

# 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.



Investors in renewable community energy. See page 9.

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 in 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.

## 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. Energy sources, including gas, coal and oil, and electricity generated from them, 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 climate change and rising energy prices. Meanwhile, wealthy investors "Our use of energy connects us directly to the greenhouse effect..."

Ruth Tod, 1990 *Quaker faith & practice* 25.11

and 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?

This booklet does not discuss every aspect of building a better energy system. For example, it gives little attention to the important challenge of reducing energy consumption. It does not discuss a wide range of technologies that will help us transform our energy system, and gives little attention to the ways a better energy system could be financed. Yet we hope that the



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

content of this booklet will help you ask some important questions about our energy system and how it relates to our testimony.

# Energy today

#### Fossil fuels

In 2016 83 per cent of primary energy (the energy we use found in nature, renewable or non-renewable, before it goes through a conversion process) came from fossil fuels. Our transport system runs largely on oil, and our heating is mainly supplied from burning natural gas. In that year 53 per cent of our electricity was denerated from fossil fuels.<sup>1</sup> This doesn't include the fuel used for international flights and shipping or to make the products we buy from overseas. Clearly, our economy is still hooked on fossil fuels. This is simply untenable if the UK is to meet its commitments towards limiting

average global temperature rises to 2°C (above pre-industrial levels), with a strong ambition to reduce 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 humanmade greenhouse gas emissions sometime between 2030 and 2050.<sup>2</sup> Campaign groups including 350. org have calculated that we need to keep about 80 per cent of known global fuel reserves in the ground.<sup>3</sup> 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



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.

their history, the extraction and processing of these fuels have caused devastation to local ecosystems 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".<sup>4</sup>

#### 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.

# 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."10

Testimony from the Fuel Poverty Action website

Perhaps it is no coincidence that in 2015 the Overseas Development Institute estimated that the UK government provides around \$1bn (equating to £700m in 2015) in subsidies for fossil fuel production.<sup>5</sup> 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 electricity and gas into our buildings to keep the lights on. In the UK this is also managed by the private sector. Following privatisation of electricity and mains gas distribution in the late 1980s. the 'big six' (British Gas, EDF, E.ON, N Power, SSE, and Scottish Power) now control close to 85 per cent of UK electricity and gas distribution. These companies saw their retail profits increase tenfold between 2007 and 2013.6 At the same time, energy prices have risen sharply for customers. In 2014 we paid £410 more, on average, for our energy after inflation than in 2004, despite using less energy.<sup>7</sup> 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. However, consumer concerns can be raised to the Competition and Markets Authority as another route to challenging their stronghold on the energy sector.

#### **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.<sup>8</sup> 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.<sup>9</sup>

#### Efficiency

Currently, key components of our energy system are inefficient. For example, we routinely waste 25-30 per cent of energy in buildings due to poor insulation and inefficient products.<sup>11</sup> The UK Energy Research Centre claims that half of electricity and gas currently consumed in UK households could still be saved through investment in energy efficiency measures like insulation.<sup>12</sup> Yet in recent years government funding for improving energy efficiency of heating buildings, which could play an important role in tackling fuel poverty, has been inconsistent and insufficient to significantly tackle this problem.

#### **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 electricity 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 electricity as technologies improve and the costs of generation decline. In 2015 half of the net increase in global electricity generation capacity came from renewables 13

Nuclear power 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.<sup>14</sup> However, nuclear has raised concerns from both environmentalists and energy experts, which are beyond the scope of this booklet to explore in depth. These include claims 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



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

generation instead of the proposed Hinkley Point nuclear power plant.<sup>15</sup> Critics have also raised concerns about the as-yet-unsolved problem of how to store the waste from nuclear power plants if we are to expand this industry.

Returning then to renewables, a key question remains: will renewables be able to meet a significant proportion of our basic needs for electricity any time soon? The World Wildlife Fund (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 87 per cent by 2030.<sup>16</sup> Research carried out by the Centre for Alternative Technology (CAT) outlines how we could rapidly reduce greenhouse emissions to net zero by 2030, using only currently available technologies.<sup>17</sup> WWF and CAT claim that these visions are ambitious yet possible. They would require us to improve our connectivity with European neighbours to overcome any intermittency of renewable supply and reduce our energy demand.

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 a mix of domestic and large array energy generation (such as solar and PV panels) and heat storage technology, could save the UK economy £12 billion per year.<sup>18</sup>

#### Accessible energy

A key issue is our unequal access to energy supplies. Policies, technologies and support to reduce the amount of energy that many of us use is key to a sustainable energy system. Pricing system and taxes could be better designed to curtail excess energy use. Yet we know that many people, even in the UK, struggle to afford the energy they need. 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. The UK government September 2017 auction for electricity generating contracts saw two offshore wind-power projects become cheaper sources of generation than new gas-powered electricity generation. At this time, onshore wind and solar-powered electricity generation projects were also more cost-effective.<sup>19</sup>

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

#### **Discussion points**

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

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

Principle 10, *Principles for a new economy* 

Some housing associations have invested in such technologies to provide tenants with cheaper and more sustainable electricity, 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 profitdriven 'big six'.

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

# 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 this could look like.

'Member-owned' co-operative energy enterprises enable communities to regain control of their energy supply and any profit it makes, and reduce carbon emissions. In 2017 Community Energy England identified 222 community energy organisations running 269 energy activities across England, Wales and Northern Ireland.<sup>20</sup> 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. Ouse Valley Energy Services Company (OVESCO) is based in Lewes, East Sussex, OVESCO has 240 shareholders, who have collectively invested over £400,000, and has installed solar panels



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 communityowned 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

on several community buildings, including a school. It sells excess power to supplier Good Energy.<sup>21</sup> Unfortunately, the feed-in tariff (a public finance support mechanism) for small-scale renewable projects in the UK is being phased out, posing a real challenge to projects like OVESCO. It's essential that the government changes course and continues to support small-scale renewables in order to help them remain viable.

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. It uses energy generated from solar panels, waste food plants and the city's incinerator, as well as electricity from the market. The company says it has already signed up over 118,000 customers, who are saving an average of £150 per year on their bills.

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.<sup>22</sup>

Germany offers an inspiring example of how this energy distribution model could become more widespread. Municipal 'Stadtwerke' distribution companies are already challenging the 'big four' German energy companies. 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.

Interestingly, community and public ownership has improved public support for renewables in continental Europe. Forty-six per cent of renewable electricity generation in Germany is controlled by co-operatives and households, ensuring greater support for the country's muchlauded 'Energiewende' (energy transition) policy.<sup>23</sup> In Denmark over three-quarters of wind turbines, much resisted by rural communities in the UK, are owned by co-operatives.<sup>24</sup>

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 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.<sup>25</sup>

#### **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 smallscale 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 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 will be needed to speed up the transition away from fossil fuels.

Our current government often paints large-scale public investment as either profligate or unaffordable. Yet we must remember the public subsidies currently provided for 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 challenge to those who claim there is no money in the public purse for investment. So too do they undermine arguments from those



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



Huddersfield Quakers celebrate their divestment from fossil fuels in 2014.

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 investment in a better energy system 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. One example is Good Energy. It 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, led by 350.org, to divest their finances from fossil fuel companies. In 2013 Quakers in Britain were 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.guaker.org.uk/sustainability to find out about the latest campaigns and what you can do.

To many of us, the problems with 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 gloscommunityenergy.coop

Ouse Valley Energy Services Company (OVESCO) www.ovesco.co.uk

Robin Hood Energy www.robinhoodenergy.co.uk

Switched On London switchedonlondon.org.uk

We Own It weownit.org.uk

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