How green is green electricity?

by Merrick

Most major electricity suppliers offer a green tariff. For a small premium – sometimes not even that – you can be one of their green electricity customers. But what do they mean by ‘green electricity’? Does it make any difference? Are the green tariffs offered by the fossil burning likes of Npower and Scottish & Southern Energy a positive step, or just greenwash on their part? What exactly is different about the new smaller green companies Ecotricity, Green Energy UK and Good Energy?

It’s a bit of a merry dance to get to the bottom of these questions, and there is no single obvious good clear-conscience answer to be had, but here goes.

NPOWER’S JUICE

I first came across the issue a few years ago when I saw a leaflet for Npower’s ‘Juice’ green energy tariff. Under the Juice scheme, Npower guarantee to buy at least as much electricity from renewable sources as is used by its customers signed up to Juice. It looked exciting, bold and environmentally concerned.

Surely this couldn’t be what it seemed. Npower is a subsidiary of German utilities corporation RWE, whose interests in fossil and nuclear powered stations far exceed their commitment to renewables, a position that’s not about to change any time soon.

RWE are the largest CO2 emitter in European power production. That fact alone should say it all. But it’s not just that they’re big, they’re wasteful and inefficient with it. WWF produced a report called The Dirty Thirty, ranking Europe’s thirty biggest CO2-emitting power stations in terms of energy generated per tonne of CO2 emitted. RWE own four of the top ten, worse than any other company. If they were so concerned about being green, they’d have done something about that stuff first.

If this wasn’t bad enough, RWE are suing the EU for an increase in their already overgenerous carbon emissions allowance. They’re also lobbying governments for a new generation of nuclear power stations.

Under the UK government’s Renewables Obligation, electricity suppliers have to buy a set amount of their energy from renewable sources. They get Renewables Obligation Certificates to prove they’ve bought enough. Those who’ve bought too little renewable electricity can buy spare ROCs off suppliers who’ve bought above the threshold or else pay a fine (proceeds of this ‘buy-out’ fund get split among ROC holders).

In other words, Npower and other suppliers have strong financial incentives to move to renewables; it’s not being done out of any principle but, as with any corporation, out of concern for maximising profits. The Juice scheme is a way to make it look like a moral stand and so get even more customers. The renewables sold under Juice are part of the minimum they’re obliged to supply, so signing up with Juice doesn’t encourage new renewables.

Out of the twelve green electricity tariffs compared in an Ethical Consumer report, bottom of the table were Npower’s Juice and Powergen’s Green Plan. Powergen being the company that supply the least amount of green electricity in the UK.

Yet Npower’s current billboard campaign says 'Npower: no.1 for renewable energy in UK homes'.

It's technically true, because they have the highest number of customers on a green tariff. They’ve been very good at distributing those leaflets I saw. That isn’t just because they're such a big company. Greenpeace, somewhat naively, lent their good name to the setting up of Juice.

Greenpeace severed this link last year, and one of the first things they did afterwards was occupy RWE's Didcot power station in protest at the continued use of coal.

This hasn't stopped Npower from still describing Juice as 'developed through a partnership between Npower and Greenpeace' and having antiquated glowing quotes from Greenpeace UK's head honcho Stephen Tindale.

They go further. Last week a member of Juice's sales team informed me that 'Greenpeace still endorse Juice… they will tell you we are the biggest and the best, and they still recommend us'.

Would Greenpeace really tell you that? No. 'We do not endorse or recommend Juice. We recommend that, if possible, people go to Ecotricity or Good Energy,' said Greenpeace's Press Office.

They explained that they do not recommend any single supplier as 'people can use their common sense' to choose between Ecotricity and Good Energy, but were very clear that Juice should be seen as a green tariff of last resort if for some reason your only other option was a non-renewable 'brown' power one.

Aside from the outright falsehoods, Npower imply that having the most customers on a green tariff makes them the biggest. A fairer way would be to ask what percentage of their power is generated from renewables. Npower generate a mere 5%.

This is more than most of the major generators, but still pitifully small and certainly nowhere near to doing enough about climate change. Whilst Juice is a 100% renewable tariff, the profits made from it go to Npower and their brown power, funding their lawyers suing for greater emissions and their lobbyists badgering governments for new nukes. There are surely better places to put your money.

