on the university's Environmental Management Steering Group and its Climate Emergency Task and Finish Group. He strongly believes in the importance of working with other trade unions and the students' union to secure the best deal for his members.

Thanks to their efforts the university now provides a range of measures supporting greener travel including: free use of Next Bikes (a Cardiff scheme similar to Santander bikes in London); an interest free loan scheme for the purchase of public transport season tickets; and a new cycle to work scheme under which bike purchase is subsidised by the government through the tax system.

Paul is currently campaigning for more secure covered bike parking on university estate and is pushing the university to move to a greater use of trains rather than planes for attending international conferences. One of his thorniest problems is the allocation of limited car parking spaces. He is campaigning for a fairer, needs based points system and for charges to be strictly proportional to income.

CASE STUDY
WELSH GOVERNMENT

Stephen Gray is the PCS environmental representative at Welsh Government's offices in Cathays Park, Cardiff. However, while he holds the job title, he is very clear that he relies on a team of members who help him carry out the work.

Working together, the team has pushed hard to improve facilities for cyclists at Welsh Government. And they've secured some key improvements. Particularly in improved cycle storage, access to the cycle to work subsidised bike purchase scheme and free use of the *Ovo Bike cycle hire scheme.*

Like lots of PCS members, they are keen supporters of the bicycle user group and have worked in partnership with the group and Sustrans to promote cycling to work during Bike Week. They have introduced a weekly monitoring system for cyclists and their monitoring shows a level of cycling to work that is over twice the average for Wales.

The team see their work on sustainable travel as an important way of promoting the union. Their plans for future improvement include securing staff discounts on Cardiff bus fares and more and better changing facilities for cyclists.

The Covid-19 crisis has had a major impact on their workplace with the majority of staff now working from home. While they can see advantages for members in saving time and money on travel, they are concerned that this new style of working could erode working conditions and will be working with colleagues to bring in new safeguards.

Sources of further information

- *CoMoUK* is an organisation that promotes shared transport including lift shares and car and bike sharing.
- *Cycling UK* is a cycling organisation whose website contains lots of useful information on the health and environmental benefits of two wheeled travel.
- *Living Streets* is an organisation that promotes the benefits of walking. It also offers a workplace travel planning service.
- *Bikeability* is a leading cycle training programme in England.
- *Zero Emissions Fleets: local authority toolkit* provides government guidance for local authorities.
- *Guide to car clubs* for organisations.

Water

Introduction

The average water used per person per day is 143 litres in England and Wales. Water is becoming an increasingly expensive resource with mains, sewerage and trade effluent charges rising. Dŵr Cymru/ Welsh Water has produced a *business guide to support water efficiency.*

Companies that adopt a systematic approach to water reduction typically achieve a 20–50 per cent decrease in the amount of water they use. By using less water, companies save money on both.

What are the issues?

Water and consumption

The key to water efficiency is reducing waste and reducing use. Reducing wastage of water needn't be difficult or expensive — many water-saving ideas involve nothing more than a small change of habits. Fixing a small thing can have a surprising impact — a tap dripping twice a second would waste 10,000 litres over the course of a year. Water supplies cost money in water, wastewater and fuel bills.

Water and energy

The storage, heating and use of water is energy intensive. The amount of energy attributable to the water collection, treatment and supply services is considerable. Heating and cooling of water on site is also an energy cost.[156]

Water and pollution

The principal pollutants of water courses are solvents, pesticides, and oil. It is vital that water use at work does not lead to pollution incidents. *Natural Resources Wales* is responsible for water management and quality in Wales.

Water and climate change

Operational emissions from the water industry account for nearly 1 per cent of the UK's total carbon emissions. In 2017, it was 791,200 metric tons of CO_2 equivalent. This is because water treatment is energy and chemical intensive and transporting water around the country requires a great deal of pumping. Reducing water use will therefore have an impact on carbon footprint emissions.[157]

Tap water or water cooler?

The code of practice states that drinking water should normally be provided from the mains supply. Unfortunately, some water cooler machines have been found to contain harmful bacteria including E.Coli. And contamination is difficult to eradicate if it gets into vending machines.

The large bottles used in water coolers, weighing nearly 20kg,

WATER AND HEALTH AND SAFETY ISSUES

Under the *Workplace (Health, Safety and Welfare) Regulations 1992,* employers have a duty to provide:

- ✓ **Toilets.** Provide suitable and sufficient sanitary conveniences at readily accessible places.
- ✓ **Washing.** Provide suitable and sufficient washing facilities at readily accessible places.
- ✓ **Water.** Provide an adequate supply of wholesome drinking water and cups, readily accessible and conspicuously marked.

can also cause manual handling injuries. Therefore, the best health, safety and environment solution is to provide tap water from the mains. If this is not possible, at least suggest your workplace reduces waste by installing mains-fed water coolers instead. As well as the increased convenience and energy and resource saving of getting rid of the heavy plastic bottles, these usually cost much less to run.

Taking action

Awareness raising

The water company supplying your workplace may have water-saving information leaflets and even posters encouraging people to conserve water. These can be used as part of your awareness-raising campaign in the workplace.

Waterwise runs *Water Saving Week* (usually in May each year), and provides lots of campaign ideas. This could make a good focus for awareness-raising campaigns. And *World Water Day* takes place in March every year, organised by UN-Water, the UN agency. This can be useful for making the link between water waste in your workplace and access to clean water worldwide. You can find out more about international water campaigning on the *End Water Poverty.*

UN figures show that humanity is over-exploiting the 0.5 per cent of the world's water that is suitable for use. Over-extraction, pollution and waste are *all major issues*, as are ageing water infrastructure and biodiversity loss. And these issues are set to be exacerbated in the near future as population growth and global temperature increase continue.

The links between water and the circular economy are obvious, but perhaps under-recognised on a day-to-day basis. *Sustainable Development Goal (SDG) 12, Responsible Production and Consumption,* makes specific reference to the need to significantly reduce water pollution and to accelerate the application of reduction, recycling and reuse processes across natural resources — water included — by 2030.

You can find out more about *international water campaigning here.*

A QUICK WATER SAVING CHECKLIST

Dŵr Cymru/Welsh Water provides the following guidance:

- ✓ Check your bills for unusually high use.
- ✓ Check the reading on your bill is similar to the reading on your meter.
- ✓ Take regular water meter readings to help understand your water consumption and identify any potential leaks.
- ✓ Check for underground pipe leaks and leaks from internal plumbing, outdoor taps, sprinklers and hoses.
- ✓ Fix leaking taps and overflows. Check remotely located buildings and pipe work so that leaks don't go unnoticed.
- ✓ Check that all water using devices, such as toilets, urinals and ball valves are working correctly.
- ✓ Constant flushing of urinals and dripping taps can increase water consumption.
- ✓ Use pipe insulation so that your pipes aren't at risk of freezing and splitting in cold weather.
- ✓ Reduce water for toilet flushing:
  - — Reduce the amount of water used for each toilet flush by inserting displacement devices in the cistern.
  - — Where dual-flush cisterns are installed, place a clearly visible notice to explain how to operate both flushes to prevent incorrect operation and wastage.
  - — New toilets may have overflows or leaks that discharge directly into the pan which may not be noticed or reported. Identify toilets with internal overflows and regularly check for discharge.

Other areas for action

Grounds

- Thousands of litres of water can be wasted every day on grounds maintenance. Hosepipes and sprinklers use more water in one hour than a family of four use in a day.
- High pressure spray jetters can use less water than conventional hoses as they use pressure instead of a large volume of water.
- Consider collecting rainwater in a tank or butt and using it for watering plants and shrubs.

Cleaning

- When washing vehicles or equipment consider recycling the water.
- Look for opportunities to reduce or prioritise window cleaning activities.
- Buy water efficient equipment.
- Specify low water consumption requirements for any new appliances, fittings or processes.
- High-pressure jet sprays can use less water than conventional hoses as they use pressure instead of a large volume of water to clean.
- Review water usage once a year and produce plans to reduce consumption
- Educate all staff on water efficiency initiatives and get support from management.
- Look at how to incorporate initiatives into your wider environmental policy.

Source: *Welsh Water*

LEAKY LOOS?

Waterwise has recently highlighted the problem of leaking toilets. It says a leaking toilet wastes between 215 and 400 litres of clean drinking water on average every day.

