

THEOLOGICAL RATIONALE FOR ADOPTING SOLAR PV:

For independent churches in the UK

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Introduction

Solar PV installation can be regarded as a part of a Christian's response to God in three ways: (i) Stewardship; (ii) Creation Care; (iii) Justice.

Stewardship

A principle of Christian stewardship is we use money in the life of the local church to support the activities of worship and community that are central to Jesus commands to go and make disciples (Matt 28:19-20), i.e. *The Great Commission*, and to love our neighbour as ourselves (Matt 22:37-40), i.e. *The Great Command*. Giving reveals where our heart is (Matt 6:21) and what we invest in is the best guide to what we really believe as a church.

In a church, gifts of money ought to follow from the values of the church, in other words, we 'let mission lead where money follows'. Most church have never actively sought to make money through investments or business ventures, because of the potential to:

1. distract the church from its central purpose (mission)
2. undermine the principle of generosity that is central to Christian life (discipline)
3. damage to reputation if the business fails (image)
4. damage to financial stability if the business fails (risk)
5. create conflicts of interest between church members and/or other members of the community (neutrality)
6. exploit others to gain advantage (justice)

The church is nevertheless a consumer of goods and services, which means that the trustees have to make decisions about which businesses they choose to do business with. These decisions are informed by principles of value for money, justice and trust.

To invest in Solar PV, a church would need to be satisfied that this was a wise act of stewardship. The venture would need to avoid the risks identified above and also satisfy the criteria of justice and creation care that are central to our understanding of Biblical stewardship.

Creation Care

Churches typically emit carbon dioxide, because they consume energy that is generated using fossil fuels. The scientific consensus is that carbon dioxide and other greenhouse gases are contributing to climate change.

Climate Change

According to the majority of international scientists, there is now more than a 90% probability that greenhouse gases such as CO₂ emitted from human activity is causing dangerous changes to the planet's climate.ⁱ The current impacts of climate change include loss of the world's ice caps and glaciers, extreme and unpredictable weather patterns, prolonged droughts and rising sea levels. People across the globe therefore need both to adapt to these rapidly changing conditions and to mitigate behaviour in order to prevent the situation worsening. It is clear that poorer nations and communities are already experiencing a serious loss of life through a mix of drought, disease, famine and flooding. Currently there are 7 billion people on our planet, by 2100 there will be between 12 to 15 billion. These people will need to be fed under conditions made much worse for agricultural production by global warming. *Churches, therefore, are a polluter of harmful substances in order to heat and power premises and conduct their mission.*

The Bible and Environmental Pollution

Environmental pollution is viewed in scripture as the failure to follow divine law and the resulting human suffering is regarded as judgement upon the sinful:

The earth dries up and withers,
the world languishes and withers,
the heavens languish with the earth.
The earth is defiled by its people;
they have disobeyed the laws,
violated the statutes
and broken the everlasting covenant.
Therefore a curse consumes the earth;
its people must bear their guilt.
Therefore earth's inhabitants are burned up,
and very few are left. (Isaiah 24:4-6)

The Biblical framework 'suggests that we should understand the ecological problem in terms of a triangular relationship between God, humans, and nature'.ⁱⁱ Pollution is an expression of sin (e.g. human greed) that we need to repent from. Romans 8:19 tells us that 'the creation waits in eager expectation for the children of God to be revealed', because the children of God are those who are able to live according to God's purposes for his creation, both in this age, but also in the age to come when heaven and earth become united.

The unifying theme of the gospel story, at least in the Synoptic Gospels (Matthew, Mark and Luke), is Jesus' messianic mission to proclaim the

inauguration of the kingdom of God and to practice its presence...The kingdom of God should be understood as the renewal of creation, the restoration of God's rule over his creation, in opposition to all that alienates, disrupts and damages, and the bringing of God's purpose for his creation thereby to its final fulfilment.ⁱⁱⁱ

Christian life should be a witness to the kind of relationships that will be all pervasive in the new heaven and earth that is to come. The Christian life is just as much a part of our witness to Jesus the messiah, as our statements about what He has achieved in the past for our salvation.

