

CLIMATE ACTION PLAN FOR WALES

A green and fair recovery for people and communities.

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Introduction

As a country right now, we need to simultaneously address multiple emergencies—the COVID-19 recovery, climate change, the ecological emergency, and the inequalities that persist in our nation. Some might say that because of the economic damage from COVID-19 the priority for the current and next government must be economic growth measured by gross domestic product (GDP). But we know what really matters are people, communities, and improving the world for our young people. That's why we passed a world-first Well-being of Future Generations Act.

Wales can follow the lead of New Zealand, and instead of measuring progress and shaping economic policy towards GDP growth it can measure progress against a Welsh version of their Living Standards Framework¹.

Wales can also:

- **Prioritise investment and resources that protect those communities most vulnerable in society**, whether that's vulnerability to the type of flooding seen earlier this year, to the heatwaves which are happening more frequently, or those most at risk from COVID-19. Protecting the most vulnerable is part of our culture. It also needs to be enshrined in our strategies and policies and how we make decisions.
- **Create job opportunities from improving our environment.** The Institute for Welsh Affairs has identified how Wales could produce all the energy it needs from renewables by 2035 and in doing so create thousands of jobs. Investments in walking, cycling and public transport, home energy efficiency and eco-heating, nature restoration, and the circular economy could all significantly add to this. Many of these jobs and economic benefits will be spread across Wales.
- **Guarantee that those without a car are not left behind, by providing accessible, affordable, coordinated, and frequent public transport systems as well as safe routes for cycling and walking.** While in the short term there must be a strong focus on reducing air pollution in urban areas and enabling cycling, better public transport in more rural areas must also become the norm.
- **Eradicate fuel poverty.** Fuel poverty will worsen if the COVID-19 crisis leads to more home-working or home-schooling this winter. Two-thirds of Welsh homes are poorly insulated. Fixing this will create jobs in every part of the country as well as bringing much needed health benefits.
- **Be a beacon of hope, by inspiring a world facing challenges on many fronts.** Like other small nations, Wales recognises the importance of working together to overcome challenges, as well as innovating and learning from others. It is not surprising that initiatives such as the Well-being of Future Generations Act, action to curtail smoking in public spaces, and provision of free bus travel have all been initiated by small countries. Wales can again be a shining example, by putting environment sustainability and fairness at the heart of our economy and COVID-19 recovery plan.

The following sections provide more detail on these aspirations and the action needed to deliver them.

Detail:

An economy that works for people and the planet

“It’s the economy, stupid” is the famous catchphrase that got Bill Clinton elected in 1992 and it has echoed down elections on both sides of the Atlantic since. The media and politicians all use regular estimates of GDP as a measure of how well things are going. Yet it’s well-recognised that GDP is an extremely poor measure of success. While GDP can grow as a direct result of polluting the environment, it fails to take into account the huge contributions made by unpaid workers (often women caring for others), and it doesn’t consider the growth in inequalities that can damage social cohesion and harm social mobility.

The New Zealand government has, in a brave but sensible move, broken with tradition to say that instead of guiding economic policy by GDP growth it will instead use a Living Standards Framework (LSF) made up of 12 domains of wellbeing². This is a step forward from the wellbeing indicators developed in Wales, which collect useful data but haven’t replaced GDP in practice. The LSF was developed by the New Zealand Treasury – which is important, as treasuries are often the last bastions for the worship of GDP. It is too early to see whether the move by the progressive New Zealand government will successfully dethrone GDP. And it may not be perfect. But it is a very good start.

Ousting GDP is not a radical or fringe issue. Former chief of the UK Civil Service Gus O’Donnell has said the UK should look beyond GDP³. Joseph E Stiglitz, Nobel laureate in economics, has said we should retire GDP⁴. Even former UK Prime Minister David Cameron thought it was a poor measure⁵.

Earlier this year Oxfam published “The Welsh Doughnut”⁶, building on the ground-breaking work of Kate Raworth⁷. This approach identifies how well Wales is doing on delivering a decent standard of living for everyone, while living within our environmental limits. If Wales was successfully doing both it would be operating in “a safe and just space for humanity”. But it isn’t, delivering poorly on many of the measures instead.

Oxfam’s work is a good pointer to the type of measures that should be included in a Welsh version of the Living Standards Framework, as are the six wellbeing goals already measured by the government. Whatever set is finally used, it is important that a Welsh version of the LSF is developed in collaboration with the people of Wales and replaces GDP as the measure of progress. The annual fiscal budget must be required to align with the LSF, as must all major policy announcements (for example, the infrastructure strategy, COVID-19 recovery plans, etc).

The COVID-19 crisis has shown us which jobs and services are most important to our wellbeing. Many of the workers in these high-value occupations are low-paid. Wales has already made progress in highlighting the importance of this “foundational economy” – the basic services people rely on. Welsh economic policy and regulations need to ensure this part of the economy can flourish and is resilient. A strong foundational economy will mitigate risks and provide resilience to economic and other shocks. New Zealand’s LSF has not yet developed risk and resilience indicators. A Welsh version of the LSF could do so, by measuring the strength and resilience of the foundational economy.