Between five and eight per cent of toilets are leaking, mostly dual flush toilets. And around 400 million litres of water is currently estimated to leak from UK toilets every day. This is enough water to supply 2.8 million people — the populations of Edinburgh, Cardiff, Belfast, Manchester, Sheffield, Liverpool and Bristol combined. This figure will increase without action.

Dual flush toilets are prone to leaks because the drop valve, which opens for a flush, sits underwater at the bottom of the cistern. Debris — such as grit, porcelain or calcium — can catch in the valve causing leaks. These can then run constantly.

A leak can be silent but there may be a small ripple at the back of the bowl. Leak strips can be placed in a toilet bowl or food colouring can be put in the cistern between flushes to see whether it shows up in the toilet pan. Water companies can help with advice on how to identify leaks.

Sources of further information

- *Waterwise*
- *Discover Water* — information on water company performance
- *End Water Poverty*
- *edie.net* — how businesses are enhancing water stewardship using circular economy principles
- *Donate to WaterAid UK today* - the UK's dedicated water charity

Companies that adopt a systematic approach to water reduction typically achieve a 20–50 per cent decrease in the amount of water they use.

NEGOTIATING FOR CHANGE: WATER MANAGEMENT CHECKLIST

Policy and organisation

- ✓ Is water management included in your organisation's environment policy?
- ✓ Is there at least one designated member of staff responsible for water management?
- ✓ Do you know who your water supplier is?

Measuring and monitoring

- ✓ Are water meters installed covering all water usage?
- ✓ Are readings taken regularly to check patterns of usage and ensure that the water company figures are correct?
- ✓ Does the meter register no usage during factory/office closure (if not, it could be an indication of a leak)?
- ✓ Is the amount of water used measured?
- ✓ Are there targets for reducing the amount of water used?
- ✓ Is water usage benchmarked with other comparators, eg water use against production output for manufacturing or against staff numbers? (If you are not metered the water company will make an allowance for water used per person per day. For a commercial property with only officers then 50–69 litres per person per day is typical.)

Drinking water

- ✓ Do all staff have access to clean drinking water?
- ✓ Has the use of bottled water been eliminated?

Leaks

- ✓ Have all leaks been fixed?
- ✓ Do staff know how to report leaks?

Washing facilities

- ✓ Are percussion taps (that turn off after a set period) used?
- ✓ Are spray inserts in well-used taps (that reduce the amount of water used without sacrificing water efficiency) used?
- ✓ Are water and energy efficient washing machines and dishwashers with an 'A' rating used?
- ✓ Are extended trigger handles for taps (ideal for kitchens as they reduce water used during food preparation and cleaning) fitted to tap points?

Toilet facilities

- ✓ Are water savers like 'hippos' fitted to reduce the amount of water used each time it is flushed?
- ✓ Are dual flush toilets regularly checked for leaks?

Pipe work

- ✓ Are water pipes well insulated to protect against frost damage?

Alternative sources of water

- ✓ Do you harvest rainwater? This can be everything from rainwater butts through tot comprehensive roof collection measures.
- ✓ Do you reuse 'greywater' water from sinks, showers etc?

Staff awareness

- ✓ Are staff fully aware of the importance of water minimisation?
- ✓ Are employees trained in how to use water efficiently?

CASE STUDY

A PINT DOESN'T HAVE TO COST THE EARTH

Unite reps at a major brewery near Magor developed a pioneering greener workplace project. Back in 2008, the union was instrumental in setting up an initiative that saw the workforce taking the lead in energy saving. It led the way as one of Wales first union-led green initiatives.

The result was *Project JUPITER (Join Us People in Tackling Energy Reduction)*. After an initial £1.4m company investment in the ideas and initiatives put forward by the workforce, the firm recouped its outlay in less than 18 months.

Unite set up a team of energy guardians and convened a meeting to look at what energy savings could be made and how they could achieve them. They came up with a set of long- and short-term goals.

Energy guardians represented all departments at Magor and met monthly. They monitored improvements and examined the work process, looking at possible ways to cut such things as water and energy use. All of this was done with the involvement of the entire workforce, with energy guardians taking forward ideas that come up in their department. This developed into an energy saving mindset among the employees, with the knock-on effect of workers taking the message, and money saving ideas, home.

Thanks to the success of the project, the company saw:

- water usage drop 46 per cent
- electricity usage fall 49 per cent
- heating bills cut by 23 per cent.

In the first two years, the firm saved more than £2m in bills. This was achieved through a mix of quick wins and a rolling programme of installing energy efficient equipment.

4

SECTION 4

TOOLS AND RESOURCES

TOOLS AND RESOURCES

Example greener workplaces survey

We are looking at ways to improve the impact that [employer/site] has on the climate and environment. We need YOUR views to help us! Please take a few minutes to complete this survey and return it to [rep name] by [insert date].

All answers will be treated as confidential — a summary of results will be published but individuals will not be identified [insert link to your union's GDPR privacy notice and appropriate consents]. Many thanks for your time.

[Note — some employers and unions may have online survey software that can help, if so, add "If you are able to complete this survey online at [insert web address] it will help us respond to the results more quickly."]

Name (this is optional)

Department

Email address: (this is optional)

1. How good do you think [organisation/site] is at reducing or minimising its negative environmental impact?

☐ Very ☐ Quite ☐ Average ☐ Not very ☐ Don't know

2. How good do you think your department is at reducing or minimising its negative environmental impact?

☐ Very ☐ Quite ☐ Average ☐ Not very ☐ Don't know

3. How good do you think YOU are at reducing or minimising your negative environmental impact at work?

☐ Very ☐ Quite ☐ Average ☐ Not very ☐ Don't know

4. Do you think any of the following have improved their environmental performance over the past year?

[add text box]

[organisation name]

☐ Yes ☐ No ☐ Don't know

My department

☐ Yes ☐ No ☐ Don't know

Me (at work)

☐ Yes ☐ No ☐ Don't know

5. Are you a trade union member?

☐ Yes ☐ No

6. If yes, how good do think the union is at tackling environmental issues at work?

☐ Very ☐ Quite ☐ Average ☐ Not very ☐ Don't know

7. Are you aware of [insert organisation name]'s climate and environmental policies?

☐ Yes ☐ No

8. What's ONE thing you think you could do (or be helped to do) at work to reduce your energy use?

[add text box]

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9. What's ONE thing you think [insert employer/site] could do to be more effective on climate and environment?

[add text box]

10. What's ONE thing you think the union could do at work to be more effective on climate change and environmental issues?

[add text box]

11. Lastly, would you be interested in becoming more involved in making [employer/site] a greener place to work — for example, by attending an on-site training workshop or helping us develop plans to make work greener?

☐ Yes ☐ No ☐ Maybe

Transport review survey

How to use the survey

The main purpose of the survey is to allow you to understand how your members travel and the barriers they face in making more sustainable choices before you start making a case to management. For example, if a significant number of members say that the main barrier that stops them cycling to work is the lack of secure bike storage, then you have a clear action point you can take to management to seek practical changes; you will have evidence of demand to back it up. This could then be the opening gambit in your negotiations for a staff travel plan. You may also be able to identify equalities issues if the survey shows that something is a particular barrier to, for example, female members.

The survey is to be used solely to compile an overall picture; the data should not be used to identify individuals. If you have very few members, you may wish to leave out some or all of the questions on age, disability and sex/gender, in order to avoid accidentally identifying individual members.

If you do want to obtain individual travel profiles that could then be used to produce tailored travel options for members, for example mapping out door to door routes by public transport or bike, then you would need to ensure the data is dealt with according to GDPR (speak to your union for advice). In practice, this means it would best be carried out in partnership with the employer, with the employer taking responsibility for data security.

Model survey

1. How do you normally travel to and from work? (please tick appropriate box)

☐ Walking ☐ Bike ☐ Public transport ☐ Own car ☐ Company car ☐ Colleague's car

2. How far away from work do you live (in miles)?
☐ 1 ☐ 2–5 ☐ 5–10 ☐ 10+

3. How long does your journey to work normally take? ☐

4. How much do you estimate you spend on travelling to work each month? ☐

5. If you normally travel to work by car, what are the barriers that stop you travelling to work…

On foot
☐

By bike
☐

By public transport
☐

6. Is there anything that the organisation could do to make it easier to use a method of transport other than a car?
☐

7. Do you have to travel as part of your working day?
☐

8. How do you make these journeys? (please tick appropriate box)

☐ Walking ☐ Bike ☐ Public transport ☐ Own car ☐ Company car ☐ Colleague's car

9. If you answered car, what are the barriers that stop you travelling in your working day…

On foot

By bike

By public transport

10. Is there anything that the organisation could do to make it easier to use a method of transport other than a car?

11. Do you have any other suggestions for ways of reducing our carbon emissions through transport?

12. It will help us to understand how different groups or people are affected by travel issues if you can provide some more details about yourself. Please note that the information will remain anonymous and none of the details you provide will be sued to identify you.

