



Energy in the new economy

Towards a green and fair energy system for all

This booklet explores how we could build a just and sustainable energy system in tune with Quaker testimony.

Questions about our energy system are central to many Quaker concerns. Most economic activity is dependent on energy supply. The way we make and share energy not only benefits people unequally, it is putting many people and the planet in peril.

As a society, how can we change our energy system so that it upholds the equality of all people, their needs and their dignity? How could a new energy system operate in balance with our living planet? What would an energy system that is run by and for the many, not the few, look like?

Energy in the new economy is the third booklet in the new economy series. It builds on the ideas put forward in *Principles for a new economy* and aims to help Friends and others explore alternatives to our economic system.

This document is not for passive consumption! Full of questions to aid reflection and discussion, it asks you to imagine for yourself what a different type of economic system could look like. We hope you will contemplate these questions on your own or explore them in reading groups within your meeting. For more information about reading groups, or to sign up to the programme, visit www.quaker.org.uk/new-economy.

We'd also like to hear what you think and invite you to share your feedback, questions and reflections with us directly or by posting them on the Quakernomics blog at www.quakerweb.org.uk/blog.



Investors in renewable community energy. See page 9.

Introduction

For most people, access to reliable and affordable energy is essential. Whether it's to light or heat our homes, communicate, travel or access the internet, energy supply plays a central part in our lives. Electricity and energy sources, including gas, coal and oil, have allowed societies to improve healthcare, education, economic opportunity and many aspects of human wellbeing.

Yet our current energy system is unjust. Our consumption of fossil fuels is harming people and planet. In the UK and across the world we see the same pattern – the poorest people, who use the least energy, are hardest hit by harmful aspects of energy production, climate change and rising energy prices. Meanwhile, wealthy investors and

“Our use of energy connects us directly to the greenhouse effect...”

Quaker faith & practice 25.11,
Ruth Tod, 1990

big business make vast profits from our energy economy and wield political power over its future. These injustices are underpinned by our current economic system and the inequalities, based on race, nationality and class, that divide our world. Our energy system is surely unacceptable in light of our Quaker commitment to equality.

Discussion points

Think about the ways you use energy. Which are most important for your needs and wellbeing?
Can you access enough energy to meet your needs?

The Quaker Peace & Social Witness (QPSW) new economy project

responds to minutes made by Britain Yearly Meeting between 2011 and 2015. These present a strong critique of our economic system and commit Friends to working towards something different – “an economic system in which Quaker testimony can flourish”. We refer to this as the ‘new economy’.

QPSW believes that while Friends are, for the most part, in unity about what's wrong with the current system, we are still corporately discerning both what a better economic system might look like and how we might get there. The new economy project exists to support that discernment.

In early 2016 the project produced *Principles for a new economy* – a document that outlined ten principles that could underpin the new economy. This booklet explores what those principles might mean in practice. The series is intended to stimulate debate and reflection. The ideas here do not necessarily reflect the policy or positions of QPSW or Britain Yearly Meeting.

Find out more at www.quaker.org.uk/new-economy.

Energy in the new economy

So what would a just and sustainable energy system look like?

“We do not over-consume the earth’s resources. [...] Our responsibility for the benefit of future generations and for all life on earth takes precedence over economic growth. In particular, we live low-carbon lives individually and collectively having agreed to leave fossil fuels in the ground.”

Principle 2, Principles for a new economy

Quakers in Britain have collectively committed to become a low-carbon, sustainable community, to tackle inequality and to work with others to build a just economy. Our current energy system undoubtedly presents a profound challenge to the realisation of these commitments. To build equality and peace in our communities and a ‘right relationship’ with our living planet not only requires a transition to low-carbon energy, but new ways of making, using and sharing energy resources. If we want an energy system that serves the many, not

the few, it’s essential that our energy policies and our energy system are placed under more democratic and accountable control. This booklet outlines issues in our current system, but looks towards an alternative vision. It asks:

- How could we generate energy in a sustainable way?
- How can we make sure that everyone can access energy to meet their basic needs?
- How could more democratic forms of energy production work in practice?
- How can we create a speedy transition to this new energy system?

Energy today

Fossil fuels

In 2015 over half of the UK’s electricity was generated by burning coal, gas or oil. When you add the fuels used by transport and many other technologies, our economy is clearly still hooked on fossil fuels.¹ This is simply untenable if we are to avoid runaway climate change. The UK has made international commitments towards limiting



Solar panels owned by Gloucestershire Community Energy Co-operative. The electricity provides much needed benefit to the Gloucester Resource Centre (p10).

average global temperature rises to 2°C (above pre-industrial levels), with a strong ambition to decrease this to 1.5°C. With a 1.5°C rise many centres of population around the globe may still end up underwater.

