

Environment

& Energy



Jeremy

Winning

Corbyn

Values

Action to Secure Our

Environment

We will act to protect the future of our planet, with social justice at the heart of our environment policies, and take our fair share of action to meet the Paris climate agreement - starting by getting on track with our Climate Change Act goals. We will accelerate the transition to a low-carbon economy, and drive the expansion of the green industries and jobs of the future, using our National Investment Bank to invest in public and community-owned renewable energy. We will deliver clean energy and curb energy bill rises for households; an energy policy for the 60 million, not the Big 6 energy companies. We will defend and extend the environmental protections gained from the EU.

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Executive Summary

Britain will lead the world in action on climate change
Over 300,000 renewable energy jobs to make Britain
a world-leading renewables producer
Clean air, democratic power, 64m trees planted

- We will set a UK target of 65% of electricity from renewable sources by 2030, dramatically decarbonizing our energy system and aim towards zero-carbon electricity production
- Comprehensive industrial strategy and long-term investment from government to deliver over 300,000 new, high-quality jobs in renewables¹
- Britain will aim to be the world's leading producer of renewables technology, claiming its share of estimate \$630bn market by 2030
- Low-carbon housebuilding programme to create jobs, tackle the housing crisis and reduce bills
- Give power back to local authorities and communities to challenge monopoly producers
- Cleaner air in our cities and 64m new trees planted.

1. Lead Action on Climate Change

In 2015 the world came together to agree the landmark Paris Climate Agreement aimed at keeping global temperature rises to 1.5 degrees above pre-industrial levels. Instead of accelerating action to tackle climate change, the Conservative Government have introduced new tax breaks for oil and gas that will cost the UK taxpayer billions, cut support for renewables and for energy efficiency, and are going 'all out' for fracking. Yet we are facing a climate crisis. 2016 is set to be the hottest year on record and greenhouse gas emissions globally are still not falling. We are seeing the impacts of climate change much earlier than anyone predicted - around the world and at home. The Labour Party must stand for a different Britain - one that would play a leading role internationally and committed to cutting carbon emissions at home.²

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My Labour government will:

- Ensure the UK leads on climate change: honouring the Paris Climate Agreement - starting by getting back on track to meet our Climate Change Act commitments to cut greenhouse gas emissions; and using our international influence to champion the global shift to a low-carbon future³
- Mobilise schools and communities to help plant and care for 64 million native broadleaf trees in 10 years - storing carbon dioxide, reducing flood risk, providing homes for wildlife, absorbing air pollution, and helping to make our towns and cities beautiful places to live and work⁴
- We will reinstate the Department of Energy and Climate Change within the first month of a Corbyn-led Government.

2. Build a World-Class

Green Economy

Britain risks being left behind in the world's fast-growing low-carbon market. We will accelerate the transition to a low-carbon, renewable economy, and drive the expansion of the green industries and jobs of the future, using our National Investment Bank to invest in public and community-owned renewable energy. We will put modern low-carbon industries at the heart of our £500 billion investment strategy.⁵ We will restore business confidence through coherent, consistent policy that champions the innovators and puts Britain, our cities, our devolved governments and communities at the forefront of this new industrial revolution.⁶ This is the Britain I want to build: a future that is cutting-edge, inclusive and sustainable.

My Labour government will:

Invest in modern Britain with the new National Investment Bank and regional development banks:

- Drive investment into strategic low-carbon industries and research and development to transform our economy's efficiency, push down technology costs and create high quality jobs across the country
- Implement a comprehensive industrial strategy to deliver a new, green industrial revolution
- Fund decarbonisation strategies for energy-intensive industry such as steel, chemicals, ceramics and paper to protect competitiveness and jobs in the transition to a low carbon economy

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- Support mayors and councils as important leaders and drivers of the shift to a new low carbon economy.