Disability

Do you define yourself as disabled? ☐ Yes ☐ No

Gender identity

Is your gender identity the same as the sex you were assigned at birth? ☐ Yes ☐ No ☐ Maybe

Gender

Which one of the following best describes your gender?

☐ Male ☐ Female ☐ Non-binary ☐ Prefer not to say

If you describe your gender with another term, please provide this here:

Age

What is your age?

☐ Under 17 years old

☐ 18–24 years old

☐ 25–34 years old

☐ 35–44 years old

☐ 45–54 years old

☐ 55–64 years old

☐ Over 65 years old

Thank you for completing this survey. Please return it to: [address]

Quick checklists

Environment policies

- ✓ Find out whether the union was consulted on the environment policy. Check the review date and identify areas where it could be improved using the checklist below. Does it:
- ✓ State how as well as what should be done? Reference responsibilities within the management structure including board member responsibilities?
- ✓ Contain targets that conform to SMART principles (specific, measurable, achievable, relevant and time-bound)?
- ✓ Have a review date?
- ✓ Reference a trade union role and recognition of environment reps?
- ✓ Cross reference more specific environmental policies?
- ✓ Be accessible and communicated?
- ✓ Reference ethical and corporate social responsibility principles?
- ✓ Include training and information for staff?
- ✓ Have a sign off and dated by the most senior individual in the organisation?
- ✓ Identify the roles and structures of committees?

Monitoring the policies

- ✓ Is the institution signed up to an environmental management system (EMS)? If so, obtain copies of relevant performance reports.
- ✓ Are you consulted during the audit process?

Inspections

- ✓ Find out if there is an established inspection system within the organisation and obtain copies of relevant documents.
- ✓ Draw up a checklist based on the subjects and areas you intend to cover.
- ✓ Carry out an inspection starting with one of your priority issues.

Adaptation and risk assessments

- ✓ Find out if your institution has carried out a climate change risk assessment. This may be general or specific to types of extreme weather events.
- ✓ Liaise with the union safety rep to review existing policy and whether there are suitable and sufficient adaptation measures in place.

Air quality

- ✓ Contact your employer to find out if any air quality measurements have been carried out.
- ✓ Liaise with the safety rep to discuss a joint approach if you think staff and students are at risk.

Biodiversity

- ✓ Find out if your institution has carried out biodiversity footprinting.
- ✓ Get a discussion going with colleagues on the type of things that could enhance the biodiversity of the workplace.

Construction and refurbishment

- ✓ Have buildings on your sites received a BREEAM assessment?
- ✓ Are there any new build or major refurbishment projects scheduled?

Energy management

- ✓ Inspect the Display Energy Certificate (DEC) for each building. This will give you an idea of the performance standard rated from A (very efficient) — G (least efficient).
- ✓ Check whether your institution is registered with the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme.

- ✓ Use the indicators in this section to obtain data Use the checklist and action guide in the Carbon Trust guidance (Pages 33-35) to identify potential follow-up activity.

Finance and investment

- ✓ Does the organisation have a publicly available ethical investment policy that includes environmental and social dimensions (eg just transition)?
- ✓ Is the policy reported on annually?
- ✓ Are there opportunities for staff and other stakeholders to engage?

Food policy

- ✓ Does your institution have a publicly available sustainable food policy which sets time-bound targets for improvements?
- ✓ Check the People & Planet Green League for ideas on improvements such as local sourcing of food http://peopleandplanet.org/greenleague/methodology/sustainable-food

Procurement and supply chain

- ✓ Check whether you have a sustainable and ethical procurement policy or any reference in your strategic policy document

Transport

- ✓ Find out what is being done to promote green transport
- ✓ Does your employer have a Green Travel Plan that was agreed with the trade unions?
- ✓ Are any of the travel policy measures in this section being implemented
- ✓ Are these measures fair and transparent?

Resource efficiency/waste management

- ✓ Find out who has responsibility for resource efficiency/waste management.
- ✓ Has it been quantified? Use the indicators in this section.
- ✓ What is the cost of waste disposal for your institution?
- ✓ Is there a target for waste reduction?

Water

- ✓ Find out the annual water usage and how it is metered.
- ✓ Contact management to find out how many of the reduction measures in this section are in place.

Model green claim

This model claim can be inserted into other more general claims or used as a standalone claim. Certain sections — as indicated by {} brackets — will not be relevant for all workplaces. You may wish to add further definitions or change the wording of certain clauses to suit local conditions.

Header

[Organisation] shall commit to working with [union] in developing plans to address the climate and environmental emergency, to safeguard [organisation]'s workers and operations from the risks of transition to new ways of working, and to decarbonise [organisation]'s processes.

Parties

This agreement is made between:
[Organisation] [Address]

And:
[Union] [Address]

Definition of terms

Carbon negative	The state where an organisation is emitting (or causing to be emitted) an amount of greenhouse gases which is the less than is being absorbed by natural processes or natural and artificial process combined.
Nezero	The state where an organisation is emitting (or causing to be emitted) an amount of greenhouse gases which is the same as is being absorbed by natural processes.
Scope 1 emissions	Greenhouse gas emissions caused directly by the activities of an organisation, eg emissions from on-site gas boilers
Scope 2 emissions	Greenhouse, eg gas emissions caused indirectly by the activities of an organisation, eg emissions from the generation of energy that the organisation buys in.
Scope 3 emissions	Greenhouse gas emissions caused by all other processes associated with the activities of the organisation, eg emissions from business travel, worker commutes, waste disposal, the production of purchased goods and services, transportation, etc

Transition plan	Any plan, strategy, policy, or procedural outline which [organisation] puts forward seeking to change how [organisation] operates, fully or partly, in order to reduce its negative environmental impact, to adapt to climate change, or to adapt to economic circumstances caused by climate change, the necessity to decarbonise, or market reactions to any of the above.
Workers	All employees of [organisation], singly and jointly.

Commencement

This agreement shall commence on [date].

Items

[Organisation] and [union] agree the following:

Principles

5.1 Our climate is changing as a result of human activity

5.2 All organisations have sincere obligations in addition to those set out in law to reduce as far as possible their damaging impact on the environment by reducing their greenhouse gas emissions, reducing pollution caused by their activities, and protecting nature from the results of their activities

5.3 [Organisation] intends to reduce as far as possible its negative environmental impact and to increase as far as possible its positive environmental impact {,with an aim to be net zero by [date/a point in the future] and carbon negative by [date/a future date]}

5.4 {[Organisation] shall make a commitment to publicly declaring a climate and nature emergency [within XXXX months/years]}

Transition plans

5.5 [Organisation] shall make and frequently review a credible and realisable transition plan to reduce its negative environmental impacts

5.6 [Organisation] shall consider at least the following topics when developing its transition plan:
- Reducing greenhouse gas emissions
- Reducing total energy usage
- Use of resources
- Sustainable procurement
- Catering and hospitality arrangements
- Transport and logistics
- Rewilding
- Investments and the pension scheme
- Worker benefits.