Climate scientists are at pains to stress that achieving the 1.5°C target will require zero human-made greenhouse gas emissions sometime between 2030 and 2050.² And campaign groups including 350.org have calculated that we need to keep 80 per cent of known global fuel reserves in the ground.³ This has radical implications. It means not only stopping the search for more fuels, but stopping companies and states extracting and burning most of the reserves they already own.

Fossil fuels aren't just a problem due to their emissions. Throughout their history, the extraction and

processing of these fuels have caused devastation to local environments and communities. It's often communities who are marginalised due to inequalities of class and race that are displaced, their water supplies contaminated, or their air polluted. "Ranking the relative value of humans," says writer and activist Naomi Klein, "is what allowed the digging up of all that carbon in the first place".⁴

Corporate interests

To understand our energy system, we must ask who owns, controls and profits from it. At one end of the process, fuels are extracted by companies (some of which are state-owned) like Exxon, Shell and BP, which have more wealth than many small countries. This wealth affords them formidable lobbying power and political influence.



Tokelau warriors join a day of action against the fossil fuel industry with 13 island nations in the South Pacific. Photo credit: 350.org.



Drax is a coal-fired power station in North Yorkshire that provides seven per cent of the UK's electricity supply.

Perhaps it is no coincidence that our government provides nearly £7.6 billion per year to fossil fuel companies operating in the UK, and a further £3.7 billion to subsidise fossil fuel production overseas.⁵ At the same time, it has scaled back support for renewable energy in recent years.

At the other end of the energy production process is distribution – getting energy into our buildings to keep the lights on. In the UK this is also managed by the private sector. Following privatisation of energy distribution in the late 1980s, the ‘big six’ (British Gas, EDF, E.ON, N Power, SSE and Scottish Power) now control close to 95 per cent of UK electricity and gas distribution. These companies have seen their retail profits increase tenfold between 2007 and 2013.⁶ At the same time, energy prices have risen

Case study: threatened by the cold

“I am almost 63 years old and my 16-year-old boiler is broken. I have no savings and have a few pounds more a week than pension credits, so I do not have any way of paying for a new one. I am so cold. The temperature in my living room is 15°C at the moment, and my bedroom is less. If it gets any colder, what can I do? I have several layers of clothes on at the moment and wrap myself in blankets during the day to keep warm, I go to bed early between 6:00pm and 8:00pm to keep warm. What sort of life is this? I feel some days it is not worth going on.”¹¹

Testimony from the Fuel Poverty Action website

sharply for customers. In 2014 we paid £410 more, on average, for our energy after inflation than in 2004, despite using less energy.⁷ The UK has been consistently criticised for doing little to confront the power of the ‘big six’, with its regulation body Ofgem having little power to intervene.⁸

Energy access

Rising prices aren’t just a nuisance – for the poorest consumers they can be devastating. Most energy tariffs mean that people who use the least energy pay more per unit. Around 4.5 million UK households were in fuel poverty in 2014.⁹ Fuel poverty signifies that over ten per cent of household income is spent on fuel, and in practice often means people can’t afford to heat their homes. Fuel poverty campaigners claimed that in the winter of 2014/15 nearly 15,000 people in the UK died from living in a cold home.¹⁰

Efficiency

Our energy system at present is inefficient. We routinely waste 25–30 per cent of energy in buildings due to poor insulation and inefficient products.¹² But even before this, approximately 60 per cent of energy is lost through transmission and distribution. One problem is that energy is often consumed far from where it is generated and is effectively lost in transit. Our centralised and aged grid, designed for state-run energy distribution, has also aided control by the

‘big six’. This is because small, community-run and renewable power enterprises can be blocked from accessing limited grid capacity, as they have been recently in the South West of England, where grid capacity is apparently being saved for Hinkley Point.¹³

Discussion points

Do you feel that our use of fossil fuels conflicts with the Quaker testimony to equality? If so, how?