Re-skill Britain:

- Introduce new college programmes and quality apprenticeships to ensure people from every community - including women and BAME people - can win the high-skilled jobs of the low-carbon future
- Engage with workers and trade unions to ensure that workforces affected by declining fossil fuel industries, such as coal and North Sea oil and gas, are supported into decent sustainable employment, with local economies diversified and local communities supported.⁷

Protect people and communities:

- Stop the planning system being rigged in the interests of developers against communities⁸
- Defend access to justice when governments make unlawful decisions over environmental issues such as fracking and air pollution.⁹

3. Run our Economy

on Clean Energy¹⁰

Our broken energy system is holding Britain back. Starved of investment by the big 6 energy companies, our electricity system is expensive, inefficient and polluting and in urgent need of renewal to keep the lights on. Yet we have enough wind, wave and sun potential not only to power our economy, but to export. Scotland recently met more than 100% of its electricity needs with renewable energy alone.¹¹ A nation of draughty homes has left seven million households seriously struggling to pay their energy bills and yet we have the skills, technology and people needing quality jobs to fix them.¹² 29,000 people die early every year from air pollution primarily caused by burning dirty fossil fuels. We will deliver clean energy, affordable heating and electricity - energy for the 60 million, not the big 6 energy companies.

My Labour government will:

Let local communities take back control of their power:

- Promote the growth of over 200 'local energy companies' within the next parliament; giving towns, cities and localities the powers they need to drive a UK clean energy

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revolution; and making public, not-for-profit companies and co-ops the centrepiece of a new energy economics.

- Support the development of 1,000 community energy co-operatives, with rights to sell energy directly to the localities they serve, with regional development bank assistance for grid connection costs. We will introduce a 'right to supply'.

My Labour government will:

Cut energy waste and costs, easing the pressure on household budgets and our environment:

- Ensure everyone has access to a decent home that is affordable to keep warm and uses energy efficiently
- Make building insulation a national infrastructure priority. We will launch a publicly funded National Home Insulation programme that would see at least 4 million homes insulated to energy efficiency standard B or C in the first term of a Labour Government - creating tens of thousands of jobs across every community, reducing the need for expensive new energy generation, and helping millions of people to save money on their bills¹³
- Build 1 million new homes – including half a million council houses - to 'passive-haus' or energy-plus standards¹⁴
- End the misery of cold rented accommodation. We will set a minimum 'B and C' energy efficiency standard for all rented housing by the end of the first parliament
- Protect people from fuel poverty through support with energy efficiency measures and with fuel bills for the most vulnerable in our society.

Drive the low-carbon transition, future-proofing our society:¹⁵

- Repower Britain: A low zero carbon electricity system by 2030, in line with advice from the independent Committee on Climate Change, with 65% renewable electricity, aiming for 85% as technology improves and diffuses¹⁶
- Create over 300,000 renewable energy jobs throughout the supply chain, boosting exports and making the UK a world-leading renewable energy producer
- Put cities, councils, devolved governments and communities at the heart of an efficient decentralised energy system
- Use our National Investment Bank and network of regional development banks to drive investment into public and community-owned renewable energy and a modern smart grid to ensure a balance between supply and demand¹⁷
- Ensure clean storage and backup: Invest to make Britain a world leader in new clean energy storage technologies and introduce a new 'Clean Power Mechanism' to replace the current expensive polluting Capacity Market¹⁸

- Allow local authorities to set annual renewables deployment targets, embedding clean energy into the core of how we think about the built environment
- Place a duty on DNO's (energy Distribution Network Operators) to deliver an annual 10% reduction in their carbon footprint; giving them an expanded remit which allows them to act as energy service providers and as co-investors in demand management, energy saving and energy storage schemes
- Clean up our transport system: Halve air pollution deaths by 2030 by promoting a shift to electric and hydrogen buses and cars; a network of low-emission zones; and to cycling with safe cycle lanes and hire schemes in every town and city
- Increase energy Research and Development spending, reversing its long-term decline
- Commit to the further development and deployment of tidal power.

End polluting energy, delivering a clean future for all:

- Take action now to keep fossil fuels in the ground, set a target date to end new fossil fuel extraction and end dirty energy handouts. 80% of known fossil fuel reserves need to stay in the ground if we are to keep global temperatures safe
- Phase out coal power stations by the early 2020s with support for workers into alternative, decent employment
- Ban fracking - further extraction of hard-to-reach fossil fuels is not compatible with our climate commitments and will cost the country heavily in the long-term.¹⁹

4. Defend and Extend Environmental Protections Gained from the EU, and Protect Nature

Everybody should have the right to live in a healthy environment and have access to nature and wild spaces. But nature is in trouble. The Earth has lost half of its wildlife in the last 40 years. 80% of environmental protections that people and nature rely on - from keeping our beaches clean to setting air pollution standards, and protecting National Parks such as Snowdonia, Dartmoor and Flamborough Head - come from the EU. Conservative Ministers have made clear that they see these protections as red tape to be torn away in a race to the bottom on pollution.