5.7 [Organisation] commits to ensure that all transition plans, and their executions, shall prioritise the welfare of [organisation]'s workers

5.8 [Organisation] shall [take action within XXXX months to start to/endeavour to soon start to] accurately measure its Scope 1 emissions, Scope 2 emissions, and Scope 3 emissions and make these data available to [union]

5.9 {[Organisation] shall aspire to be accredited for environmental management via a recognised scheme, such as ISO14001, EEAS, or EMAS}

Training

5.10 [Organisation] shall cultivate a culture of lifelong learning for workers by endeavouring to make training easily available to workers to enable career progression
5.11 [Organisation] shall commit to keeping workers well-trained for their roles as new technologies and procedures are adopted

Consultation and collaboration

5.12 [Organisation] shall commit to meaningfully consult with [union] before agreeing or adopting any new or revised transition plan
5.13 [Organisation] and [union] commit to work constructively with each other in devising, scrutinising, reviewing, and monitoring all climate transition plans
5.14 [Organisation] commits to allowing [union] sufficient access to information, data, meeting minutes, and time to allow [union] to meaningfully scrutinise climate change transition plans

Joint environmental committee

5.15 [Organisation] shall commit to the founding of a joint environmental committee, which shall include management, workers, and representatives from [union] and which shall meet regularly, to engage in constructive dialogue on how to decarbonise [organisation]'s operations}

Facility time

5.16 [Organisation] shall allow [union] to elect a [green/environmental/climate rep/officer] from among its membership and shall recognise the elected party as representative of the views of workers at [organisation]
5.17 [Organisation] shall allow the [green/environmental/climate rep/officer] [xxxx hours/days per day/week/month/year] paid time off during working hours plus additional time as required for ad hoc duties, training, and relevant events ('facility time') to carry out duties that are concerned with any aspect of their elected role, including, but not limited to:
- Scrutinising, analysing, consulting on, and researching [organisation]'s transition plans
- Scrutinising, analysing, consulting on, and researching [organisation]'s other policies, plans, strategies, and procedures to ensure that they are in line with agreed or proposed transition plans and/or in line with [union]'s members' views and concerns
- Canvasing and representing [union]'s members' views or expertise on climate adaption, [organisation]'s policies, transition plans, and similar
- Attending training relevant to their elected role, including credited and unaccredited training made available through [union] and the TUC
- Attending meeting with other elected representatives of [union] and meetings of [union] to discuss and vote on union matters

5.18 [Organisation] shall not unreasonably refuse requests for facility time
5.19 Time off, cover, payment for time off, confidentially, and rights of return for the [green/environmental/climate rep/officer] shall be governed as per the existing [union recognition/facility time arrangements/xxxx] agreement held between [organisation] and [union].

Scope

6.1 This agreement does not supersede or take precedence over any existing negotiating procedures or management arrangements other than those specified

6.2 Any grievance arising out of environmental matters shall be subject to the existing grievance procedures

Signed

On behalf of [organisation]:

Name .....

Role .....

Signature .....

Date .....

On behalf of [union]

Name .....

Role .....

Signature .....

Date .....

Model joint environment and climate change agreement

Joint statement on environment and climate change

The parties to this agreement recognise that climate change and environmental concerns are among the most pressing concerns facing us all. These concerns have risen up the agenda rapidly in recent years. The [organisation] and [unions] are committed to developing a shared approach to addressing climate and environmental issues through this agreement.

[The organisation], as both an employer and [insert organisation's main function/role eg major retailer/manufacturer] commits itself to 'leading by example' among staff and other stakeholders. [The organisation] will comply at all times with relevant environmental legislation and will work to influence the wider environmental agenda with the use of best practice and examples.

[The organisation] notes government policy for the UK to reach 'net zero' emissions by 2050, reduce reliance on carbon-based energy sources, and to promote energy efficiency.

With this in mind, [the organisation] aims to:

- reduce [the organisation]'s carbon and environmental footprint
- work with staff, management and stakeholders on training and awareness raising
- monitor performance against achievable but challenging targets.

[The organisation] aims to be open and receptive to suggestions from staff and other stakeholders on how it can make better use of energy, reduce its environmental and carbon impact and improve its management of these areas and, in doing so, to reduce CO_2 emissions in line with Wales, UK statutory and international obligations. [The organisation] and the recognised trade unions will encourage managers, staff and union green representatives (UGRs) to share responsibility for 'greening' the workplace. As part of this ongoing work and commitment, [the organisation] and unions will support the creation of a Joint Environment Committee (JEC) to engage in constructive dialogue between the employer and the union on how to achieve these goals.

[The organisation] accepts that the necessary changes will not happen all at once but [the organisation] and [the unions] commit to working together on a programme of continuous improvement, backed by regular monitoring of environmental impacts and issues, particularly carbon impacts, which will be reported to the JEC. The proposals formed within this agreement are not an exhaustive list and we will seek to develop this agreement further as our knowledge and experience grows. Such developments will be fed into the production of an annual environmental and carbon action plan (see below).

As part of this strategy, [the organisation] aspires to having all its workplaces accredited for environmental management via (for example) schemes such as ISO14001, EEAS, and EMAS.

{The organisation} makes a commitment to declaring a climate and nature emergency. A strategy for achieving net zero carbon emissions and supporting biodiversity will be agreed with the recognised trades unions. The targets and actions adopted will be influenced and reviewed against just transition principles.

About this agreement

This policy is agreed between the management of [the organisation] and union green representatives at [the organisation]. It covers [all sites/specific

sites/bargaining units as appropriate] and applies to all full- and part-time employees and workers (including agency and temporary workers).

This agreement does not supersede or take precedence over any existing negotiating procedures or staff-management arrangements other than those specified in this agreement unless specified and agreed in full by the joint negotiating committee (JNC) of [the organisation].

The partners to this agreement agree that any individual grievance arising out of environmental matters shall be subject to the existing grievance procedures.

This agreement shall form an appendix to the existing staff handbook.

Joint environment committee — terms of reference

The main responsibilities of the JEC will include reaching agreement on how the following aims can best be achieved:

Environmental impacts

The JEC will consider the environmental impacts of all the organisation's internal operational policies, to identify areas where action is needed to minimise environmental impact, in particular:

- addressing the issues of energy conservation, resource/waste management, and the prevention of pollution
- measuring the total carbon footprint and seeking to reduce wastage, with time-bound targets for continual emissions reductions
- measuring the biodiversity footprint of the organisation and seeking to reduce direct and indirect (supply chain) impacts on biodiversity and take steps to support nature and green spaces
- ensuring that those purchasing equipment, heating, lighting, waste systems and other materials take full account of environmental impacts and particularly energy and resource use and support the introduction of environmentally friendly technology
- ensuring that those using equipment and systems seek to do so in a way that reduces excessive consumption of energy and materials and promotes reuse and recycling wherever possible. More detailed areas of consideration (which could also form part of an action plan) are given below.

Environmental and carbon action plan

The JEC will produce a realistic environmental action plan, which sets goals and targets for environmental improvement within [the organisation], and which forms part of the annual operational plan and includes a specific carbon and biodiversity management element. Where appropriate, the action plan will be developed in conjunction with expertise from local and national organisations including the local authority, NRW, relevant trade bodies, the Carbon Trust, Waterwise, etc, building on existing recommendations where some work has already been undertaken with such organisations.

The JEC will also be invited to comment on any externally facing sustainability action plans and policies that are aimed at other stakeholders (for example, customers).

This action plan will include:

- the business case for change
- clear targets that are understandable, tangible and up-to-date
- a plan for delivery
- a way of prioritising projects, including an assessment of payback times
- responsibilities for delivery; and systems for communicating and monitoring impacts through work with staff, managers and UGRs
- a system for monitoring performance against this action plan.

Employee engagement

The JEC will ensure that all staff are involved in this initiative, by:

- disseminating to staff all information on matters relating to 'greening [the organisation]'

- ensuring all staff are made aware of the environmental agreement and the work of
- the JEC, including through the website, staff inductions and appropriate training courses and awareness-raising events
- feeding recommendations upwards to the senior management team and reporting back on outcomes.

Energy and environment audits

The JEC will carry out joint green audits using checklists within the *Greener workplaces for a just transition guide* or those provided by organisations such as the Carbon Trust. It will incorporate the results of these audits into the environmental and carbon action plan (see above).

The partners agree that any analysis of environmental issues and impacts (for example, audits) will be undertaken with the full cooperation of all partners, and that such analysis will be solely for the purposes of environmental improvement. Any analysis will not be used in relation to other issues such as pay, performance appraisal, disciplinary procedures, etc

The structure of the joint environment committee

The partners agree to ensure that [all departments/sites/regional offices] are represented on the JEC, and that member of the JEC are provided with all relevant information concerning the environmental issues within the workplace and their duties/responsibilities as members of the committee. Although participation by staff will be on a voluntary basis, the unions agree actively to encourage their members to participate fully in all environmental initiatives and opportunities and encourage union reps and other interested members to put themselves forward as UGRs.

[The organisation] will ensure that [a senior management champion, ideally directors responsible for both facilities/energy management and HR] remains on the JEC, in order that the committee is able to take effective decisions. [The organisation] will ensure that such other management-side representatives attend the JEC on a regular or ad-hoc basis as may be required by the partners, including for example IT and contractor representatives.

Where there are environmental concerns regarding policies that form part of the existing staff handbook or other policies negotiated with the JNC (for example, HR policies on working time or homeworking policy, the JEC will work with the JNC to address any concerns.

Similarly, where there are areas of overlap with health and safety policy the JEC will work with the health and safety committee to come to common solutions.