What we want: An energy system for the new economy

Green energy

It is clear that our commitment to sustainability and justice means we must end our dependence on fossil fuels. So what are the alternatives? A range of technology already exists that can generate energy from renewable sources such as solar, geothermal, hydro, tidal and wind power. Renewables are already being used in the UK, and across Europe, to generate energy as technologies improve and the costs of generation decline. In 2015 the entire net increase in the European Union’s energy generating capacity came from renewables.¹⁴ Germany and Denmark have been able to meet nearly all their power needs through wind and solar¹⁵ at some points in the last few years and in

May 2016, for the first time, the UK was powered more by solar energy than by coal.¹⁶

Nuclear energy has slightly reduced the UK's use of fossil fuels of late, and some environmentalists still advocate nuclear as a desperate measure to reduce emissions.¹⁷ Nuclear energy has raised concerns from environmentalists and energy experts, however, but these issues are beyond the scope of this booklet to explore in depth. They include questions about the high cost to the public purse, the reliance on unsustainable uranium extraction, safety concerns and unsolved problems about the scale of nuclear waste that further reliance on nuclear energy would entail. Critics also claim that the fastest a nuclear power station could be built would still take longer than the amount of time we've got left to transition to a low-carbon energy system. Recent estimates suggest that the government could save £31–40 billion over 35 years by investing in renewable energy generation instead of the proposed Hinkley Point nuclear power plant.¹⁸

Returning then to renewables, a key question remains: will renewable energy be able to meet our 'baseload requirement' any time soon? In other words, will it be able to generate enough energy, in a dependable way, to supply our basic needs – and in the timescale required? The World Wildlife Fund



Investment in energy efficiency, alongside domestic energy generation and heat storage could save £12b.

(WWF) claims that supplying 60 per cent of the UK's electricity from renewables by 2030 is "perfectly feasible", and with greater investment and regulation could increase to 88 per cent¹⁹ to achieve zero carbon by 2050.²⁰ Research carried out by the Centre for Alternative Technology outlines how we could rapidly reduce greenhouse emissions to net zero by 2030, using only currently available technologies. These visions are radical yet achievable. They would require us to improve our connectivity with European neighbours (to prevent renewables supply being intermittent) and reduce our energy demand. This could be achieved through behaviour change, investment in energy storage and improved energy efficiency.

Investment in energy efficiency would bring down bills and could create jobs in the process. The Sustainable Energy Association claims that investing in energy efficiency schemes, alongside investment in domestic energy generation (such as solar and PV panels) and heat storage technology, could save the UK economy £12 billion per year.²¹

Accessible energy

Our belief in the equality and dignity of all people means that, in the new economy, no one must be left without energy to heat their homes, cook their food or read to their children at night. Solutions to fuel poverty must include wider efforts to address economic inequality (discussed throughout this series), but we can also build it into the design of our energy system.

This is another argument for renewables. Because the price of renewable energy is falling, while the price of fossil fuels continues to rise, investment in renewable energy could help make energy much cheaper (and therefore accessible) in the long term. In 2015 onshore wind power became the UK's cheapest source of energy, falling around one fifth from the year before.²²

Another way to make renewables work for poorer households is to increase domestic-level generation such as solar and photovoltaic (PV) panels on roofs. Some housing

associations have invested in such technologies to provide tenants with cheaper and more sustainable energy, and households can even sell unused supply back to the grid. This is just one example of how energy provision and distribution can be managed by organisations that have been set up with social objectives at their heart, in contrast to the profit-driven 'big six'.

This brings us to the question of who should own and control our energy distribution.

Discussion points

Where do you buy your energy from? Do you know how this company generates energy? Do you know who owns the company?

Taking back the power

Our new energy system must give ordinary people more control over energy generation, distribution and regulation. There are already many examples that show what energy controlled by the many, not the few, could look like.

"All individuals and groups have meaningful routes to influence public and economic policy; all voices are heard."

Principle 10, Principles for a new economy

'Member-owned' co-operative energy enterprises are one such example. They increased by 24 per cent between 2011 and 2015 and, as of 2014, there were approximately 600 such enterprises in the UK.²³ Energy co-ops can consist of a collection of households investing in and sharing the supply and any profits from, for example, PV panels on their homes.

Local energy co-operatives enable communities to regain control of their energy supply and any profit it makes, reduce carbon emissions, and mitigate the impacts of building local energy infrastructure. Ouse Valley Energy Services Company (OVESCO) is based in Lewes, East Sussex. OVESCO has 250 shareholders investing an average of just over £1,000 each and has

installed solar panels on several community buildings, including a school. It sells excess power to supplier Good Energy.²⁴ Similarly, Bath and West Community Energy operates a range of solar installations, including on schools, community buildings and business parks, and is on course to deliver enough energy for around 3,900 households.²⁵

Some community schemes are focusing on making affordable and sustainable energy accessible to low-income consumers. Nottingham City Council has set up Robin Hood Energy, a not-for-profit energy supplier that aims to sign up 10,000 customers a month and save households up to £237 a year on bills. The company, a local



Ovesco investors on the roof of Priory School in Lewes, which will generate around 35,000Wh per year. It is one of five Ovesco sites.