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My Labour government will:

- Fully implement EU environmental protections, including the Birds and Habitats Directives, and air pollution standards, and refuse to agree to any Brexit deal that reduces environmental standards.
- Introduce a long-term plan to stop the loss and begin the recovery of nature including:
- Strengthening environmental protections in farming and fishing: supporting farmers, land-owners and fishing communities to deliver environmental benefits alongside thriving, sustainable businesses.
- Creating corridors of nature to better connect protected nature sites, providing pathways for wildlife such as bats and butterflies.
- Banning the use of neonicotinoid pesticides which harm pollinating insects including bees and encourage bee-friendly plants in our parks, urban spaces and countryside.
- Use a precautionary principle to protect the environment and people from harm - not a pay-to-pollute approach allowing the richest corporations and individuals to wreck our planet.

Appendix

Future Scenario Costings

and Job Creation

Since the main costs of most renewable technologies (wind, solar, wave and tidal) are initial capital costs,²⁰ reductions in the cost of capital have a significant impact on the overall cost of the technology involved. The Committee on Climate Change's (CCC) baseline costings follow modelling by Oxera which allow for a significantly higher discount rate (and therefore cost of capital) than is typical in evaluating investment projects, to reflect the uncertainties associated with policy, financing risk, and technological maturity. This implies a baseline forecast of a 10% discount rate, far above the more usual Treasury Green Book figure of 3.5% used to evaluate public expenditure, (CCC 2011).

However, with the new National Investment Bank operating as a stable vehicle for long-term, cheap loan financing, and with gilt rates themselves presently at an all time low, the financial risks associated with the long-run financing of relatively new technology long-run investment projects are significantly reduced. With public sector financing committed, the interest rate

spread above base rate would be brought to a minimum. Backed up by a clear, long-run policy commitment to finance renewables, the policy risk would also be reduced to a minimal level. And given the expectation from the Committee for Climate Change of significant cost reductions in both wind and solar PV, alongside other renewable technologies, we can assume that the policy mix allows the cost of capital to be significantly reduced back towards the standard Treasury costing model.

This places our own estimates for costs at the lower end of the CCC modelling, implying no significant additional costs to households from the transition to low-carbon electricity production. Indeed, where households are able to introduce the “flexitricity” and demand-management measures that National Grid now foresees as holding immense potential for UK households, and the more standard demand abatement of housing insulation, UK households could reasonably expect to save significantly on their current household energy expenditures. The total installation costs are therefore towards the lower end of the CCC estimates, approaching £167bn in total for a major shift towards renewables in the UK. This is in line with the earlier costs scenarios provided by Prof Dieter Helm (Helm et al. 2009).

The SHED modelling conducted by Dr Daniel Quiggin and Max Wakefield forecasts a very high rate usage and effectiveness of these techniques, sufficient to help reduce household demand for energy use by around two-thirds by 2030, (Quiggin, Wakefield 2015). This is, in turn, sufficient to deliver 85% of the UK’s electricity from renewable sources with security of supply. We have adopted the more cautious, but still ambitious, modelling targets suggested by Pyory (2011) in research for the Committee on Climate Change. These imply a 65% renewable electricity target is technically feasible for the UK, as long as interventions are made by government to improve supply chains, and deliver investment. Our industrial strategy aims to do exactly that, using procurement to actively bolster UK supply chains, and delivering the investment funds cheaply and as needed. We have therefore allowed for a 65% renewable electricity mix by 2030, with the ambition to go much further than this as new smart-grid technology diffuses and households switch to lower-carbon energy.