Policy recommendations:

- **Wales must follow the lead of New Zealand, and instead of measuring progress and shaping economic policy towards GDP growth, it must instead develop and use a Welsh Living Standards Framework⁸. The government must be explicit that it is not using GDP as the measure of performance. The Welsh LSF should include an indicator to measure the strength and resilience of the foundational economy.**
 - **The annual fiscal budget must be required to align with the Living Standards Framework, as must all major policy announcements (for example, the infrastructure strategy, COVID-19 recovery plans, etc).**
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Wales's fair contribution to global efforts to reduce greenhouse gases

There are different approaches to identify what a nation's fair share of greenhouse gas emissions should be in meeting the international Paris Agreement goal to not exceed 1.5 degrees of global warming. Some methodologies consider historical emissions back to pre-industrial times, others include the emissions embedded in a nation's imports, and the level of risk of exceeding a temperature target also differs. Some also assume "negative emissions" using speculative technologies in the future to allow for greater emissions in the near-term.

Friends of the Earth advocates a precautionary approach that minimises risks and also takes into account the UK's historical emissions and the need for developing countries to develop their economies. The UK is the fifth most responsible country for climate change, with around 5% of cumulative greenhouse emissions since 1750 whereas most African countries, which bear the brunt of extreme weather, are responsible for less than 0.001%⁹.

The current UK-wide trajectory for emissions – meeting the Fourth and Fifth carbon budgets on the pathway to net zero by 2050 – would mean that the UK would consume more than double its fair share of global emissions, according to a paper by the Tyndall Centre at the University of Manchester¹⁰. And this assessment does not consider the emissions associated with UK consumption.

The UK Committee on Climate Change (CCC) will advise the UK government on the new pathway at the end of this year. It will also provide advice for Wales, as it did in 2017 following its Fifth carbon budget report. In our view it is highly unlikely that it will significantly adjust the current pathway, at least not at the scale needed. Wales, which has committed to be a globally responsible country as one of its goals in the Well-being of Future Generations Act, will likely need to significantly over-achieve in emissions reductions, compared to the goals recommended by the CCC, if it is to deliver on its legislated goal of being a globally responsible country.

The Tyndall Centre has recommended the following carbon budgets for Wales for carbon dioxide emissions (ie, excluding greenhouse gases such as methane):

1. Maximum cumulative carbon dioxide emissions budget of 148.5 million tonnes carbon dioxide for the period of 2020 to 2100.
2. Initiate an immediate programme of CO₂ mitigation to deliver cuts in emissions averaging a minimum of 13.6% per year.
3. Reach zero carbon no later than 2041 (95% reductions in emissions, with the potential to increase carbon sinks to get to net zero, eg more forestry, seagrass meadows, etc).

The Tyndall Centre pathway is very challenging. And even so, it ignores emissions embedded in imports. The Welsh Government must update its own carbon reduction pathway, based on the input of experts such as the CCC and the Tyndall Centre. It should not just use the pathway recommended by the CCC, because this is unlikely to be consistent with a globally responsible Wales. As part of setting its own pathway, the Welsh Government should consider the emissions associated with the consumption of goods and services overseas, which in turn will require regularly updating the data in the relevant wellbeing Indicator. It should report on progress annually.

In practice a carbon pathway that is consistent with a globally responsible Wales will require much deeper and faster greenhouse gas emission reductions than are currently envisaged. The Welsh Government should set a rule that says it will not invest in or give permission to new high-carbon infrastructure, such as new roads, gas-fired power plants or incinerators, which are incompatible with the net zero goal and the interim targets on the path to meeting it. This includes bailouts or other types of support for high-carbon industries, at least not without an agreed carbon reduction transition.

In addition, government and local authority investment in fossil fuels is incompatible with achieving the global reductions in greenhouse gases needed. The recent commitment by the Senedd's Pension Scheme to divest from fossil fuels is a welcome step in the right direction, but all public bodies including the Welsh Government need to divest.

Policy recommendations:

- **The Welsh Government must update Wales's carbon reduction pathway to be consistent with the aim to be a globally responsible Wales, based on the input of experts such as the UK Committee on Climate Change, the Tyndall Centre, and others. The Environment (Wales) Act must be**

amended by regulation to set this pathway into law, with annual reports to the Senedd. This will require reaching net zero well before 2045.

- **The Welsh Government must set a rule that says it will not invest in or give permission to new high-carbon infrastructure, such as new roads, gas-fired power plants or incinerators, which are incompatible with the net zero goal and the interim targets on the path to meeting it.**
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Protecting the most vulnerable in Wales and hearing their voices

Everybody is vulnerable to some degree from climate change and other environmental harms, but some locations and communities are more vulnerable than others. As with air pollution it is the poorest that suffer most from climate change. It is also the poorest communities who have least access to the quality and quantity of green space necessary for good physical and mental health. BAME communities are similarly disadvantaged.

Storms Ciara, Dennis and Jorge caused havoc in Wales this winter with over 1,000 homes flooded, some in the Rhondda valley which have been flooded again this June. Many people are still living in homes that are not fully repaired.