Justice

Today's rich nations are responsible for global warming, because they have used fossil fuels to generate wealth over a long period of time (i.e. at least the past 200 years). It is unfair to expect third world countries to make carbon emissions reductions for a number of reasons. First, the rich nations have the resources to make the changes as a result of their historical exploitation of fossil fuels. Second, it would be unfair for rich nations to demand poor nations to adopt low carbon development, when they are not prepared to do so themselves. Third, rich nations need to take the lead in emissions reductions and bear the cost of creating the economies of scale that will make low carbon generation technologies affordable for the poorest nations. Fourth, why should third world countries be denied the opportunity of lifting themselves out of poverty by emitting carbon, when the rich countries adopted that same route to development? **If we shirk our responsibilities to solve the problem that we have created, how can we claim to love our brothers and sisters in the developing world?**

Risks to Churches

Risk	Appraisal
1. (mission)	<p>Solar PV is not like running a normal business. They are low maintenance, requiring minimal resources once installed. There is little opportunity to grow PV involvement due to the limitations of roof space, unlike most businesses that can be grown.</p> <p>The opportunity cost of investing the money up front needs to be considered, but this is only over the timescale before the start up money is recouped. In the medium to long term the scheme will contribute to the church mission.</p>
2. (discipline)	<p>It is unlikely that the income will negate in any way the need to be generous as a community to sustain our mission. There will still be a need for generosity for the church to function.</p>

3. (image)	Minimal in comparison with potential human failures in ministry situations with people. Unlike a normal business the failures will be due to external organisations failing in their duty e.g. government and/or manufacturer. Insurance mitigates this risk. Taking action actually serves as an act of leadership in our community, to demonstrate that our worship of God has integrity and influences our behaviour in response to God.
4. (risk)	Unlikely that the church will become reliant upon FIT payments to continue running. Relatively small investment in comparison to the size of church.
5. (neutrality)	None envisaged, we can even keep our energy supplier if necessary and decision will be made on value for money, justice and trust.
6. (justice)	See below for extended discussion.

Will PV exploit others to gain advantage (justice)

The Money We Make

Joseph invested for future prosperity, when saving harvests for seven years to plan for seven years of famine (Genesis 41). Our context is one of rising energy costs. Money raised by energy harvesting and money saved through reduced bills, can be used in various ways to reach our community with the gospel in Exeter and overseas.

How we make this money through the Feed In Tariff (FIT) Scheme

The FIT is established in law by the government (2008 Energy Act). The scheme is paid by the energy suppliers (i.e. mainly shareholder owned companies, and a few not-for-profit charities and mutuals). The suppliers pass on the cost of FIT to their electricity customers. *It has been argued that people who don't install renewable energy systems pay for those who do, which is unfair to the supply companies and consumers in fuel poverty.* The moral debate over the effectiveness and equity of FIT has been rehearsed in the Guardian.^{iv} The criticisms of FIT have little evidence to back them up and the moral arguments against FIT have been successfully refuted.

Lets have a look at two potential kinds of unfairness:

1. Suppliers:

The supply companies do not lose out because there is a levelling process to ensure that the overall costs are spread out uniformly across all supply companies. The big six suppliers

have seen their profits rise in the last two years and margins remain healthy.^v In fact, nobody is arguing that the big six suppliers are damaged by the FIT scheme in any way.

2. Consumers:

A fifth of UK households live in fuel poverty, defined by those spending more than 10% of disposable income on fuel.^{vi} So this is a much more significant aspect to consider than the effect of FIT on suppliers. To understand the issues, we must take into account the wider context of responsibility for energy supply in the UK, which individual churches have very little ability to influence. A church would not wish to support a scheme that was injurious to the poor, so they would need to be certain that FIT is a just scheme to invest in. The leadership teams will have a view about this, but please bear in mind:

- It is perhaps of some encouragement that many members of churches have viewed FIT as an appropriate scheme to be involved with as Christians.
- Churches already receive Government money through Gift Aid, which is diverting tax payers' money to those churches. One could argue that this is an unfair system of subsidy, because our church members' taxes are being diverted from supporting social provisions, e.g. hospitals, which our members still use. This is a form of Christian free-riding. However, we know that churches provide an important place where people can find hope and compassion, which is why churches are confident in taking Gift Aid to support their work. A similar argument could be made about churches use of the Feed in Tariff income if they go ahead with a scheme.
- Many Housing Associations and charities have adopted PV to benefit residents by lowering their fuel bills. Therefore, the FIT scheme has already benefitted many low income communities.
- There are lots of journalistic comments on FIT, both positive and negative. The academic research concludes that 'a well-designed (dynamic) FIT system provides a certain deployment of electricity from renewable energy sources (RES-E) in the shortest time and at rather low costs for society'.^{vii}
- Government has the option of directly assisting those in fuel poverty, but has chosen not to in favour of using the private sector to offer subsidies to the poorest consumers.
- The Government actively regulates the energy market to ensure those in fuel poverty have access to preferential tariffs and energy conservation measures. From April 2011, the Warm Homes Discount (WHD), requires domestic energy suppliers to provide approximately £1.13 billion of direct and indirect support arrangements to fuel poor customers over four years: pensioners on a low income receive an annual rebate of at least £120; those at risk of fuel poverty are also targeted by the supplier for rebates
- The average yearly cost of the feed-in tariff scheme to household levy payers is projected to be £8.50 per year to 2030. These are the costs for all technologies not just domestic solar PV. In this respect, unlike the hidden costs to all households of, for example nuclear subsidy, or the Renewables