We have derived estimates on job creation from a rapid expansion in renewable energy from numerous independent sources. In each case, it is clear that rapid deployment will be achieved with maximum effectiveness where government is prepared to intervene to support local supply chains. Reaching the 65% of electricity from renewable sources by 2030, as Pyory believe is technically feasible for the UK, the following job creation and costs per kilowatt-hour are implied. In addition, CEBR (2012) has estimated that a drive to offshore wind use could lead to a £22.5bn net export benefit, from both manufactured exports and exports of excess capacity. This is more than 70% of our current account deficit.

Job Creation Under Low-Carbon Transition Scenario

To 2030	Capacity (GW)	p/kWh	Jobs
Offshore wind	47	5	200,000
Onshore wind	21	4	20,000
Solar PV	25	4.5	50,000
Wave, tidal	8	6.5	36,000
Other	6	5	10,000
Total	107		316,000

Sources: jobs: Offshore wind: CEBR (2012); onshore wind: EWEA (2015), derived from share of projected EU onshore wind; solar PV: CEBR (2014b); wave, tidal: CEBR (2014a); other: CCC (2011), derived from projected installation. Capacity installation from Pyory (2011, Figure 5). Typical p/kWh from CCC (2011), low cost scenario given low capital costs of installation.

Bibliography:

- CCC (2011): Committee for Climate Change (2011), The Renewable Energy Review
- CEBR (2012): Centre for Economic and Business Research (2012), The macroeconomics of offshore wind
- CEBR (2014a): Centre for Economic and Business Research (July 2014), The economic case for a tidal lagoon industry in the UK
- CEBR (2014b): Centre for Economic and Business Research (September 2014), Solar-powered growth in the UK
- EWEA (2015): European Wind Energy Association (2015), Wind energy scenarios for 2030
- Helm et al. (2009): Dieter Helm, James Wardlaw, Ben Caldecott (2009)
- Pyory (2011): Pyory (March 2011), Analysing technical constraints on renewable energy generation to 2050: a report to the Committee on Climate Change
- Quiggin, Wakefield (2015): Daniel Quiggin and Max Wakefield (2015): Greenpeace: 2030 Energy Scenarios

References:

1. See Appendix on costings and job creation
2. Labour introduced the world leading Climate Change Act in 2008, but following a series of attacks on green policies by the Conservatives, progress has stalled, and effort needs to be doubled to meet the UK's legally binding climate change targets according to the independent Committee on Climate Change. Labour would once again make Britain world-leading in climate action by supporting the development of world-class offshore renewable energy industries and empowering communities and local authorities to generate their own green energy, using our £250 billion National Investment Bank and a comprehensive industrial strategy as an accelerator to generate 1 million high-quality new jobs in Britain's industries, driving a green industrial revolution.
3. Jeremy Corbyn's policy proposals in relation to climate change will not result in higher bills for households and businesses. The Labour Party leader refers to the findings of the House of Commons Climate Change Committee (CCC) findings that increased investment costs will be offset almost entirely by savings from energy efficiency. Further, Jeremy Corbyn proposes that costs for investment will be met through the National Investment Bank and the government investment commitment, and will not be passed onto consumers either through bills or additional taxation.

The CCC has advanced that cutting carbon emissions from the electricity sector is the most cost effective and the fastest way to reduce emissions from UK economy in the first instance, and therefore to meet our Climate Change Act commitments. The CCC assessed the cost implications of shifting to low-carbon electricity in 2013 and found that "investment in a portfolio of low-carbon technologies offers lifetime cost savings of £25-45 billion with gas prices at around current levels, rising to over £100 billion with high gas and carbon prices".

The CCC found that: "The energy efficiency opportunity from boiler replacement, insulation measures and efficient appliances is worth around £145 per household in 2020, with more savings potentially available in the 2020s". Further, insulating homes to the high standard of EPC B or C, would save householders an average of between £269 - £337.

The IMF has calculated that the UK effectively spent £24 billion through fossil fuel subsidies in 2014, as against £3.4 billion for renewables. Labour will shift subsidies from dirty to clean, from unsustainable to sustainable.