Researchers at the University of Manchester have identified 759 neighbourhoods in Wales¹¹ where there is very high, acute, or extreme social flood risk to surface flooding and 32 at risk of coastal or river flooding. These neighbourhoods have an average population of 1,600 people. These neighbourhoods are not just vulnerable to flooding but in addition have a high proportion of vulnerable people (based on characteristics such as age and income). The Welsh Index of Multiple Deprivation identifies the neighbourhoods which are most deprived for green space, flood risk, and air quality¹².

Wales, like other countries, will suffer from more extreme weather events. Climate adaptation spending should be particularly targeted at these neighbourhoods, which are also communities that in general have contributed least to climate change because of their lower income.

In addition to focusing resources and effort on the most environmentally deprived or at-risk neighbourhoods, it is also necessary to ensure their voices are heard in decision-making. The Future Generations Commissioner has a role in this, and the five ways of working set out in the act include involving people in decision-making and reflecting diversity, but all public bodies need to improve their decision-making processes. Participatory processes such as citizens' juries and citizens' assemblies can facilitate better decision-making. The organisation My Society has published reviews of digital tools for some of these approaches¹³. Being demographically representative, these processes should enable the voices of those so often shut out of political decision making to be heard.

Policy recommendations:

- **The Welsh Government and local authorities should identify those neighbourhoods that are at high risk of flooding or extreme heat, are environmentally disadvantaged, and have a high proportion of vulnerable people within them. They should prioritise working with these communities to develop and fund community climate adaptation and prevention plans, including nature-based solutions.**
 - **All public bodies should embrace the use of participative processes such as citizens' assemblies and citizens' juries.**
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Green jobs

The economy in every part of Wales has suffered because of the COVID-19 pandemic. A recovery plan is needed to rebuild economies and livelihoods, but it is also important that such a plan addresses the climate and ecological emergencies and does not exacerbate them. The recovery plan also needs to strengthen the foundational economy and increase its resilience, including in areas where there is a strong overlap with environmental outcomes (eg, in localised food production). Fortunately, the solutions to the climate crisis will also create much needed jobs, as well as increase Wales's economic resilience.

The Institute of Welsh Affairs (IWA) has identified that investing around £5 billion in energy efficiency measures for 870,000 homes would deliver work equal to around 10,000 full time jobs annually over the next 15 years. Friends of the Earth argues that to deliver on the rapid carbon dioxide cuts needed, all homes should be brought up to at least Energy Performance Certificate (EPC) C standard by 2030. In addition, a heating transformation programme is needed to switch from gas-boilers to predominately heat pumps. This will also create additional skilled jobs.

Wales also has abundant renewable power potential. The IWA report suggested that 5,000 jobs could be generated by developing marine energy, 2,760 in solar power, 2,545 in onshore wind and 1,300 in offshore wind, if Wales aims to supply all its energy needs through renewable energy by 2035. Further work would be created in strengthening the electricity grid, energy storage and energy management.

A recent WWF report commissioned from Vivid Economics has identified that by 2030 around 210,000 jobs could be created across the UK as a result of a net-zero transition, which reinforces the potential for job creation through addressing the climate and ecological emergencies¹⁴.

While this new job potential highlights the benefits to Wales of utilising its strategic assets for economic and environmental reasons, it would be disingenuous not to recognise that shifting from fossil fuels to renewable energy will also cost jobs. According to the oil and gas industry, 4% of jobs in offshore oil and gas are located in Wales (around 1,000 jobs). There are other fossil fuel jobs in Wales, for example the 100 people employed at Pembroke Power Station.

The recent Airbus announcement of job losses, although driven by COVID-19 and not climate change, also points to the need to assist those areas that are or will lose jobs to gain the new jobs in the green economy. Marine renewables off the north coast could be a lifeline for these workers, if they are given the support they need, and the industry is similarly supported in bringing these workers onboard.

A report by the IPPR Environmental Justice Commission identified the parliamentary constituencies of Aberavon and Newport East as being within the top 10 locations in the UK with the highest proportion of greenhouse gas-intensive industries. Many of these jobs are in industries that are needed in the green economy, such as steel making. These industries need government financial support to ensure jobs are maintained and to help them move to using low-carbon energy sources.

While the numbers of fossil fuel jobs lost will be dwarfed by the potential new green economy jobs, it is important that staff in the industry are given training to enable them to transition to new jobs of equal skill in a “just transition”. Wales knows too well the impact of unjust transitions. It must develop a just transition programme.

Rapidly helping the green economy grow will help people who have lost their jobs due to COVID-19 get new jobs. Many of those people will be young people. Friends of the Earth is campaigning for the UK COVID-19 recovery plan to introduce a guaranteed green-job scheme, whereby the government pays the wages of a new trainee employee on condition that at least 20% of their time is on accredited training¹⁵. While this will need to be a UK programme, the Welsh Government must prioritise training, particularly for young people, to develop the skills needed for the growing green economy.

Policy recommendations:

- **COVID-19 recovery plans by the Welsh Government and local authorities must focus on building the green economy of the future (eg, renewable energy, energy efficiency and low-carbon heating, forestry, etc).**
 - **The government must work with trade unions, the third sector, universities etc through the proposed climate justice commission to produce a just transition plan for fossil fuel and carbon-intensive industries, which includes fuel switching where possible (eg, using green hydrogen), retraining and reskilling where necessary (eg, fossil fuel extraction), and targeted support to develop new businesses.**
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Transport

Across the UK around 50% of the lowest income households do not have access to a car, and the proportion of women who do not have access to a car is double that of men¹⁶. Decent cycling and walking infrastructure and high-quality public transport is a social cohesion issue as well as an environmental issue. Friends of the Earth and transport experts Transport for Quality of Life argue that government policy needs to recognise a basic right for everyone to be able to live decently without having to own or drive a car.