GENUINE GREEN ELECTRICITY

There are several small companies - Ecotricity, Green Energy UK and Good Energy - who supply renewables on point of principle, who exist to do nothing else. They have their differing methods and priorities, but it's clear that there's a huge gulf between any of them and the bogus green tariffs offered by the major suppliers.

Friends Of The Earth have found rating one tariff over another so complex that they've stopped doing it. However, only Good Energy, Green Energy UK and Northern Ireland Electricity's Eco Energy tariff ever met Friends of The Earth's criteria for recommendation.

Good Energy are the only 100% green electricity supplier in Britain. It's a clean, simple, immaculate premise. They will only ever buy and supply from renewable sources, just the one 100% green tariff, no brown power ever. They have close relations with their suppliers, mostly small scale producers, and are giving a rapidly expanding and guaranteed market for whatever they can produce. They not only encourage new renewables by buying off them, but their parent company, the Monkton Group, is a small outfit that basically just owns Good Energy and directly invests in renewable energy projects. They've raised big sums by share offers to do things like buy a windfarm. The majority of shares in the Monkton Group are held by Good Energy customers.

They scored top of the table in the Ethical Consumer report, and are recommended by Tear Fund and Action Aid. The National Consumer Council's recent report 'Reality or Rhetoric: Green Tariffs for Domestic Customers' recognised the difficulty of comparing green suppliers and so it doesn't go so far as to produce rankings, but Good Energy were the only company to score maximum unqualified points in all considerations. Commenting on Good Energy, the report concluded, 'for those consumers who want a green electricity supply, pure and simple, this is probably the closest they will get to it'.

Ecotricity has a different proposition to the other green suppliers. It puts all its profits into building

new wind farms. Per customer, they say they fund new-build renewables on a scale way bigger than any other green supplier; indeed, several times greater than all others combined. Because of this position, they are recommended by the Soil Association, WWF and The Ecologist as well as articles in The Guardian. Co-Op Insurance has not only signed up with them but also promoted them to companies it invests in.

Ecotricity's website claims, 'Ecotricity is harnessed from natural sources, like the wind, the sun and water, that don't pollute and don't contribute to climate change'. This is somewhat misleading. All the power they generate comes from wind. However, they supply four times as much as they generate. They make up the shortfall by buying nuclear and fossil electricity from other generators.

This balance is going to change; as they pour their profits into their own wind farms, the proportion of renewables in their mix will increase. They guarantee a minimum of 10%, but from 17% two years ago it's now 30% and still rising fast. They trebled their customer base last year, and accordingly are going to double their wind capacity this year.

It is a little bit of a dilemma, though. At present some 70% of Ecotricity's power is from non-renewables, most of it from climate change causing fossil sources. They do offer a green tariff – '100% Energy' - that promises to buy from renewable sources along the lines of Juice or Good Energy, but they charge a premium for it and buy the power mostly from older plant including environmentally questionable hydroelectric dams. They actually prefer customers to go for the brown power option as, even though it's cheaper for you, it's more profitable for the company and therefore leads to more money going into new-build renewables.

It might make you instinctively recoil at first, but if you believe that we need maximum windfarms on stream as soon as possible then there's a good argument that this is the best way we as individuals can make it happen. When the coal and nuclear power stations get decommissioned, there needs to be enough renewables there to take up the slack, otherwise we'll end up with new-build coal and nukes. Not to have a massive programme of new renewables now is to guarantee coal and nukes into the second half of the century. We can't afford that.

The question is, how do we balance that investment benefit with encouraging fossil-burning to raise the money? Ecotricity's position is certainly not as holy as a 100% renewables tariff in the immediate short term, but it can be argued that because it draws in more money for new-build then in the medium and longer term it's the most effective. And environmentalism is surely all about that longer view.

Good Energy will have none of this approach. They argue that the long-term view means we have to stop consuming fossils now; if we've already burned too much then to burn more is irresponsible and undoes much of the good of spending the profits wisely. They also point out that buying from new small generators is effectively the same as investing directly, except that they aren't becoming one big powerful company.

BETWEEN A ROC AND A HARD PLACE

Good Energy 'retire' 10% of their Renewables Obligation Certificates, rather than selling them on to suppliers who don't sell much renewable power. This means there's less ROCs on the market, so the price goes up. This, in turn, makes buying ROCs less cost effective and pushes those who do it towards building some new renewables. The retiring of ROCs was the clincher that made Friends of The Earth recommend Good Energy over Ecotricity.