Obligation, the feed-in tariff scheme is transparent. So the question is whether an average household levy of £8.50 per year makes the feed-in tariff scheme regressive or not.^{viii}

- Please note. The Renewables Obligation (RO) is the main support mechanism for renewable electricity projects in the UK.^{ix} RO applies to large scale generation and is a separate issue to the small scale generation that is mainly supported through the Feed-In Tariff scheme (FIT). Therefore, a judgement of whether FIT is fair, is a separate judgement to that of whether ROC is fair. Therefore, we can just concentrate on the justification for FIT.

We have to weigh up the needs of the poor in developing world countries where climate change is harming the livelihoods of the world's most poor, with our own poor consumers.

Decisions

Eco-Congregations and those inspired by initiatives such as *Hope in God's Future* believe that churches needs to show action in the area of mitigating their carbon footprint. If a church pumped emissions into a neighbouring hotel, because it was convenient and a cheap option, they would surely feel ashamed to proclaim the name of Jesus to those hotel guests. What we are proposing is taking this principle of care and applying it to our global responsibility to others in the developing world.

It is clear that the main theological rationale is to limit our role as a polluter. There may be several ways of doing this. (i) offsetting via a third party; (ii) offsetting by investing in renewable energy in the developing world; (iii) adopting micro-generation of energy on site. The first two options would provide no return on investment, but would be worth considering. The third provides assurance that we are achieving the mitigation we demand and there is the additional bonus of a return on investment that we have shown are not contrary to the mission of the church.

- i Parry, Martin Lewis, ed. (2007) *Climate Change 2007: Impacts, Adaptation and Vulnerability: Working Group II Contribution to the Fourth Assessment Report of the IPCC Intergovernmental Panel on Climate Change*. Vol. 4. Cambridge University Press.
- ii Young, R.A. (1994) *Healing the Earth: A Theocentric Perspective on Environmental Problems and Their Solutions*, Broadman and Holman, Nashville, p.191
- iii Baukham, R. (2009) 'Jesus, God and nature in the Gospels', in R.S. White (Ed.) *Creation in Crisis: Christian Perspectives on Sustainability*, pp.209-224
- iv Monbiot, G. (2010) Are we really going to let ourselves be duped into this solar panel rip-off? *The Guardian*, 1st March. Available Online URL: <http://www.theguardian.com/commentisfree/2010/mar/01/solar-panel-feed-in-tariff> [accessed on 20.12.2013]; Leggett, J. (2010) I accept George Monbiot's £100 solar PV bet, *The Guardian*, 9th March. Available Online URL: <http://www.theguardian.com/environment/cif-green/2010/mar/09/george-monbiot-bet-solar-pv> [accessed on 20.12.2013]
- v Ofgem (2013) Factsheet 123, 25 November. Available Online URL: <https://www.ofgem.gov.uk/ofgem-publications/84644/factsheet-making-profits-six-largest-energy-suppliers-clear-nov2013.web.pdf> [accessed 20.12.2013]
- vi Lorenc, A., Pedro, L., Badesha, B. Dize, C., Fernow, I., Dias, L. (2013) 'Tackling fuel poverty through facilitating energy tariff switching: a participatory action research study in vulnerable groups' *Public Health* 127(10), 894-901 Available Online URL: [http://www.publichealthjrn.com/article/S0033-3506\(13\)00240-0/abstract](http://www.publichealthjrn.com/article/S0033-3506(13)00240-0/abstract) [accessed 20.12.2013]
- vii Haas, R., Resch, G., Panzer, C., Busch, S., Ragwitz, M., & Held, A. (2011) Efficiency and effectiveness of promotion systems for electricity generation from renewable energy sources—Lessons from EU countries. *Energy*, 36(4), 2186-2193.
- viii Leggett, J. (2010) Annotated critique of George Monbiot's anti-solar columns by Jeremy Leggett. Available Online URL: <http://www.jeremyleggett.net/2010/03/monbiot-vs-leggett-on-solar-pv-all-the-arguments-in-one-place/> [accessed 20.12.2013]
- ix Now being replaced by a Contracts for Difference scheme, which is a government subsidy to secure investment in renewable energy. See <https://www.gov.uk/government/consultations/transition-from-the-renewables-obligation-to-contracts-for-difference> [accessed 20.04.2015]