Transport is also the problem sector in Wales for carbon emissions, with only a small reduction in emissions since 1990, and its share of emissions has risen over that time from 12% to 16% (including Wales's share of international aviation and shipping).

The financial support the Welsh Government provides to north-south flights within Wales is clearly out of step with climate change goals and the money spent could be used much more wisely.

The proportion of commuter journeys by public transport, cycling and walking in Wales is low at around 20%, according to the 2011 Census. These figures are unlikely to have changed much since then, and indeed bus journeys have declined in Wales by around 20% over the last decade.

The Welsh Government is aiming for 60% of new car sales in Wales to be ultra-low emission vehicles by 2030. However, even if all new car sales are electric by this date it will still be necessary for car mileage to be at least 20% lower than now, and possibly much more than this, in order for emissions to decline in line with a fair carbon budget.

But the good news is that a transformation in walking, cycling and public transport is possible.

For example, the proportion of journeys that are possible by bike with good segregated pathways could be 21%, according to an analysis by academics, even in hilly Wales, thanks to the advent of e-bikes¹⁷. These help people to make longer cycle journeys and make cycling more accessible to those who may not be able to cycle far (such as the elderly). Recent research by the Centre for Research into Energy Demand Solutions at the University of Leeds has even suggested that the use of e-bikes in rural as well as urban areas could halve UK carbon emissions from surface transport¹⁸. Friends of the Earth is calling for the UK government to financially support the purchase of e-bikes, as happens in the Netherlands, where e-bikes are now the biggest selling bike type in the country¹⁹. Denmark is building a network of nearly 750 km of long-distance Cycle Superhighways, radiating up to 40 km from Copenhagen.

Increasing cycling should not come at the cost of safe walking, for example by designating footpaths as shared spaces for cyclists and walkers as a low-cost alternative to segregated cycleways. Walking also needs to be supported, including with a default ban on pavement parking except on specially designated streets.

Wales can also learn from continental Europe in terms of public transport. For example, in a recent briefing published by Transport for Quality of Life and Friends of the Earth, an illustration is given of the kind of transformation possible if universal service standards are set and public transport (buses, trams, trains) is coordinated and controlled. Rural settlements should have a guaranteed hourly service running from 6 am to midnight, while denser urban settlements should have a guaranteed 15-minute service, and buses should connect to the train timetable. Given the financial impact of COVID-19 on public transport, particularly buses, it will be necessary for the Welsh Government to fast-track franchising of buses, which in any case is a necessity for the provision of a coordinated and integrated public transport service.

Transport for Quality of Life and Friends of the Earth have identified 10 practical steps that could be taken across Wales in the short-term, including trialling Swiss-style integrated timetabling and guaranteed public-transport service standards in one area, initiating a trial of free public transport in Cardiff (funded by the planned road-user charging), and kickstarting an e-bike revolution in Wales with grants, segregated cycleways and developing an e-bike industrial strategy for Wales. Action on segregated cycleways and e-bikes are important considering social distancing and COVID-19, particularly given that a significant proportion of the Welsh population does not have access to a car.

Everyone should have the basic right to live decently without having to own or drive a car. In terms of government transport policy, this would mean following six guiding principles: carbon emissions reduction must be the top priority; transport spending must be brought in line with carbon reduction

commitments; planning policy must ensure all developments are well served by public transport, cycling and walking; engineering skills must be focused on active travel, not road building; rail and buses must be managed as a whole unified system; and motorists should be incentivised to use public transport, cycling or walking as the preferred approach to travel – using both carrots and sticks. Road-use charging, with the funds allocated to make public transport very cheap or free, will be a necessary component of this.

The Welsh Government can also guide local authorities on the levels of public transport, cycling and walking that should be achieved by setting targets. For example, areas such as Swansea should be aiming for 50% by 2030 whereas more rural areas such as Conwy should aim for 40%. This would represent more than a doubling over the next decade, which is the scale of change needed alongside a much swifter transition to electric vehicles.

When cars are needed, for example in very rural areas, car-sharing should be encouraged and supported, including by employers. According to the social enterprise Liftshare, the best businesses achieve 40% of staff sharing journeys to work. Superfast broadband and the development of remote working hubs also has an important role in reducing the need to travel, particularly in the COVID-19 context, and the 80,000 properties in Wales that do not have superfast broadband need it provided as soon as possible²⁰.