The joint environment committee will meet at least four times a year to carry out the tasks outlined in this agreement, and will annually agree a chair and secretary, to be alternated between the management side and the union side. Standing items at these meetings will include the action plan and quarterly energy usage figures for [the organisation/list of sites as applicable].

Union green reps (UGRs)

[The organisation] recognises that union reps play a key role in encouraging employee engagement in climate and environmental initiatives, and so help develop good practice in areas such as transport, energy and resource use at [the organisation head office and its regional offices], in line with this agreement. They will also assist more broadly in supporting the implementation of [the organisation]'s environmental policies.

UGRs will be allocated reasonable facilities time (not less than [X days per month/X proportion of their working time] plus an additional 10 days of related training per year) to carry out their duties in relation to environmental issues, including attending meetings with management, and with the union, on green issues, consulting

with colleagues, attending training, preparing paperwork and materials.

Environmental issues to be considered

The JEC shall consider what action needs to be taken to address the following areas:

Reducing emissions and energy use

The partners undertake to work together toward:

- putting in place a plan to reduce emissions in line with the Paris Agreement targets
- ensuring purchases meet the latest energy and environmental standards, are sourced from suppliers with good employment and environmental standards, and are easy and safe to use
- ensuring eco-options are enabled and staff are trained on using equipment in an eco-friendly way
- ensuring equipment is regularly serviced, and clearly labelled with energy ratings/the amount of energy it uses/whether it can be turned off
- exploring automatic options like motion sensor lights in low-use areas, and automatic power down of PCs after working hours, which are popular with staff and increasingly widely implemented; they are also often recommended in Carbon Trust expert surveys
- ensuring all lighting is sustainable and energy efficient
- ensuring building management systems (BMSs) are optimised for efficient energy use, for example, in the timing and local and/or thermostatic control of heating and cooling systems
- sourcing of electricity from a green tariff
- where appropriate, on-site renewable alternatives in particular solar water heating and combined heat and power (CHP)
- encouraging energy saving measures in those aspects of the operation that are most energy intensive.

Resource use and purchasing

The partners undertake to work together toward:

- continually seeking ways to minimise the use of resources including energy, equipment and goods such as non-recycled raw materials including paper and packaging, and disposable items, particularly when new systems, practices or locations are introduced
- carrying out regular waste audits and applying the waste hierarchy to reduce waste going to landfill
- developing a long-term plan for reaching 'zero waste' and moving toward a 'circular model' of resource management,
- purchasing supplies from sustainable sources, ie sources that are local where possible, accredited under ISO14001 and preferably EEAS/EMAS
- increasing the purchase of supplies that are reused, reusable, recycled or recyclable (in that order of priority)
- working with suppliers and partner organisations to obtain the lowest environmental impact, eg obtaining life cycle assessments
- considering the toxicity of products and the health impacts on the workers producing them, before purchasing
- consulting with staff before any major purchasing decisions such as changes to layout, equipment or systems which may have resource use implications and could result in wastage if changes need to be re-done or undone
- using outside or community agencies for old or redundant equipment
- implementing low-cost water-saving initiatives and investigating payback times and feasibility of larger-scale water-saving measures such as low-flush toilets.

Food

The partners undertake to work together toward:

- providing catering options that have a lower environmental impact (eg are locally sourced, and not over-packaged or overprocessed — which is very carbon intensive — and where possible are freshly prepared

- ensuring staff have access to facilities that enable them to prepare drinks and snacks in an environmentally friendly way rather than relying on drinks and snacks in disposable packaging (for example, drinking water taps, washing-up facilities for mugs).

Transport

The partners undertake to work together in full consultation with the JNC to design a travel plan that encourages sustainable modes of transport. Such a plan will seek to engage local authority and other local transport providers where appropriate, and will look at options such as:

- a car sharing scheme
- the provision of a low-cost cycling scheme including either a mileage allowance for bicycle-users, a tax-free scheme for the purchase of bicycles for work-related use, or both
- fuel performance of car fleet/essential car user schemes
- encouraging the use of video conferencing and teleconferencing
- discouraging the use of air travel, particularly for short-haul journeys within the UK/Northern Europe
- other integrated transport provisions.

Other

Environmental considerations will be given due regard when decisions are made to move, refurbish or improve access to premises, including all regional and satellite offices. Where [the organisation] is a tenant rather than a building owner, it will work with the landlords to ensure environmental considerations are taken into account.

Consideration will be given to the use of plants both inside and outside the working environment (including 'green roofs') to improve CO_2 absorption, air quality, flood risks, natural shading and cooling, biodiversity, and a more pleasant working environment.

Consideration will be given to the ethical and environmental dimension of [the organisation]'s investments including its pension scheme.

Signed on behalf of [the organisation]

Name .....

Role .....

Date .....

Signed on behalf of [the union(s)]

Name .....

Role .....

Date .....

Note: you may wish to include as appendices:

- existing energy and resource management arrangements
- current energy supply arrangements, eg suppliers and tariffs currently used
- current energy use monitoring arrangements, eg number of meter points, location of thermostats, policies on workplace temperature, etc
- existing/current action plans in place
- a review of progress against previous action plans where these are already advanced
- current provisions for recycling and other environmental initiatives, including who provides this service and where the recycling is carried out
- current environmental rep contacts and other JEC members.

Climate emergency declaration checklist

If your organisation has declared a climate emergency use the checklist below to carry out an initial evaluation:

1. **Climate emergency.** Has the organisation declared a climate emergency? Some organisations have made some level of commitment. This may be gesture politics, but it can be used as a pressure point if the actions fail to reflect the seriousness of the issue.
2. **Targets.** Does the policy contain specific targets? This could be 'carbon neutral' by a certain date, or 'net zero'. There is a difference — net zero is a stricter standard aligned with Paris climate targets. Check whether the commitment is for just the organisation's operations or wider across the whole supply chain. There may also be other associated targets
3. **Contacts.** Do you know the key contacts to link up with? Find out who the senior manager is with responsibility for this work.
4. **Skills and training.** Does the strategy contain any reference to vocational education and training? This may be relevant for staff in your workplace that may need to access upskilling or re-training for new or changing posts.
5. **Actions.** Are the actions contained in the strategy likely to achieve the targets? A common weakness of climate strategies is that the actions identified fail to reflect the scale of ambition. Identify the strengths and weaknesses and consult with others to present an alternative.
6. **Consultation.** Were the unions engaged in the production of the strategy? Check whether a working group has been set up to monitor and influence the strategy. If there is an active group, try and get union representation.
7. **Local authority engagement.** Is there a joint campaign that you can join or help to set up? Check if your local trade union council or regional TUC are active on this issue. Make sure that social justice and equality issues such fuel poverty and unequal access to training and employment are covered. A common weakness of local authority strategies is a failure to prioritise issues that can make the biggest reduction in carbon emissions. A typical example is a lack of comprehensive policies on housing, renewables, and energy efficiency. Be ambitious. Press for direct labour schemes that also address employment issues in the supply chains.
8. **Communication.** Have you discussed this in the branch and informed your union of progress? Make sure that progress and setbacks are reported to the branch. Reflect on the potential impact of any local strategy on your members including their terms and conditions. Use local and regional forums to exchange information and request advice. Report progress to union regional and national officers to help with the circulation of case studies and further guidance

The Greener Jobs Alliance has produced a *checklist for assessing local authority climate emergency declarations.*

Transition agreement/model green new deal (GND) letter

(based on a UCU example for colleges and universities)

Model GND claim letter

Dear Xxxxxxxxxx

Our [union] branch has resolved to pursue a local claim and campaign focusing on making significant progress toward addressing the challenges that we are all now facing as a result of the climate and nature emergency.

[Union name] have established policy in this area where our members are expecting the organisations within which we work to be taking significant steps to reduce greenhouse gas emissions and other negative environmental impacts.

We look forward to exploring more areas of common ground to find agreement on and to delivering joint and positive action in addressing the climate and nature emergency. To this end, our green new deal claim has the following components (see potential claim areas below as suggestions which can be refined/expanded upon following branch committee plan/priorities with specific targets/requests):

1. Declare a climate and nature emergency and develop associated policies, or review the climate and nature emergency declaration and associated policies.
2. Recognise green reps appointed by [union] including the facility time available to carry out functions and training.
3. Develop (or review) carbon, energy and biodiversity management policies to ensure consistency with agreed values [insert organisation values here as examples] and revisit targets.
4. Review the organisation's travel policy.
5. Review the ethical investment and banking policies to ensure consistency with agreed values and targets.
6. Review other operations to ensure consistency with agreed values and targets that include:
   a. supply chain, procurement and workers' rights
   b. food and land use
   c. water and resource use/waste
   d. air pollution
   e. transport and travel policy
   f. staff training.