Ecotricity don't retire any of their ROCs. They see the positive effect of spending the money on new windfarms as outweighing the benefit of nudging the price of ROCs a little higher and making more money be paid into the 'buy-out' fund that's shared among ROC holders.

It's a tough call; selling them has clear measurable benefit, whilst retiring them is not only more

philosophically pure but knows that if we can lean on the big boys to go into new-build we'll see it done on a colossal scale. Thing is, Good Energy's ROCs are going to be so few in number that their price-rise effect will be small, and the knock-on effect waits for price rises. Ecotricity might sell the right to pollute a bit more to fossil burners, but it immediately and directly translates into big spending on new-build renewables.

Told you it was a tricky issue without absolutes. In practice, Good Energy's policy is helping Ecotricity's; if the price is pushed up by retiring ROCs, then Ecotricity get more money from selling theirs and so invest in more new-build.

People and Planet's 'Green Power Options' report recommended Good Energy first for the retirement of ROCs, but Ecotricity were ranked second, ahead of all the major suppliers' tariffs.

Good Energy are the more expensive of the two, but then between their principled stands of buying only expensive renewable electricity and then essentially binning cash by retiring ROCs, they're bound to be pricier. Buying brown or part-brown power is cheaper on your wallet now, but that's because you're refusing to pay the real cost. People, animals, entire species and ecosystems will pay for it in future with their lives.

GREEN ENERGY UK

Green Energy UK's name rarely comes up when this issue's discussed. This seems to be largely due to their newer place in the market and complete lack of advertising rather than anything askew in their activities. They offer two tariffs, a 100% green one, or a cheaper one called Green Energy 10+. This latter option promises to supply at least 10% above the Renewables Obligation's minimum for green power (this year the RO is 6.7%, so GE10+ supplies at least 16.7% green); it's less than a lot of green tariffs, but then it's pretty cheap. Across the two tariffs, they're supplying a hefty 58% from renewables.

They have been promising to invest in new-build since inception, but due to a lack of customer base and some financial trouble it hasn't happened yet. However, they're highly confident it will start this year, and are in talks to fund three facilities, one solar and two small scale hydro. (The hydro is river-run and will certainly not entail any dam building). They won't be putting any money into wind power as the industry is well-funded and they believe other energy sources need developing. They plan to re-invest up to 50% of profits in new-build. But put another way, that's a promise that most of their profits will not fund new-build. Whereas it should be borne in mind that Ecotricity are already doing it, and not in such a literally by halves way; every penny they make is rapidly spent on new wind turbines.

The unique thing Green Energy UK offer is free shares in the company for the first 100,000 customers. It's unlikely to result in any great windfall; what it offers is a chance to properly hold the company to account. If Ecotricity wanted to put a turbine somewhere dodgy, what could you do about it? With Green Energy UK, you could turn up to the AGM and put their jobs on their line.

SCOTTISH & SOUTHERN ENERGY

Scottish & Southern Energy's salespeople claim SSE is the greenest electricity company (mind you, they also claimed there are no 100% renewable suppliers and that gas is a renewable power source). At 7.5% renewable they are the best of the big boys, but that's really not saying much. They're barely over the minimum threshold for the Renewables Obligation; it's still over 90% brown power. And, like RWE Npower, SSE are suing the EU for an increase in their carbon emissions allowances.

What's more, the amount of green they have is not due to any principled stand. When Britain's state-owned electricity was broken up and privatised, SSE happened to buy up a load of dams, around 75% of the UK's hydro capacity. SSE categorise this as renewable, and despite some new-build including the massive Shetland wind farm and some investment in microgeneration, it's these

old dams that have formed the basis of their claims to being green.

The Renewables Obligation was designed to encourage new-build renewables. By imposing a penalty on brown energy supply and awarding Renewables Obligation Certificates for the supply of renewables, it should stimulate growth in the latter.

SSE saw subsidies in the offing. Initially the government set the Renewables Obligation limit on hydro plants at production of 5 megawatts. Most of SSE's hydro plants are above that level. After some lobbying, the government upped the threshold to 10MW. SSE's James Martin lobbied the government for an increase to 30MW. This had nothing to do with any SSE commitment to renewables; they were just sniffing out free money for running their existing plants.