Policy recommendations:

- **The government must legislate for everyone to have a basic right to live decently in Wales without the need to own or drive a car. The setting of a Universal Service Standard will help achieve this.**
- **Rapid franchising of all bus services is necessary to provide a unified and coordinated public transport system, and in any case is now a necessity given the economic impact of COVID-19 on bus companies.**
- **Segregated cycleways, e-bikes and the development of an e-bike industry in Wales must be a top priority for the COVID-19 response, with the longer-term aim of matching the standards for cycling in the best continental European countries within a decade.**
- **The government must aim to at least double the proportion of journeys made by walking, cycling and public transport by 2030. It should use fiscal measures to achieve this (eg, road-user charging, payroll taxes) as well as incentives (such as free bus travel, reduced train fares, or grants for e-bikes).**
- **The subsidy of north-south flights must end.**

Air pollution

There are at least 36,000 premature deaths in the UK annually because of air pollution, with around 2,000 of these in Wales²¹ (globally the figure is 5 million²²). It is even more urgent to reduce air pollution now as emerging evidence shows that it makes people more vulnerable to COVID-19²³. At a UK level, Friends of the Earth is calling for the introduction of a new law to provide the Right to a Healthy Environment, which would cover issues such as air pollution.

The Welsh Government is committed to improving air quality and reducing the impacts of air pollution on health, the environment and our economy. The Clean Air Plan for Wales²⁴, published in August 2020, highlights how children are particularly vulnerable to the effects of air pollution, with exposure in early life having a long-lasting effect. The worst levels of air pollution are in the poorest areas. The plan sets out a 10 year-pathway to cleaner air, promising a better national air pollution monitoring network, and a Clean Air Act for Wales to deliver “new evidence-based, health-focused targets for fine particulate matter (which take account of stringent WHO guidelines values).”

Achieving World Health Organisation standards for particulates will require action on road traffic, including a modal shift from cars to public transport, cycling and walking, because even electric cars contribute to particulate air pollution from tyre and brake-pad wear. It will also require action in some areas on domestic wood burning in open fires and inefficient woodburning stoves, and agricultural practices, as well as industrial emissions.

Policy recommendations:

- **The Welsh Government must introduce a Clean Air Act, which commits to meeting World Health Organisation standards for all pollutants in all locations by 2030 at the latest.**
 - **Air quality monitoring must be improved, including additional resources and a statutory duty on local authority-led air pollution monitoring, to enable a comprehensive picture of air pollution, particularly where there are higher proportions of vulnerable people (eg, schools, hospitals, poorer communities).**
 - **Clean Air Zones should rapidly be implemented in pollution hotspots, with targeted action on transport (including charging), industry, and domestic wood burning, as necessary, with at least Cardiff, Swansea and Newport covered.**
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Green space and nature

The COVID-19 crisis has highlighted the lack of access to green space suffered by some communities across Wales. Green space is known to be important for our mental and physical health, and this is recognised by the increasing encouragement to use green space through social prescribing by health professionals.

An analysis by Statistics Wales shows that having access to public green space within a 5-minute walk varies considerable across the country. Research for Natural Resources Wales says that there is clear evidence to show that, generally, citizens are highly unlikely to walk beyond the 5-minute threshold to access local green infrastructure²⁵. Data compiled for the Index of Multiple Deprivation shows that in over 300 neighbourhoods across Wales more than half of all households are not within a 5-minute walk of accessible green space. Virtually all of 2,000 neighbourhoods in Wales have some households outside of the 5-minute walk standard²⁶.

Increasing access to green space will require a localised approach. In some places this may mean giving the public access to areas of green space owned by public bodies that are currently not accessible or reaching agreement with landowners to open up private spaces. But in other places, it may involve converting car parks and even roads to green space.

Increasing the provision of public green space is important for physical and mental health. It is also important to help restore nature. The restoration of nature is an issue that Wales takes seriously, for example by becoming the first country with an official Bee Friendly accreditation scheme. Nature restoration requires green spaces in cities, green corridors for nature, and the greening of the agricultural sector. Tree planting is an important component of this. However, according to the IWA, Wales has lost 18,000 hectares of trees since 2001²⁷.

In 2016 Natural Resource Wales identified the wide range of tree cover in towns, cities, and villages, for example with Trimsaran at 34%, Cardiff 11% and Fochriw at 3%²⁸. Friends of the Earth is calling for the UK to double tree cover with a minimum of 20% tree cover in all urban areas. Doing so would still leave the UK below the European average for tree cover. Trees are not only important for mental health and nature but also climate mitigation (drawing down carbon from the atmosphere), climate adaptation (mitigating heat and flooding) and soil protection.

Also, the UK is currently one of the world's biggest importers of trees and tree products, some of which is from areas high in biodiversity. A new study by RSPB and WWF²⁹ revealed that the UK land footprint for timber imports is almost 8 million hectares and 5.5 million hectares of pulp and paper. Together this is equivalent to more than six times the area of Wales. While much of this will come from countries with high standards for nature protection, the report highlights that 1.5 million hectares comes from countries where timber production brings a high risk to nature (eg, Russia, China and Brazil). Wales has an important role in increasing domestic timber production to reduce the need for these imports and it can accrue the economic and job opportunities from doing so. Total woodland in Wales is only 15% compared to an EU average of 38%.

Wales should be aiming to double tree cover before 2050. Currently the government has an aspiration of 100,000 additional hectares of woodland by 2030³⁰. If this were to be maintained for the next two decades, then the doubling tree cover target would be met.