4. The proposal to mobilise schools and communities to help plant and care for 64 million native broadleaf trees in 10 years is a project of the Woodland Trust. The tree planting initiative should be designed to maximise benefits in terms of flood reduction and defence.
5. We will create over 300,000 high-quality new jobs in renewables alone, by 2030. (See Appendix.) We will use our £500 billion National Investment Bank and investment commitment, along with the industrial strategy, as an accelerator to generate 1 million new jobs in Britain's industries. The National Investment Bank and network of regional development banks will support the flow of investment into strategic low-carbon industries and research and development to transform our economy's efficiency to support the creation of one million new quality jobs, reducing unemployment and increasing investment and well being in every region.
6. The Committee on Climate Change (CCC) has observed that there is "currently no requirement for local authorities to take action on climate change". Its report continues: "This coupled with limited funding means there is a significant risk that local authorities will not develop and implement sufficiently ambitious low-carbon plans". The CCC has emphasised "the crucial role councils have in helping the UK meet its carbon targets and preparing for the impacts of climate change" and has outlined "specific opportunities for reducing emissions and highlights good practice examples from a number of local authorities". The committee recommends "that a statutory duty and/or additional funding is needed to ensure local authorities have stronger incentives to act".
7. As part of the Infrastructure Act, the government passed a law to maximise the recovery of North Sea oil and gas. However, research published in Nature shows that as much as 80 percent of known fossil fuel reserves must remain unburned if the world is to keep global temperature rises to 2 degrees. The Paris Climate Agreement committed the UK to working to keep temperatures to 1.5 degrees. The Infrastructure Act is the wrong approach. Coal is the most highly polluting of all of the electricity fuels. In November 2015 the Cameron Government committed to phase out coal by 2025. All of the current coal fired power stations are nearing the end of their life and most are likely to close by the mid 2020s. However, the Conservatives have no plans or policies in place to support the impacted communities, including those workers whose livelihoods are threatened. The Labour Party will ensure strategic investment into industries with a long term future in all regions of Britain will more than compensate for any job losses. The government will work closely with workers, communities and unions to manage the low carbon transformation in a way that is fair to those affected.
8. Labour enshrined people's rights to have their views considered through the planning system. The Conservatives have introduced successive laws to erode protections for the natural environment and for local communities. The Housing and Planning Bill is the latest proposed legislation that will reduce, rather than increase, residents rights. David Cameron and George Osborne when Prime Minister and Chancellor respectively committed the government to promoting shale gas and there is no sign that the new Conservative leadership will reverse this position. In August 2016, the government announced a consultation on policies that have been criticised by campaigners and others as a "bribe" for local people so they will accept fracking. The government is about to decide whether to overrule a Lancashire County Council decision to reject a bid from Cuadrilla to frack in Lancashire, despite huge local opposition. The government has been extremely inconsistent with regard to local democracy, planning and energy. The support for fracking is contrasted sharply with the policy on onshore wind turbines, which have much more public support but have been effectively banned.
9. The Conservative government has consulted on changes to judicial review costs which would make it prohibitively expensive for people or communities to use courts to challenge unlawful decisions. This will mean people can no longer challenge decisions on environmental issues such as air pollution, incinerators, fracking, coal mines etc near their homes. This will be stopped under a Labour government.