So, the Renewables Obligation was designed to stimulate growth in new-build, yet it was being used to subsidise paid-for, profitable established plants 40 or 50 years old.

And it got worse. When the government eventually decided to go no higher than 20MW for the Renewables Obligation, SSE cynically went round seven of their plants and reduced their capacity to under that threshold, cutting it by around 25%. In the precise opposite of what the Renewables Obligation was supposed to do, it led to SSE being subsidised for no new-build and a reduction in generation of renewable electricity!

This is what happens when a company exists not to maximise the amount of renewable energy generated but whose stated 'core objective… is to deliver sustained real growth in the dividend payable to our shareholders'. Green Energy UK give free shares to customers so you could go and sack the board for doing such devious and ecocidal deeds. When Good Energy issue shares they encourage customers to buy them, and indeed are mostly customer-owned. Ecotricity have no external shareholders, so all profits and all focus are on the one mission to build as many wind turbines as quickly as possible.

There are bigger environmental issues with dams. All but the very smallest have a system of dams and tunnels. They gather silt behind the dam wall, blocking the flow of nutrients and wildlife downstream. Over 45,000 hydroelectric dams have been built – averaging more than one a day last century - fragmenting many of the world's major rivers. They are an environmental catastrophe in wildlife terms, but that's not the half of it.

Despite what the government and SSE say, hydroelectric dams are not clean, green friends of the climate. The plantlife they submerge decays without oxygen, so it gives off methane. For several years after the land is flooded all the immersed vegetation gives off a huge pulse of methane. Even after it subsides, methane production continues as seasonal drops in reservoir levels allow plants to grow which later get submerged. This is serious stuff - methane's impact on the greenhouse effect is more than 20 times that of CO2.

So, for example, a study of the greenhouse effect emissions from the Curuá-Una dam in Brazil showed that, even more than a decade after filling, it was nearly four times worse than if the same amount of electricity had been generated from burning oil.

The effect is worse in tropical areas where plant growth is more vigorous, but studies in temperate areas show that the greenhouse effect contribution is still significant. The World Commission on Dams – despite being paid by the largest funder of dams the World Bank – said, 'there is no justification for claiming that hydro-electricity does not contribute significantly to global warming'.

A spokesperson for SSE said, 'we know some environmentalists have a problem with dams. But as far as we see it, it's power from water running down hills. The water would still run down the hills even if there wasn't a dam there. We think it's the greenest form of electricity there is.'

With modern environmental standards, large dams simply wouldn't get planning permission. There

are smaller scale, low impact hydro plants. Good Energy buys from several that are essentially glorified water wheels, and as they have no dam reservoir there isn't the plant-growth methane issue. So, some small hydro can still be considered as genuinely environmentally friendly renewable energy.

But old hydroelectric dams are really not 'the greenest form of electricity there is'. Saying so is nearly as absurd as SSE's publicity claim that being on their Power2 green tariff means you can 'decrease greenhouse gases just by ironing'.

A more recent Power2 leaflet offered to plant six trees a year per customer to offset their gas and waste carbon emissions. Planting trees as carbon offsets is a complete fraud. The Advertising Standards Authority ruled that SSE's leaflet claiming it would offset the emissions was unsubstantiated and untruthful.

OTHER GREEN TARIFFS

There are other green tariffs offered by the Big Six suppliers, but none of them stand up to scrutiny.

Scottish & Southern Energy also offer RSPB Energy, where they donate a £5 a year per customer to the RSPB. It costs about 5% more than normal electricity. It claims to be 100% renewable, but 90% of it is from large-scale hydro, the methane-intensive form of energy so un-green that it doesn't qualify for ROCs. Instead of signing up to that tariff, you could stop funding climate criminals and donate your fiver directly (perhaps out of the 5% premium saved). At a paltry 10p a week to the RSPB, you've got to wonder whether customers on the tariff are giving more money to SSE's lawyers suing the EU for greater emissions. Whichever, the climate change caused by SSE's fossil and dam installations will surely be far worse for birdlife than any redress £5 a year can buy. The risible Power2 tariff, incidentally, is 100% large-scale hydro.