The welcome announcement of £10 million Glastir funding – £8 million for woodland creation and £2 million for woodland restoration, added to an existing £5 million pot – made by First Minister Mark Drakeford is a welcome start. The funding aims to create 2,000 hectares of new woodland (about 4 million trees) every year, rising to 4,000 hectares “as quickly as possible”.

However, it only represents a small step in the right direction, as approximately 10,000 hectares need to be planted per year on average.

The Glastir woodland scheme has produced an “opportunities map”³¹ for woodland creation. It demonstrates that enough space for woodland creation exists, even when accounting for important habitats for biodiversity and carbon storage, particularly when considering that shelter-belts and hedging in farming plus urban trees can also usefully contribute to the target. As with any opportunities map, it is necessary to assess the ecological value of the identified areas before planting because some ecologically important areas are not designated as such.

Policy recommendations:

- **The provision of adequate public green space for all households in Wales within a 5-minute walk should be a government priority, particularly in areas which only have small gardens. Where necessary this should include road closures, repurposing of car parks, and opening access to green space currently closed to the public. The loss of existing public green space should also be prevented.**
- **The Welsh Government should increase funding to ensure the aspiration of 100,000 hectares of new woodland is met by 2030, turning it from an aspiration into an official target, and extending it to include an additional 100,000 hectares in each subsequent decade. It should also support tree planting in urban areas to a minimum of 20% tree cover and protect existing trees.**

Food and farming

Farming is an important economic sector for the Welsh economy. But it is much more than that. Farming has a strong cultural importance for the nation. Many family-run farms have been in the family for generations and farming is the backbone for many communities. Almost 90% of land in Wales is farmland.

How land is farmed also has a very significant impact on all aspects of environmental performance. In many cases, current farming practices are not sustainable enough and farmers need to be supported to transition to more sustainable farming methods, as well as supported to diversify (for example, through increasing Welsh timber production). Some farmers are at the forefront of this change, for example the Nature Friendly Farmers Network³². It would be as wrong to portray farmers as against change as it would to pretend that the status quo is tenable. Many, if not all, farmers understand the climate and ecological emergencies and know that change is needed. Like other industries, they need support to make the transition.

It is particularly important to align payments to farmers with sustainable farming practices, following the ethos of public money for public goods, and supporting good practice. This needs to include support for:

- Whole farm systems which support nature and carbon sequestration, which would deliver the greatest range of beneficial outcomes (this includes organic production, regenerative agriculture, and no-till farming).
- Agroforestry, woodland creation and restoration, and increasing hedgerows.
- Lower inputs, including fertilisers, pesticides, and antibiotics. The EU has set a target to reduce pesticide use by 50% by 2030.
- Improving soil health and reducing ammonia pollution.
- Improving animal health and welfare, with livestock being pasture fed.
- Habitat protection, restoration and creation.

Importantly, given that a large proportion of Welsh farmers are tenants with short-term tenancies (5 years or so) there is a need to ensure that necessary changes to farming payments as a result of Brexit work for them, including for longer-term activities such as tree planting.

Evidence for the need to reduce meat and dairy consumption for climate change reasons is now overwhelming. It also aligns with health advice. Friends of the Earth and others are calling for a 50% reduction in meat and dairy consumption by 2030. The focus for food and farming policy in Wales must be for less but better production, and the Welsh Government must actively use its influence and campaign against any future UK trade deals that would undermine this approach by allowing less sustainable imports to flood the market. Lower levels of meat and dairy production open up the opportunity for agroforestry and woodland creation. Some of the new woodland must be reserved for wildlife but some can be used for timber production. Timber production can help offset the huge levels of timber imports into the UK, as well as provide additional timber for its increasing use in the construction of buildings.

To help the Welsh economy and sustainability of farming, food production and consumption should be kept local as much as possible and there should be a strong emphasis on this in all public sector procurement. A new voluntary Welsh food eco-label scheme, developed with producers and civil society groups, could support this. The long-distance international import and export of foods that can be grown in Wales makes no sense environmentally and is not resilient to international supply-chain breakages.

Policy recommendations:

- **The Welsh Government must commit to a Welsh farming strategy that is focused on the production of high-quality food that protects and restores nature, contributes to carbon emissions reductions and sequestration, and supports farmers, including tenant farmers, to diversify farm incomes. A commitment to maintain the ban on GM crops designed for intensive and environmentally harmful farming would form part of this.**
- **All public procurement of food should prioritise the purchase of Welsh-produced food, as local as possible, and the meeting of healthy eating standards, which require a significant reduction of meat and dairy consumption. Developing a voluntary Welsh eco-label would aid this.**

Homes

Only a third of properties in Wales are well insulated (EPC C level), and 12% of households are in fuel poverty, with 2% in severe fuel poverty³³. It is possible that fuel poverty levels will increase if more people need to stay at home for longer because COVID-19 persists into the winter.

To meet climate goals, all properties should be at least EPC C level by 2030, and a higher standard where possible. In Wales this means that more than 90,000 homes need to be brought up to at least EPC C level each year for the next 10 years. Although the warm homes schemes Arbed and Nest are welcome, there is still a significant gap between what has been delivered and the scale of change needed. Welsh Government investment into this area needs to increase.