Case study: Gloucestershire Community Energy Co-op

“I am involved with a few community energy projects in my local area, as well as being a professional energy advisor. Working to reduce carbon emissions and reliance on fossil fuels and encouraging others to do the same is part of my testimony to the earth, and it was very much on my mind when I helped to set up the Gloucestershire Community Energy Co-op, with the support of my local and area meetings, and a contribution for publicity from a QPSW Sustainability Grant.

The free electricity and a share of the Feed-in Tariff provides much needed benefit to the Gloucester Resource Centre, which supports community groups in a deprived area of Gloucester. So this community-owned renewable energy installation is social witness as well as witness to sustainability, and shows the possibility of alternative ways of providing energy, without reliance on large companies, and with reduced carbon emissions. Unfortunately, the current government policy framework is no longer helpful for community-owned renewable energy projects, and we have been unable to set up further projects. But community energy groups are resourceful and innovative, and the next stage involves possibilities with energy supply and smart grid technologies.”

Alison Crane, Cheltenham Local Meeting

authority-owned energy company since 1948, uses energy generated from solar panels, waste food plants and the city’s incinerator, as well as electricity from the market.²⁶ Because they don’t have to worry about generating profit for shareholders, the council is hoping to undercut the ‘big six’ energy suppliers and drastically cut bills for some of its poorest households.

Robin Hood Energy is an example of a municipal energy company. This is an interesting model. Local authorities can invest public money (including public pensions they control) in renewable energy, to

supply households in their area. Profits can then be reinvested in measures to protect local people against fuel poverty, such as investing in a scheme to make households more energy-efficient. Campaign group Switched On London is calling on the Greater London Authority and London boroughs to create such a company. Unlike many private energy firms, this proposed London energy company could offer a progressive pricing system for low-income households, pay workers well, and be governed by a board of public officials, workers and London

residents that would be accountable to regular public assemblies.²⁷

Germany provides an inspiring example of how this model of energy distribution could become more widespread. Municipal 'Stadtwerke' distribution companies are already challenging the 'big four' German energy companies. In fact, around 700 Stadtwerke now have a combined share of 46 per cent of the electricity market and 59 per cent of the gas market, and employ nearly 250,000 people. Key to their success is the fact that Stadtwerke are supported by many local authorities, who have granted these companies concessions to operate local grids.²⁸

Interestingly, community and public ownership has improved public support for renewables in continental Europe. Forty-six per cent of renewable energy generation in Germany is controlled by co-operatives and households, ensuring greater support for the country's much-lauded 'Energiewende' (energy transition) policy.²⁹ In Denmark over three-quarters of wind turbines, much resisted by rural communities in the UK, are owned by co-operatives.³⁰ This may explain why 90 per cent of Danes support wind power as their main source of energy.³¹

When it comes to taking back control of energy distribution, we may want to think bigger than

simply competing with the 'big six'. Campaign group We Own It has laid out a broad vision of an energy system mostly under public control. Its *UK energy: a plan for public ownership* report calls for an economy under which a combination of regional and local public companies, co-operatives and some private companies generate energy to be transmitted through a public grid. Energy would be supplied by regional and local authority suppliers, co-operatives and small private companies. This would take investment – renationalising key parts of our energy infrastructure could cost up to £36.6 billion in order to compensate current shareholders of impacted energy companies. Yet the report claims this move would pay for itself in ten years, partly by removing the extraction of profits by these same shareholders.³²

Discussion points

Do you know of any community energy projects in your area?

Which of the models do you think best helps people take back control of their energy supply?

Investing in a better energy system

The vision offered by these alternatives is compelling. But time

and time again, the possibility of realising a greener and fairer energy system at a larger scale comes down to one thing: investment.

Grid upgrade

One large-scale investment needed is an improved energy grid. For renewable and local generation to be viable, our national grid must be updated so it can connect small-scale generators across the country. This will enable these generators to supply local areas and build the resilience of our energy system – distributing the sources of energy rather than relying on a handful of big power plants. Investment in the grid could also involve a national training programme to ensure workers have the skills to operate and develop a better energy system. Jobs could be available to those who are currently underemployed, or to those employed in the fossil fuel sector.