Scottish Power have two green tariffs. The Green Energy Fund is where customers who have gas and electricity with Scottish Power forfeit their 'duel fuel discount' of £10.50 a year. The money instead goes into a fund that supports community-based renewables. Most importantly though, the Green Energy Fund tariff does not supply power from renewable sources. They also do Green Energy H2O, which does say it supplies 100% renewables, but it's entirely from large-scale hydro.

British Gas offer two green tariffs. Climate Aware is not a supply of green electricity at all, it supplies the same brown electricity but charges customers a premium of £30 a year which is given to Climate Care for carbon offsetting projects; in itself a dubious and fraudulent practice. The other one is Green Electricity which supplies green electricity and pays another offsetter, the CarbonNeutral Company, to plant a laughable one tenth of a tree per customer. Like Npower, British Gas supply less green electricity than the Renewables Obligation requires, so being on their green tariff is just buying what they'd be supplying anyway and doesn't stimulate green production at all.

EDF also have two tariffs. The Green Tariff supplies renewable electricity and puts about £15 per customer per year into a fund for community based and educational renewable projects. However, again, the renewables form part of their legal minimum under the Renewables Obligation, it's not encouraging new renewables at all. Climate Balance is a new tariff which, like British Gas' Climate Aware, does not supply green electricity but puts some money into things that 'result in reduced CO2 being emitted'. Pay a premium, use unsustainable amounts of brown power, have a little offsetting. Like they say in Apocalypse Now, we'll cut 'em in half with a machine gun and then give 'em a band-aid.

Imagine if I ran a factory tipping loads of toxic waste into the river out the back. Instead of stopping it, I just carry on selling my products and charge you a premium which I then pay to someone else on the other side of the world to stop them tipping a little toxic sludge into their local river. I would not do anything to abate the poisoning of my river. In fact, as more people bought from me because

of my wonderful offsetting practices, my factory's production and the resulting dumping of toxic waste would increase. Would such offsetting salve your conscience? Or should you stop buying from me and try to have me imprisoned?

Powergen's Green Plan sells 100% renewable electricity, but once more it's only part of what they're required to do under the Renewables Obligation dressed up as a moral stand; it doesn't bring any more on-stream. Plus they charge a premium of about £25 a year per customer, of which they put £18 into a trust fund to support new community-level renewable projects (presumably keeping the £7 difference as a bonus for themselves). More brown masquerading as green.

Besides the subterfuge in the claims for the green tariffs, there's a bigger picture to be seen. These people have massive commitment to unsustainable and environmentally disastrous fossil and nuclear generation that way exceeds their renewables. Scottish Power, along with RWE Npower and Scottish & Southern Energy, are taking legal action against the EU to increase their carbon emissions. EDF is the proud operator of 58 nuclear reactors, and is helping build new ones in China. Powergen supply less renewable energy than any other supplier whilst in the UK alone they are investing literally billions of pounds in new coal power stations.

GO REALLY GREEN, NOT GREENY BROWN

In the murky world of green electricity tariffs many claims are not what they appear to be. But what is absolutely clear is that the Big Six companies do not want to take proportionate decisive action on climate change. If you do, you need to make sure you're not with them and move to a real green electricity company.

Sifting through the recommendations of environmental organisations, the two names that come up again and again are Ecotricity and Good Energy.

Switching to a genuinely green tariff is one of the simplest, quickest and easiest things you can do to have an impact on climate change; it is also one of the most effective. Good Energy, Green Energy UK and Ecotricity are the only real contenders in green electricity supply. All other green tariffs are scams run by fossil burners.

There is no way that renewables can supply our present demand for electricity; we have to reduce the amount we consume. It's equally certain that what we do consume in future has to be produced sustainably. This means taking our money away from the people who are burning fossils whilst lobbying hard to be allowed to burn more, and giving it to those people who are building the sustainable alternative today.

The methods of the real green companies are so different that it isn't that easy to compare them on ethics. It's for you to pick which seems the most effective to you. Their positions are all principled and honourable, and signing up with any of them makes a significant contribution to the fight against climate change.

If you have a recent electricity bill to hand then it takes about five minutes to switch over, a couple of clicks from here.

Ecotricity: www.ecotricity.co.uk

Good Energy: www.good-energy.co.uk

Green Energy UK: www.greenenergy.uk.com