Standards for energy efficiency in the private rented sector are not devolved to the Welsh Government but should be, as this would enable the Welsh Government to set more progressive standards for this sector, as Scotland has done. This includes ratcheting up minimum standards, on the path to rented homes meeting the EPC C level by 2030³⁴. The existing statutory register of private landlords would help ensure compliance with this requirement, if instituted.

The Welsh Government must use the powers it has to provide strong incentives to the owner-occupied sector to increase standards, as Scotland is planning. For example, Scotland is consulting on setting mandatory standards for owner-occupied homes that must be met at point of sale or when major renovations are carried out³⁵.

The Welsh Government should push for more devolved powers so it can effectively drive up the standards of homes in the private-rented sector and owner-occupied homes. Alongside existing progress on social housing, this would allow Wales to reap the economic and social benefits of bringing the housing stock up to scratch.

However, energy efficiency is only part of the solution to decarbonising homes. To meet climate goals, it will be necessary to rapidly switch all homes away from fossil fuel heating (gas, oil, LPG, solid fuels). Friends of the Earth and others are calling for 10 million heat pumps to be fitted across the UK by 2030.

This is a very ambitious target which will need a skills and training programme to be rapidly developed to deliver it. The Welsh share of the 10 million target is to fit almost 500,000 heat pumps over the next ten years, equal to approximately 4 out of every 10 households.

The priority homes to be fitted with heat pumps are the 200,000 off-gas grid homes in Wales that are heated by oil, LPG, or solid fuels, plus all new homes. While a few of these existing homes may not be suitable for heat pumps, according to a report to the UK government, across the UK “a large proportion of dwellings (91%) are technically suitable for electric heating [heat pumps] at the dwelling level, with improvements to dwelling insulation levels further increasing the proportion of homes that could be electrified to 97% of rural off-gas grid homes.”³⁶

Financial support for renewable heat is not a devolved matter, with the Renewable Heat Incentive being controlled by the UK government. Currently the UK government is consulting on changing the scheme, but its proposals fall well short of what is needed, with one critic calculating that it would take 1,500 years to meet the target for low-carbon heating. This is another area where the Welsh Government will need to seek more powers if Welsh carbon-reduction goals are to be met. But the current lack of powers in this area does not preclude the Welsh Government drawing up a much-needed Welsh heat strategy to create a pathway for heat decarbonisation in Wales.

Action is also needed to ensure that new developments do not exacerbate the challenge of meeting climate-change reduction and adaptation goals. Welsh planning policy must ensure that new housing developments are only located where there is good quality public transport, cycling and walking infrastructure, as well as close to services to reduce the need to travel. It must also ensure homes are future-proofed for more extreme weather. The government is developing new standards for new homes. Its consultation stated that from 2025 it sees heat pumps and heat networks as the preferred form of heating, alongside higher energy-efficient building, but it does not foresee a ban on the use of fossil fuels³⁷. While a step in the right direction, Friends of the Earth is calling for an immediate cessation of connecting homes to the gas grid, no new homes to be powered by fossil fuels immediately, and building standards to require extremely high energy-efficiency standards before the 2025 date the government is currently suggesting³⁸.

Policy recommendations:

- **Use powers to increase the energy efficiency of owner-occupied homes, as Scotland is planning to do, and seek more powers to influence the energy efficiency of private-rented homes, so that all homes are energy efficient (EPC C level) by 2030.**
- **Seek more powers to increase the uptake of low-carbon heating in Wales and urgently prepare a heat strategy for Wales.**
- **Ban the use of fossil fuel energy in new homes with immediate effect and require all new homes to be very energy efficient (eg, Passivhaus or similar) ahead of the proposed 2025 date.**
- **Make energy efficiency an infrastructure priority and increase Welsh Government funding for energy-efficiency schemes, in line with what is needed to meet the 2030 target.**

Renewable energy

The National Infrastructure Commission (NIC) has recently said that the most affordable way for the UK to power itself is through 90% renewable energy, backed up by hydrogen for when the sun isn't shining or wind blowing. Renewable energy is now much cheaper, faster to build, and cleaner than nuclear power, which is why Friends of the Earth opposes the development of new nuclear power stations.

The NIC says the UK will need more than 5 times the current level of renewable power. As positive a call for a significant growth in renewable energy as this is, it is still an underestimate because the NIC foresees much of the hydrogen needed being produced by using natural gas, which is not low carbon (see Friends of the Earth's briefing on hydrogen for more detail³⁹). Instead, the UK will need to increase renewable energy generation by around 8-fold.

Much of the growth in renewable energy needs to be before 2030. This is because the reduction in fossil fuel-generated electricity over the last 5 years needs to continue, some of the UK's nuclear

power plants will close, and much transport and heating needs to be electrified. Friends of the Earth has estimated that the UK needs around 14 GW of new capacity each year, much of which needs to be onshore and offshore wind. In 2019 only 3 GW of renewable capacity was added, the smallest increase in capacity since 2010, and less than half of the rate between 2012 and 2017.

Wales, like the rest of the UK, needs to generate much more renewable energy and much more rapidly. The IWA has suggested that Wales could be self-sufficient in energy using renewable energy by 2035. It suggests 11 GW of renewable capacity could be built by this date. Currently Wales has only 3.6 GW of renewable energy capacity, and capacity only increased by a paltry 0.2 GW in 2019.