In response to these areas, the committee would like to make clear that we expect an agreed action plan to incorporate the above. This should include monitoring, implementation, and review processes, and detail on how the trade unions will be consulted.

Subject to measurable progress on this within an agreed timeframe, we wish to progress [on any established action plan or existing proposals if in place] as well as furthering our negotiations on the above areas.

The branch reserves our position to escalate via other means if we do not feel sufficient progress is being made to significantly improve the organisation's approach to addressing the climate and nature emergency and meeting the claim.

[Union] members are very interested in sitting down with management to discuss this in more detail. In particular we formally request the carrying out an agreed action plan to undertake the above work within [insert no of months]

We trust that you will consider this request and look forward to discussing this with management at the earliest opportunity.

Green/environment rep appointment form

To [the employer]. Please amend your records accordingly:

Union green representative's details

Name

Work department

Work telephone number

Work email address

Union

Union green representative's bargaining unit

Details of workplace/work departments covered

Name of branch

Branch number

Signature of branch secretary/area organiser

Date

How to use the form

- Once the UGR appointment has been ratified by the branch committee, the branch secretary/area organiser completes the details and signs and dates the form.
- The branch secretary/area organiser sends copy to the employer as written notification of appointment with explanatory letter if appropriate.
- The branch secretary/area organiser keeps a copy for their own records.
- The branch secretary/area organiser contacts local [name of union] office to advise that the member is a UGR.
- The branch secretary/area organiser arranges training for the new UGR.

Extreme weather and model collective agreement

1. Introduction/context

[Employer name] recognise that climate change is here leading to an increase and severity of what is known as extreme weather conditions (see '6. Definitions' below). It can have a considerable impact on the workplace and working practices. This includes but is not exclusive to staff facing travel disruption and therefore difficulty in attending their place of work and/or returning home, heat stress, or other hazardous conditions that may impact the health and safety of employees.

This policy is intended to ensure the health and safety of all employees during periods of extreme weather, and that procedures are in place to deal with their impacts. Nothing in this policy will supersede or displaces the employers obligations under the health and safety at work Act 1974.

It is now possible to very accurately predict weather at least five days in advance. This therefore gives the opportunity to be proactive in dealing with extreme weather and so that actions can be taken to very much reduce the risk to employees.

2. Contents

The following sections are included in this policy document:

- Introduction/context
- Contents
- Policy statement/principles
- Scope
- Responsibilities of the employer
- Responsibilities of staff
- Policy options
- Heat policy
- Other considerations
- Equality impact assessment

3. Policy principles

This policy is primarily about protecting employee's health and safety in the face of increasing and more extreme weather events as a result of climate change. It seeks to ensure agreed guidance is in place so that staff and employers know in advance how each situation should be dealt with including travel to and from work and working conditions while undertaking duties. These include measures where extreme/adverse weather is forecast, or where employees may be impacted by changing weather during the course of their working day.

While most options will apply to all staff, particular attention must be paid to individual circumstances such as known medical conditions or as part of an equality impact assessment, through an individual risk assessment.

The range of policy options are detailed in section 8, 9 and 10.

4. Scope

This policy applies to all staff, contractors, and managers. It is designed to promote equality and protect the welfare of staff in their agreed place of work including at external events, staff who may be mobile throughout the day, or working from home.

5. Employer options

On notice of an extreme weather situation managers should engage with local TUS. They will seek to reach an agreement with TUS. The options to be considered will include:

5.1 Temporary closure of workplaces/offices until extreme weather has passed and it is safe to return.
5.2 Extended homeworking
5.3 All travel on behalf of employer for internal matters and or stakeholders to be suspended.
5.4 Homeworking. While it is acknowledged that this an option, and more staff now use homes as their base, careful consideration will need to be given to reduce the hours worked in extreme weather particularly in excessive temperatures.
5.5 Special leave with pay until it is safe to return to work.

6. Responsibilities of the employer

6.1 The employer will ensure that all staff and contractors are made aware of this policy.
6.2 It will endeavour to guarantee that no staff member suffers a detriment due to extreme weather events, that they are treated fairly, and equally.
6.3 Reporting requirements are clear and communicated to all staff, consistent with other reporting requirements or other absences.
6.4 In respect of 6.1 to 6.3, information/ training sessions should be held for all staff, contractors, and managers on the policy.
6.5 Information on this policy is accessible and staff know where to obtain it.
6.6 The recognised union is consulted and advised in advance when the policy will be invoked, of any early notice instructions to staff, or other measures needed that may occur outside of this collective agreement.
6.7 The following factors need to be considered in advising staff on working during extreme weather:
- Staff safety, national and local travel advice including the duration of the weather event and ongoing impacts.
- Travel and modes of transport available to staff, including distance of travel.
- Caring responsibilities.
- Ongoing weather conditions and possible future deterioration.
- Alternative working arrangements such as home working, and overnight stays where weather has deteriorated during the course of working hours including at agreed events, conferences, or other work-related duties.
- Nature of the job role and any individual mitigating factors, for example particular health vulnerabilities or mobility issues.
- Equality impacts.
- Financial impacts on staff.
- Advice to contractors.

7. Responsibilities of staff

7.1 No staff member should put themselves at unnecessary risk to attend their workplace.
7.2 Staff should make themselves familiar with the policy and attend any information and/or training sessions.
7.3 The staff member complies with reporting requirements where they are unable to attend work and/or have difficulties during their travel to or on return from work. This includes to external meetings, customer visits, conferences etc

8. Policy options

The aim of this policy is to enable all staff to do their job in a safe environment. As extreme weather is expected to increase as a result of climate change, policy options cover short term/ immediate measures, and longer-term measures. The following policy options are intended as a guide and may involve one or more of these policy options relating to the circumstances of a specific weather event:

8.1 Work from home if possible, and not already current practice.
8.2 Reporting to an alternative place of work.
8.3 Paid overnight accommodation where travel home is not possible, for example if attending an event or away on work duties.
8.4 Emergency leave for caring responsibilities for example.

8.5 Onsite measures such as in cases of extreme heat – see policy on extreme heat 9 below.
8.6 Ensuring workplaces have adequate ventilation, heating and cooling at safe temperatures maintained at 20–24C.

9. Heat policy

Working during periods of extreme heat has specific challenges for employees who are in job roles exposed to the elements, but also for those who may work indoors. This could be from lack of shade, indoor cooling facilities and travel to/from place of work.

This policy recognises that the advised maximum temperature limit is 30°C for non-strenuous activity or 27°C for those doing strenuous jobs.

The heat policy is designed to prevent or minimise the likelihood of heat related health risks such as heat stress or heat stroke. See definition of heat related illnesses above.

While heat discomfort should be addressed, it is not considered a risk to health. Appropriate measures that can be put in place to alleviate distress may include provision of desk fans, working in cooler areas of a building and other heat management process i.e., keeping blinds and window coverings closed during the day, minimising use of office machines that generate heat such as photocopiers.

Air temperature alone is not the sole determinant of whether there is a heat risk. Other key factors that need to be taken into account include:

- humidity
- radiant heat (from the sun or other sources such as cooking ovens)
- air movement or wind speed
- workload (nature of the work and duration)
- physical fitness of the worker (including acclimatisation and any pre-existing conditions, eg overweight, heart/circulatory diseases, skin diseases or use of certain medicines)
- clothing (including protective clothing required for specific types of work)

Employers should ensure measures to prevent or reduce heat stress and heat stroke. These may include:

- rescheduling work or reducing time spent on doing tasks to avoid the hottest parts of the day, generally between 11 and 3pm
- arranging additional cover to allow for more staff rotation
- extra rest breaks in a cool area
- working from a different location which provides more shade cover
- provision of light clothing that still provides adequate protection
- providing cool drinking water
- providing protection against the sun/ultraviolet exposure, eg protective hats, loose fitting, long sleeve, and collared clothing, sunglasses, and sunscreen.

Employees should be provided with training and information on how to recognise heat-related illnesses, how to contact first aiders and access medical help if needed.

