

Professor Barnham pointed out that the growth of solar PV in Germany between 2007 and 2012 has resulted in a 20% reduction in peak wholesale energy prices and at times over Easter period 2014, Germany was generating 36% of its electrical power requirements from solar energy. He emphasised the important difference between energy and power and the significance of the timing. Since wind energy is complementary to solar, together they could produce three quarters of UK power requirements. Biogas could provide a further the 17% back up power and only 5% electricity storage would be necessary. If PV development in UK were to continue following the German example, solar power output could be 22 times larger than the proposed new EDF reactor well before its start date of 2023.

Professor Barnham is convinced that if offshore wind installations continue at the rate they have achieved in recent years, Britain could have enough offshore wind power for an all renewable electrical power supply by 2020 - three years before the new Hinkley reactor (though he thinks it unlikely that insufficient investment will be forthcoming to build it). His presentation also pointed out that onshore wind power and biogas from waste need to increase faster to provide their contribution to an all renewable power supply by 2020. However vested interests in nuclear power, and any political decisions which result in scaling back development in renewables could stop the encouraging progress which has been made over the last few years.

Looking to the future, Professor Barnham spoke about his 'Plan B' which would involve moving the 1.5GW Atlantic turbine array to Hinkley at half the cost of building the new Hinkley reactor, as well as being completed up to four years sooner. Finally reference was made to the potential of tidal lagoons especially Swansea Bay, the development of

further pumped energy storage and the use of Concentrated PV (CPV) designed to track the sun.

In summary, the future is about action, decision, attitude and though a global effort is needed, we can all do something. Through the Transition Movement we can encourage more local community investment in renewables - especially solar - and all switch to Good Energy (who supply 100% renewable electricity) and persuade local authority offices and civic buildings to do the same.

Keith's new book - 'The Burning Answer' - in which all this and much more is explained - has been described as a solar manifesto for the new climate-aware generation, and a must-read for climate-change sceptics.

### More energy from the sun?

Both Willersey and Evesham churches are actively exploring the possibility of generating their own electricity from solar (PV) panels on their south-facing roofs. Watch this space for an update next issue.

### Circuit Eco Barn Meeting 2015

The Ecoteam discussed plans for a Circuit event to be held at in the barn at Colemans Hill Farm, Mickleton on Sat 6<sup>th</sup> June (day before Environment Sunday) to share ideas and progress on Caring for Creation. There would be an opportunity to see an "Ecohouse", join in a bring and share tea, followed by hymn singing and an address by a keynote speaker; all 8 churches would be invited to contribute. The event would be submitted to the December Circuit meeting for approval.



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Caring for God's Earth

# EcoNews NOV 2014

Stratford & Evesham Circuit of the Methodist Church

## President rededicates energy efficient church in Stratford

The redevelopment project in Stratford Methodist church was finally completed on time and within budget in June 2014, making it one of the "greenest" churches in the country. On 20th September the refurbished church centre was re-dedicated by the President of Conference, Rev Kenneth Howcroft and Vice-President, Gillian Dascombe with a congregation of 200. The President praised highly the efforts we had put in to make the church premises better equipped for both worship and community work in a sustainable way.



It will be two years before we can assess the full benefit of all the energy saving measures but the indication from our energy survey so far is very encouraging.

Since last December we used 8034 kWh of electricity from the national grid - slightly less than the 8617 kWh of green electricity from our solar panels. As the electricity used in the first 4 months included that used during construction work, the usage from national grid in future should be even less.

The new LED lighting and automatic lighting control in the corridors and toilets should also reduce consumption in the future. In addition, our ground heat pump

generated 5336 kWh for the new room. Since we installed the new gas boiler and timer control system, we have substantially reduced our gas consumption to only 37,636 kWh compared with 103,680 kWh used in the same period last year. As all the windows and doors are double glazed and the heating in 4 different zones of the building is set by the timers based on bookings, even lower gas consumption is expected. Up to now more than 53,000 litres of rainwater (rather than tap water) has been used for toilet flushing in the church premises. Altogether, the carbon footprint of the Stratford church in the future should be substantially reduced.



## IPCC: climate change 'final warning'

"Science has spoken. There is no ambiguity in the message," said the UN secretary general, Ban Ki-moon, attending what he described as the "historic" report launch. "Leaders must act. Time is not on our side." He said that quick, decisive action would build a better and sustainable future, while inaction would be costly.