The Welsh Government's current target is for 70% of electricity to come from renewable energy by 2030. This target should be easily met even with a rapid electrification of transport and heating, if more renewable capacity is added rapidly (in 2018 the 50% milestone was already met). The Welsh Government should look to exceed its 70% target.

The Welsh Government is not however in sole control of how much additional renewable energy capacity is built, because the UK controls the main financial support mechanisms (Contracts for Difference, Renewable Heat Incentive). While some subsidy-free renewable energy capacity may be built (eg, Pant y Maen), many projects will still require the guaranteed price from a CfD contract, for example, the Swansea Tidal Lagoon. Grid constraints, likewise outside of Welsh Government control, also impact on renewable energy growth.

However, the government can make Wales a very attractive location to build renewable capacity, as Scotland has done so successfully, in its forthcoming National Development Framework. Alongside renewable energy generation there must be energy efficiency in homes, businesses, and transport (see sections above).

Policy recommendations:

- **The Welsh Government should aim for 100% of Wales's electricity demand to be met by renewable energy generated in Wales by 2035 (including taking into account the need for increased generation capacity for electrification of heat and transport, and the production of hydrogen), including through community-owned renewable energy capacity.**
- **The Welsh Government must use the forthcoming National Development Framework to make Wales as attractive as Scotland for new-build renewable energy and storage, and lobby to ensure barriers are removed (eg, grid restraints, CfD opportunities). Wales's renewable energy industrial strategy should capitalise on the expertise of universities and on the dynamism of start-ups, and it also needs a strong political commitment to ensure it succeeds.**

Consumption and waste

Wales is ahead of the rest of the UK in waste and recycling and is proud of having the third best recycling levels in the world. Across all local authorities, 63% of municipal waste is reused, recycled or composted. Friends of the Earth welcomes the zero-waste goal set by the Welsh Government, but we recommend bringing forward this goal from 2050 to 2030, albeit recognising that it does not control all of the levers to make this happen (eg, on how products are designed). This should include stopping the use of incineration of waste. Incineration squanders materials that can be reused and the carbon impact for the energy it produces is twice that from gas-fired power stations⁴⁰. A circular-economy approach that prioritises a reduction in material use and greater levels of material reuse is more sustainable and will deliver economic benefits, as well as reduce material imports to Wales.

Achieving a more consistent approach to recycling provision across Wales is also needed to achieve this goal, as would a "one-stop shop" for public information and advice, covering issues as diverse as how to set up a repair shop to how to dispose of an old mattress. As much as possible, recycling of materials should be carried out within Wales, not least to prevent the harmful export of plastics to countries like Turkey⁴¹.

Action is also needed on waste prevention. For example, by the provision of a baby bundle with reusable nappies to new parents to help address the generation of nappy waste (10% of black bin waste), the reuse of paint, timber, furniture, etc. could be encouraged, as well as action on single-use plastics.

Action to reduce the consumption of unsustainable materials is also needed, for example through setting up a sustainable fashion taskforce as Friends of the Earth Cymru and Sustainable Fashion Wales have called for.

Policy levers to influence waste generation and sustainable material use should include fiscal measures (eg, a “latte levy” on single-use coffee cups, and a deposit return scheme for drinks bottles) and regulatory measures (eg, extended producer responsibility)⁴².

But while recycling is important, reducing consumption is also necessary, as is ensuring that procurement is socially and environmentally progressive.

A recent report by RSPB and WWF highlighted the scale of the UK’s consumption and the environmental impacts from it. It showed that for just seven globally traded commodities - beef and leather, cocoa, palm oil, pulp and paper, rubber, soy, and timber – an equivalent of 88% of the UK’s land area was required to produce them, much of this in areas of poor environmental controls⁴³. The CCC has highlighted that the UK’s total emissions, including consumption, are 69% greater than UK territorial emissions. Areas such as fast fashion are also coming under increased scrutiny.

While the Welsh Government can’t directly control the consumption of businesses and citizens, it can show leadership through its own £6.3 billion procurement and through forthcoming social partnership legislation⁴⁴. We welcome the inclusion of decarbonisation as one of the five priorities for procurement, and the development of a Decarbonisation Dashboard with a dedicated team to support public bodies. We would encourage the government to be a global leader in sustainable procurement, ensuring that procurement reduces Wales’s broader environmental footprint at home and overseas (not just climate impacts but also biodiversity) and drives the growth of the green economy. For example, committing to future procurement of Welsh timber to lessen overseas impacts and provide confidence to those considering diversifying into forestry.

Policy recommendations:

- **The Welsh Government should set a target of zero municipal waste by 2030, recognising that it doesn’t have control over the recyclability of all products, and develop the circular economy. This should include phasing out the use of the two existing incinerators in south Wales and refusing permission for any new incinerators.**
 - **The Welsh Government should use all the policy levers at its disposal to reduce waste and encourage reuse, such as a deposit return scheme for drinks bottles.**
 - **The Welsh Government should aim to be a world leader in sustainable procurement, using its buying power to reduce negative environment impacts at home and overseas as well as driving the long-term growth of green businesses in Wales.**
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