10. We need to keep 80% of known fossil fuel reserves in the ground if we are to have a chance of keeping global temperatures to 2 degrees, let alone safe levels of 1.5 degrees as agreed at the UN Paris Climate talks last year. Simply adding clean energy to a dirty energy system won't save the climate. Much of the current polluting power stations have to be closed down anyway as they have reached the end of their life. This transition will have an impact on jobs. (For the 80% figure, see Nature (2015) "The geographical distribution of fossil fuels unused when limiting global warming to 2 degrees".)
11. In Scotland, the renewable electricity target is the equivalent of 100% by 2020. In August 2016, Scotland broke a new record and produced more than enough renewable electricity to meet its needs for one day.
12. The National Home Insulation programme will cost the government between £1.8 and £2.8 billion a year. However, it will save UK households a total of £4.95 billion a year. It will return £1.27 in tax revenue for every £1 invested by government. It will increase the country's GDP by £13.9 billion a year by 2030. Further, it will reduce gas imports by 25 percent, boosting energy security, according to analysis done by Energy Bill Revolution, a coalition of businesses and other stakeholders that commissioned the research.
13. The average cost of improving home to meet EPC C is £5500 according to research from Citizen's Advice. The Winter Fuel Allowance for pensioners is currently not means tested and costs the government £2 billion per year. Insulating homes can bring this figure down.
14. The typical additional cost of building a semi-detached house to the Zero Carbon Standard could be less than £5,000 per building, according to a Zero Carbon Hub report published in 2014. Cost savings on lower bills would be made throughout the lifetime of the property.
15. The renewable energy sector is much more labour intensive than the fossil fuel sector, according to a study by the authoritative UK Energy Research Centre. They calculated that on average, electricity from fossil fuels creates 0.1-0.2 gross jobs per gigawatt-hour generated. In comparison, electricity from wind creates 0.05-0.5 gross jobs per giga-watt hour generated, and solar creates 0.4-1.1 gross jobs per gigawatt-hour generated. Energy efficiency projects also create more jobs than dirty energy, coming in at 0.3-1.0 jobs per giga-watt hour saved. Of course, many could argue that by creating jobs in one energy sector, you could be displacing them from elsewhere. But factoring this into calculation the UKERC was also able to work out the overall 'net' picture. The picture remains positive, showing an average 0.5 jobs were created per GWh of renewables compared to 0.25 jobs per GWh for fossil fuels. For every £1 million invested in green energy, around 10 jobs are created, say the researchers.
16. The Committee on Climate Change (CCC) has formally recommended the government "decarbonise the UK Grid by 2030" with the implication that the UK will reduce grid-carbon to 50 g/kWh. This would save consumers £25-45 billion compared to meeting power needs by increasing gas, according to the CCC. This is also supported by over 200 organisations including businesses, civil society organisations, and trade unions.
17. Cheap borrowing by the National Investment Bank could be used to leverage in private finance from big and small business, from communities and individuals. It would be a much more cost effective way of ensuring we have the strategically planned infrastructure we need to keep the lights on and cut carbon whilst avoiding passing on all of the costs onto consumers via energy bills in what is effectively a regressive tax at a time of exceptionally low borrowing costs.
18. The Clean Power Mechanism to replace the Capacity Mechanism would introduce a carbon merit order into capacity auctions that it would first take demand-side (reduction and response), then low-carbon, then high carbon. This could be backed up by a publicly-owned strategic gas reserve, to improve efficiency. Strategic gas reserve modelling for the coalition shows would work and is cost-comparable at worst and cheaper at best: "DECC's modelling showed that a Gas Strategic Reserve could have a lower impact on domestic bills: +0.5% p.a. on domestic bills by 2030 compared with +2.1% p.a. for a Capacity Market. Current plans for a Capacity Market imagine substantial payments to be made for capacity – up to £2.5bn annually – whereas the highest annual revenues modelled for the Strategic Reserve (before the policy was dropped) were £326m." See http://assets.wwf.org.uk/downloads/capacitymarket_post_committee_stage_joint_briefing1.pdf
The DECC report, "Delivering UK energy investment: networks" estimated in January 2015 that "from 2014 to 2020 an estimated £34 billion investment could be required in our electricity net-

works". Smart Grids also provide cost savings - the same report found that "by 2050, smart grids will reduce the cost of additional distribution reinforcement by between £2.5 billion and £12 billion." According to research by the Overseas Development Institute, the government gives the fossil-fuel industry nearly £6 billion a year in subsidies, almost twice the financial support it provides to renewable-energy providers. This is despite David Cameron telling a UN climate-change conference in September 2014: "We need to give business the certainty it needs to invest in low carbon. That means fighting against the economically and environmentally perverse fossil fuel subsidies."

19. Fracking is not compatible with climate change, as research shows that as much as 80 percent of known fossil fuel reserves must remain unburned if the world is to keep global temperature rises to 2 degrees. The Paris Climate Agreement committed the UK to working to keep temperatures to 1.5 degrees. Further, a recent report by the Committee on Climate Change on shale gas found that fracking could breach UK climate targets. Opposition to fracking continues to rise, with 31% opposing fracking and only 19% in favour, according to Government polling, while renewable energy enjoys support of 81% of the public.
20. The Committee on Climate Change (CCC) estimate that well over 90% of the cost of solar PV is capital cost, whilst around 80% of wind long-run costs are due to capital. Committee on Climate Change (2011), The Renewable Energy Review, Fig. 1.5.