The case for investment

Market-based, community-led innovations have played a significant part in the development of renewable and decentralised energy models so far. But to create a country-wide transition, at the speed required, our government also needs to commit billions of pounds in public spending. Investment of this kind sounds drastic, but so is the scale of the inequality and environmental problems we face. Alongside investment in better

energy, restrictions and other policy tools could speed up the transition away from fossil fuels. We could push for a ban on fracking, for example, and de-incentivise the use of carbon-intensive energy generation by introducing measures like a carbon tax. Policies of this kind will be discussed in more depth in a forthcoming new economy booklet on global resource management.

Our current government often paints large-scale public investment as either profligate or unaffordable. But don't forget, we currently spend nearly £12 billion each year to subsidise the fossil fuel industry. These subsidies speak to the huge influence of the fossil fuel lobby compared to the power leveraged by energy-users on the ground. But they also offer a necessary



One large-scale investment needed is an improved energy grid. Ours must be updated.



Huddersfield Quakers celebrate their divestment from fossil fuels in 2014.

challenge to those who claim there is no money in the public purse for investment. So too do they undermine arguments from those in power that energy is ‘best left to the market’ – in fact, these subsidies show that the government is well prepared to intervene in the market and use both policy and public funds to shape our energy future.

Next steps

We have outlined what an energy system in line with Quaker values might look like. We have given examples of local energy projects where people are already building alternatives that both exemplify and pre-empt a different system. However, we also suggest that green investment is necessary for a wide-scale shift. If the UK government is making no such shift, there is important work to be done to increase support for renewable investment among the wider public

and to put pressure on those in power to change their course.

Some will be inspired by this kind of campaigning, but others may ask what else we can do, in our communities and our meetings, to build a just and sustainable energy system. As well as those Friends involved in community energy projects, others are already taking action in a variety of ways. As of summer 2016, over one third of Quaker meeting houses had signed up to a renewable energy supplier, and Good Energy is offering a special deal for meeting houses that want to switch provider. See www.bit.ly/quaker-energy for details.

Across the UK, people, churches and public institutions are also joining the global movement to divest their finances from fossil fuel companies. The Fossil Free movement, led by 350.org, claims to be the fastest growing divestment movement in history. In 2013 Quakers in Britain was the first religious body to commit to divest its central funds as part of this movement. Friends are among the many who are now exploring how to reinvest their finances in green and just energy, and in other elements of the new economy. Read more at www.bit.ly/quakerdivestment.

QPSW works with campaign and activist groups to demand and mobilise for change in many of the

areas mentioned above. Importantly, it creates a space where Quakers can come together to add pressure from the ground up and amplify their individual voices. QPSW, joined by many Friends in Britain, is campaigning for a vision of ‘climate justice’. That means justice for those who have been unequally impacted by climate change, and working in solidarity with them to challenge the powers that maintain the current fossil fuel economy. We think all people have the right to affordable energy that does not harm the planet and that there should be more equal and just ways of controlling our energy system. Visit www.quaker.org.uk/sustainability to find out about the latest campaigns and what you can do.

To many of us, the unsustainability and injustice of our energy system may be obvious. But this will not make a transition to a better alternative inevitable. Instead, the future of our energy system and the planet depends on our actions today – big or small. This can be daunting, which is why maintaining our inspiration, stillness and joy is a key part of the task. We must cherish the process of taking steps towards change, as well as aspiring to find ways to help build the new economy that also help us to flourish. As the civil rights activist and preacher Howard Thurman said, “Don’t ask what the world needs. Ask what makes you come

alive, and go do it. Because what the world needs is more people who come alive.”

Discussion points

What gifts and capacities do you have within your meeting that could help build a new energy system?

If you want support to explore this go to www.quaker.org.uk/sustainability.

Campaigns and groups

350 degrees

www.350.org

Centre for Alternative Technology

www.cat.org.uk

Fuel Poverty Action

www.fuelpovertyaction.org.uk

Good Energy

www.goodenergy.co.uk

Gloucestershire Community Energy Co-operative

www.gloscommunityenergy.coop

Ouse Valley Energy Services Company (OVESCO)

www.ovesco.co.uk

Robin Hood Energy

www.robinhoodenergy.co.uk

Switched On London

www.switchedonlondon.org.uk

We Own It

www.weownit.org.uk

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This document was published by Britain Yearly Meeting in November 2016 and produced under the care of the Economics, Sustainability & Peace Subcommittee. It was written by Chris Walker and Cait Crosse. For feedback, corrections and queries please email caitc@quaker.org.uk.

Britain Yearly Meeting is a registered charity, number 1127633.

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