In addition to heat related illness, staff and employers need to be aware of other health and safety hazards, hot working conditions may contribute to. For example:

- loss of grip while handling tools, objects, and controls due to sweaty hands
- slips, trips, and falls due to fainting or fatigue
- errors/mistakes due to heat fatigue
- not following safe work procedures or cutting corners due to fatigue and/or discomfort
- not using PPE due to discomfort
- burns from contact with hot surfaces or substances.

10. Other considerations

10.1 Prolonged dry weather can increase the incidence of wildfires adding to poor air quality if working nearby. Therefore, air quality also needs to be considered as part of measures to protect from extreme or adverse weather.
10.2 Extra care or consideration should be taken in applying this policy where it is known an employee has known medical/health

conditions and/or mobility issues which may be exacerbated by extreme/adverse weather conditions.

10.3 This policy applies equally to those scheduled to be working from home during the day or course of an extreme weather event and should suffer no less protection or assistance from the employer.

10.4 Regular reviews of the policy should be made and updated as the climate continues to change to ensure best health and safety practice as far as is possible.

10.5 Agreement and implementation of this collective agreement is done in consultation with the recognised trade union(s).

Equality impact assessment

11.1 An equality impact assessment (EIA) should be carried out on measures to mitigate impacts of extreme/adverse weather before policy is announced.

11.2 EIA's should be done in line with existing policy where this is in place and with respect to the Public Sector Equality Duty of Great Britain and separate provisions in Northern Ireland.

11.3 EIA's and their outcomes should be undertaken on a basis of intersectionality, ie that a employee may have more than one protected characteristic.

11.4 Action arising from EIA's must be consulted with the trade union side.

Definitions (to be completed)

- adverse weather
- extreme weather events
- equality impact assessment
- health risk

Sources of further information

Many organisations that provide information and support. The list below is a summary of some of the main ones that you may find useful.

Wales TUC Cymru is the voice of Wales at work. With 48 member unions, Wales TUC represents around 400,000 workers. It has published *A Green Recovery and Just Transition.*

Trades Union Congress (TUC) is the UK federation of trade unions and has produced a range of resources on climate and industrial strategy.

European Trade Union Confederation (ETUC) is the European federation that Wales TUC is part of. It has published a *quick walkaround checklist* in its green reps guide.

International Trade Union Confederation (ITUC) is the global federation of unions. It has set up a *just transition centre* that has produced a range of climate-related resources.

Your union. Check your union website to see what information on environment and climate change is available. Some unions have a dedicated part of the site, so it is easier to track down the information. If your union provides no resources, or they are difficult to locate, consider raising this in your branch to see if the situation can be improved.

Union green rep networks. Some unions such as PCS and UCU have established national networks for their green reps to facilitate information sharing and co-ordinating campaigns.

Aldersgate Group advocates the business case for decarbonising the UK economy, improving resource efficiency and investing in the natural environment.

Campaign against Climate Change Trade Union Group (CACCTU) is a campaign that several unions are affiliated to. It published the 'One million climate jobs' pamphlet.

Centre for Alternative Technologies (CAT) is based in Wales and offers practical solutions and training to support a zero carbon transition.

Cynnal Cymru/Sustain Wales is an independent sustainable development charity in Wales. Its mission is to accelerate progress toward a fair and just society, an inclusive, low-carbon economy and a thriving natural environment. It is the living wage accreditation body for Wales and is also a carbon literacy training provider.

Extinction Rebellion (XR) is a global environmental movement with the stated aim of using non-violent civil disobedience to compel government action.

Green Alliance is an independent think-tank and charity focused on ambitious leadership for the environment.

Greener Jobs Alliance (GJA) was set up in 2010 to promote joint work between unions, environmental groups, and student organisations. It produces a bimonthly newsletter and other resources for green reps that includes free training courses on climate change, air pollution and just transition.

Green New Deal UK is an activist group building coalitions to promote a green new deal.

Greenpeace is an independent global campaigning network.

Hazards Campaign is a trade union-focused campaign organisation supporting health and safety at work.

Labour Research Department (LRD) publishes a range of union focused material including *Union Action on Climate Change — a trade union guide*.

Institute for Public Policy Research (IPPR) is a progressive policy tank that has published a range of climate-related research.

New Economics Foundation (NEF) has recently prioritised the green new deal in its research publications.

People & Planet (P&P) is a student-based network campaigning for social and climate justice.

ShareAction is a charity building a movement for responsible investment.

Students Organising for Sustainability (SOS-UK) is linked with the National Union of Students (NUS) and supports students to learn act and lead on sustainability.

Trade Union Clean Air Network (TUCAN) has been set up to provide support for unions on air pollution at work. A number of unions have signed the charter and other resources for reps that can be found on the website.

Trade Unions for Energy Democracy (TUED) campaigns for democratic direction and control of energy as a key part of solving the climate crisis.

Tyndall Centre for Climate Change Research has centres in the UK providing climate change research.

Glossary of terms

Adaptation. Changes to cope with the impacts of climate change, for example changing working practices to cope with higher summer temperatures, building bigger sea defences, diversifying crops, increasing irrigation or improving health services.

Base year. Targets for reducing GHG emissions are often defined in relation to a base year. In the Kyoto Protocol, 1990 is the base year for most countries. Other base years like 2015, the date of the Paris Agreement is now more commonly used.

Biodiversity. The wealth of life on Earth, from plants and animals to micro-organisms. If biodiversity is damaged (for example if habitats are destroyed or animals become extinct) then the planet becomes more vulnerable to further environmental change.

Building management system (BMS). Computerised control of a building's energy use such as heating, lighting, air conditioning, etc

Carbon. An element in fossil fuels, and in carbon dioxide. Often used as shorthand for both of these, but when talking about measurements, it is important to be clear whether these are expressed in tonnes of CO_2, or of carbon (1 tonne carbon = 3.67 tonnes CO_2).

Carbon audit. A way of measuring the CO_2 emissions of an organisation, sometimes only from direct energy use (eg energy bills, fossil fuel use), it can include emissions from direct sources such as transport and indirect sources such as purchasing of supplies.

Carbon budget. This is an allocated amount of carbon emissions that should be at least consistent with the Paris Agreement of keeping global warming below 1.50C.

Carbon capture, usage and storage (CCUS) is the removal of CO_2 from fossil fuels either before or after combustion. In the latter the CO_2 is extracted from the flue gas. The carbon then needs to be utilised or stored with zero emissions.

Carbon cycle. The cycle in which carbon is stored and released between the plants, land, sea, and atmosphere.

Carbon dioxide ($C0_2$). A colourless and odourless gas formed from the burning of all fossil fuels, wood, and from deforestation and other sources. All animals breathe in oxygen and exhale carbon dioxide, while plants absorb CO_2 and give off oxygen. Carbon dioxide is the major greenhouse gas that contributes to global warming.

Carbon dioxide equivalent. Used to compare the different warming effects of other greenhouse gases, including water vapour, which is partly due to the length of time they linger in the atmosphere. For example, over the next 100 years, a kilogram of methane has 23 times the warming effect as a kilogram of carbon dioxide.

Carbon footprint. The total amount of carbon emitted by a workplace, individual or household over a year, or by a product during its manufacture or whole life cycle, through its use of fossil-fuel based energy. See 'Carbon audit'.

Carbon neutral. A person, organisation, process or product that has dealt with carbon emissions by a combination of reducing them (energy efficiency) and offsetting them.

Carbon sequestration. Removing carbon dioxide from the atmosphere and storing in 'carbon sinks' such as trees and oceans (which happens naturally) or pumping it underground in depleted oil and gas reservoirs, coal streams and saline aquifers.

Carbon Trust. An independent not-for-profit company set up by the UK government to encourage business to adopt energy efficiency and low carbon technologies.

Circular economy. Keeps resources in use as long as possible and avoids waste.

Climate change. Long-term trends in the average climate, including temperature and rainfall patterns. The IPCC has stated clearly that climate change is primarily caused by human activity.

Climate Change Act 2008. The first piece of legislation in the world to establish legally binding Carbon Budgets and targets.

CO_2 — see 'Carbon dioxide'

Combined heat and power (CHP). The generation of electricity on-site combined with the use of waste heat from the generation process.

Committee on Climate Change. Established by the Climate Change Act to provide independent advice to government on building a low-carbon economy and preparing for climate change

Conference of the Parties (CoP). CoP is the governing body of a UN international convention. The climate change convention is held every year, normally in November.

Deforestation. Clearing forests, often through burning, to use the land for grazing animals or growing crops, or the wood for fuel. A major contributor to carbon dioxide emissions and nature loss.