Time is running out if the world wants to avoid potentially catastrophic climate change according to the most definitive report to date from the Intergovernmental Panel on Climate Change released earlier this month. The stark report states that climate change has already increased the risk of severe heatwaves and other extreme weather and warns of worse to come, including food shortages and violent conflicts. But it also found that ways to avoid dangerous global warming are both available and affordable.

IPCC's 5th Assessment Synthesis report, released in Copenhagen on November 2, is the work of thousands of scientists and was agreed after negotiations by the world's governments. This is the first IPCC report since 2007 to bring together all aspects of tackling climate change and for the first time states that it is economically affordable that carbon emissions will ultimately have to fall to zero, and that global poverty can only be reduced by halting global warming. The report also makes clear that carbon emissions, mainly from burning coal, oil and gas, are currently rising to record levels, not falling.

Thomas Stocker, co-chairman of IPCC Working Group I, stated: "Our assessment finds that the atmosphere and oceans have warmed, the amount of snow and ice has diminished, sea level has risen and the concentration of carbon dioxide has increased to a level unprecedented in at least the last 800,000 years."

IPCC's Chairman, RK Pachauri reminded delegates that: "We have the means to limit climate change . . . All we need is the will to change, which we trust will be motivated by knowledge and an understanding of the science of climate change. We have that opportunity and the choice is in our hands."



**"We have that opportunity and the choice is in our hands"**

### Divestment in fossil fuels



During the launch of the IPCC report, Ban Ki-moon added this message to investors, such as pension fund managers:

*"Please reduce your investments in the coal and fossil fuel-based economy and [move] to renewable energy."*

The move towards rapid divestment in fossil fuels continues to gain momentum. Institutions across the globe have begun to pledge to divest from fossil fuels in support of the climate change campaign.

The latest fund to divest in fossil fuels is none other than the heir to the Rockefeller fortune, built on oil and coal. Coinciding with

the UN Climate Change Summit in New York, the Rockefeller Brother's Fund said that not only would it pull vast sums of money out of fossil fuels, but that it would funnel the money into clean energy.

One of Sweden's major national pension funds announced they are divesting from 20 fossil fuel companies (12 in coal and 8 in gas). Here in the UK British doctors have voted for the BMA to end its fossil fuel investments and the University of Glasgow has become the first university in Europe to drop investment in fossil fuels.

### So where are the churches in all this?

World Council of Churches (WCC), which represents over half a million Christians worldwide is pulling its investments out of fossil fuel companies. and various churches in Western Australia, Sweden New Zealand and the USA have quickly followed suit.

Here in the UK the Quakers have become the first denomination to stop supporting fossil fuel extraction. Calls to the Church of England from former Archbishop Desmond Tutu and Christiana Figueres, Executive Secretary of the UN Climate Change Convention, have so far fallen on deaf ears.

However, just a few days ago, Oxford Diocesan Synod passed a resolution urging the Church of England's National Investing Bodies to divest from fossil fuel companies. True to its history, the Diocese is challenging the Church of England as a whole to take seriously the threat of climate change and what we as Christians do about it. UK Anglicans have set up a group to take advice on climate change and investment, but is not expected to take a decision until well into 2015.

Regrettably the Methodist Conference (Birmingham, July 2014) also failed to commit to end its £58 million investment in fossil fuels despite receiving 6 resolutions ('memorials') from Circuits or Districts, 4 of which called for divestment.

Mark Boulton will attend a workshop hosted by Operation Noah in December which will consider what actions Methodist Circuits and Districts can take to support the campaign for the Church to disinvest in fossil fuels in favour of clean energy alternatives. The Ecoteam is also considering re-presenting an updated Memorial to the March Circuit Meeting.

The Methodist Public Issues team in association with other churches & Christian Aid invites us to think, pray and fast for Climate Change on 1st of each month ([www.prayandfastfortheclimate.org.uk](http://www.prayandfastfortheclimate.org.uk))

### The Burning Answer - Solar Power?

"We've got to beat global warming and renewables are the way to do it" according to Professor Keith Barnham (Professor of Physics Imperial College London), author of a new book - The Burning Answer.

On Friday November 7 Keith gave a fascinating talk on the potential of Solar Power to a public meeting at imaGine in Evesham, jointly hosted by the Circuit Ecoteam and Transition Evesham. Having begun his research career in nuclear research at CERN and Berkeley, California, he now passionately believes that solar energy can provide the UK with most of its electrical energy as early as 2020 if we follow the lead of Germany. Professor Barnham is a leading researcher and developer of third generation solar cells and, for a while, his team held the world record for the most efficient version of this rapidly improving technology.