Ecocide. The destruction of large areas of the natural environment as a consequence of human activity.

Ecosystem. A community of animals and plants interacting with each other and with their physical environment such as soils, water, nutrients and all types of living organisms.

Ecosystem services. Essential functions for human communities provided by ecosystems, eg food, water and air.

EEAS Energy Efficiency Accreditation Scheme. A UK environmental management system focusing on energy use, now managed by the Carbon Trust.

EMAS Eco-Management and Audit Scheme. An environmental management system set up by the EU.

Emissions. In the industrial context, emissions are the gases, liquids and solid matter given off by, among other things, factories and motor vehicles. Often used to refer to substances discharged into the air. In climate change terms, emissions the release of a greenhouse gas such as CO_2 into the atmosphere.

Emissions trading. A system that allows countries or businesses that have committed to CO_2 reduction targets to 'buy' or 'sell' emissions permits among themselves, in theory allowing participants to reduce emissions where it is most cost-effective to do so. EUETS is the largest current scheme.

Energy efficiency. Using less energy to perform the same function.

Energy Savings Trust (EST). An independent not-for-profit organisation, set up by the UK government to promote energy saving in the domestic, community and transport sectors.

Environment Act 2016. The Environment (Wales) Act 2016 requires Welsh Government to reduce emissions of greenhouse gases (GHGs) with a system of interim emissions targets and Carbon Budgets. It also puts in place a Biodiversity and Resilience of Ecosystems Duty.

Environmental management system (EMS). A voluntary system designed to continually improve the organisation's environmental performance. Examples include EMAS, ISO14001, and EEAS.

Fossil fuel. Carbon-based underground deposits used as an energy source — includes crude oil, coal and natural gas.

Fuel cells. Fuel cells generate electricity by reacting hydrogen and oxygen. There are already prototype vehicles running on fuel cells, though so far the technology is very expensive.

Fuel poverty. A household needing to spend more than 10 per cent of household income to achieve a warm enough home.

Green new deal. Originated in 2007 to promote a green industrial strategy. Has now been adopted as a key part of the process of 'building back better'. Some unions are incorporating GND or 'transition agreement' bargaining into negotiations with employers.

Green rep. A union member elected to promote the environmental concerns of members, to the employer, and to work with the employer, the union and colleagues to address these concerns. Green reps are also known as environment or sustainability reps.

Greenhouse effect. The warming of the earth's climate caused by gases in the atmosphere trapping the sun's heat. This has always happened (otherwise the earth would be inhospitably cold) but the effect is increasing, due to increased greenhouse gas emissions from human activity.

Greenhouse gas (GHG) emissions. Gases released into the open air from human activities such as generating electricity, transport and agriculture. These gases intensify the greenhouse effect, raising the world's average temperature. The main greenhouse gases emitted due to human activity are carbon dioxide, methane, and nitrous oxide. Others include hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

Greenwash. Disinformation produced by an organisation to 'look green' in public, when it is actually not doing much for the environment.

Gigawatt hour. One gigawatt hour is equal to 1,000 megawatt hours.

Health and Safety Executive (HSE). The body responsible for enforcing, encouraging and regulating workplace health, safety and welfare.

HVAC. Heating, ventilation and cooling.

Hydrocarbons. Chemical compounds that contain only hydrogen and carbon, for example, fossil fuels (eg oil, gas, coal) or biomass.

Hydroelectric power. Electricity produced by the power of water (often held in dams) driving turbines.

Hydrogen. Occurs in gas or water and can be used for storing energy. Energy is required to separate hydrogen from its source. This could be from fossil fuels with CCUS or using electricity from renewable sources. Hydrogen projects for home heating and transport are currently being developed.

Intended nationally determined contributions (INDCs). Also referred to as NDCs, are (intended) reductions in greenhouse gas emissions under the UN Framework Convention on Climate Change (UNFCCC).

Intergovernmental Panel on Climate Change (IPCC). The group of scientists gathered by the UN to examine the causes and impacts of climate change and recommend actions in regular reports.

ISO14001. An international environmental management system and standard.

Joint environment committee (JEC). A committee to ensure ongoing environmental improvements in the workplace, with both management and union representatives. In some workplaces it may be appropriate to integrate this with the health and

safety committee to make a joint health, safety and environment committee.

Just transition. The International Trade Union Congress (ITUC) describes just transition as "a tool for a fast and fair shift to a low-carbon and climate-resilient society".

Kilowatt. 1,000 watts

Kilowatt hour (KWh). The standard measure of how much energy is used, which appears on utilities bills.

Life cycle assessment (LCA). An assessment of the environmental impacts of a work process or product through its manufacture, use and disposal.

Low Carbon Delivery Plan (LCDP2). The Welsh Government's second statutory decarbonisation plan is scheduled to be published in the autumn of 2021. It will describe the policies and approach to meet Wales' second Carbon Budget (2021–2025) and propose policies and actions for the longer term.

Megawatt hour (MWh). One megawatt hour is equal to 1,000 kilowatt hours.

Methane (CH4). A greenhouse gas released from decomposing waste and farm animals, 23 times more potent than CO_2.

Mitigation. Actions to prevent further climate change by adopting measures that will reduce emissions.

MtC. Million tonnes of carbon.

Mtoe. Million tonnes of oil equivalent — another way of measuring energy use.

Natural Resources Wales (Welsh Government-sponsored body). Its purpose is to ensure that the natural resources of Wales are sustainably maintained, enhanced and used. It has largely taken over the functions of the Countryside Council for Wales, Forestry Commission Wales and the Environment Agency in Wales, as well as certain Welsh Government functions.

Nature loss. Describes the global decline in animals and plants. Species are now being lost at unprecedented rates due to the impact of human activity on the world's ecosystems.

Net zero. Refers to achieving an overall balance between greenhouse gas emissions produced and taken out of the atmosphere. Often used along with carbon neutral although it is broader as it includes other greenhouse gases not just CO_2. Neither are as demanding as zero carbon which does not allow for any offsetting.

Nitrous oxide (N_2O). A greenhouse gas that comes mainly from agricultural fertilisers as well as the burning of fossil fuels and wood.

Offsetting. To cancel out the carbon released by an individual or business, by paying for reductions elsewhere.

Paris Agreement. The Paris Agreement is a legally binding international treaty on climate change. Its goal is to limit global warming to well below 2°C, preferably to 1.5°C, compared with pre-industrial levels. It has been signed by most of the world's governments. It was a product of COP21 held in Paris in 2015.

ppm or ppb. Abbreviations for 'parts per million' and 'parts per billion', respectively — the units in which concentrations of greenhouse gases are commonly presented.

Polluter pays principle (PPP). The principle that countries or businesses should in some way compensate others for the effects of pollution that they (or their citizens) generate or have generated.

Precautionary principle. Part of the Rio Declaration: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

Recycling. The reprocessing of waste materials or products for use in their original purpose (closed-loop recycling) or for another purpose (open-loop recycling).

Renewable. Resources that can be regenerated relatively quickly.

Renewable energy. Energy that is easily replaced or supplied by a nearly infinite source, such as the sun or the wind. Some examples are solar, wind, hydropower and geothermal.

Retrofit. The process of upgrading a building to make it more energy efficient, usually by installing (better) insulation, zero carbon heating systems, and reducing 'cold-bridging' (ie places where cold from the environment can leak into the building).

Sustainable development. "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (from the classic Brundtland report, 1987).

Sustainable development goals (SDGs). Adopted by the UN in 2015 they set out 17 goals and 169 actions to be achieved by 2030. The goals recognise that ending societal problems such poverty must go hand-in-hand with strategies that improve health and education, reduce inequality and support economic growth all while tackling climate change and working to preserve our oceans and forests.

Triple bottom line. Includes environmental and social impacts, rather than the single financial bottom line. Often used in the context of corporate social responsibility (CSR) policies.

TWh. One terawatt hour is 1,000 gigawatt hours.

Watt (W). A measure of how fast an electrical appliance uses energy. For example, a 60W conventional light bulb uses energy three times faster than a 20W CFL bulb.

Well-being of Future Generations (Wales) Act 2015. The Act requires public bodies in Wales to think about the long-term impact of their decisions, to work better with people, communities and each other, and to prevent persistent problems such as poverty, health inequalities and climate change.

Zero carbon. Workplaces or homes that use no fossil fuels, only renewable.

Zero waste. This means that no residual waste to goes to landfill and everything is either reused or recycled. Zero waste seeks to eliminate rather than merely manage waste.

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