
Photo: Solar panels on Caloundra Uniting Church, Queensland, Australia

Photo of wind farm: Chrishna

**SUSTAINABLE ENERGY FOR ALL**

# Fact Sheet

for Creation Time 2012

## *Why is energy important?*

Energy is important in every part of our lives. We assume that we will always have access to electricity and gas for cooking, heating, lighting and entertainment, petrol for the car. It takes energy to transform raw materials into everything we own, and usually to grow food, and plenty more to ship it long distances to us.

All of this energy ultimately comes from God's creation, mostly from the power of the sun, and is a gift enabling us to live and do so much. Think just of all the things we can do with electricity. He has provided us with plentiful resources of sunlight, wind, the tides, and heat from the inside of the earth, together with things that we can burn to gain heat, although the last are in shorter supply than we would like.

In the developed world, we use more than ever before: an average of 5.5 kilowatts per person in the UK (three kettles, seven horsepower, or the continual effort of 80 human beings). And we often take this for granted, forgetting just how recently in human history we've had easy access to it. Electric power to the domestic home has only been widespread since the 1930s, gas since about 1900. Before that, all energy had to be generated by humans or animals, or from materials bought in or collected by hand.

## *What about the developing world?*

Much has been done to help the rest of the world share in this privilege, but there is still far to go. 20% of the world's population have no access to electricity at all, and many more have unreliable supplies, missing out on opportunities for more productive work, learning, business and communication both locally and globally.

In addition, 40% are reliant on burning wood, coal, charcoal or animal waste to cook and heat, exposing themselves to smoke and fumes which cause health problems and kill an estimated two million a year. The vast majority of these people are in sub-Saharan Africa or developing Asia.

Although not explicitly part of the UN's Millennium Development Goals, it is clear that addressing these two issues needs to be a fundamental part of the strategy to achieve them. It is partly for this reason that the UN has declared 2012 to be its International Year of Sustainable Energy for All, and is proposing to make this vision a reality by 2030.

This is clearly of interest to Christians with our heart for the poor and underprivileged in the world, and, as we will see, has a major environmental aspect as well, which is why CTBI is picking up the theme for its Creation Time this year.

However there are some issues to face:

## *Challenges and proposals: Investment*

The first is cost. The International Energy Agency estimates that the total investment needed to achieve these two goals is about $48 billion per year until 2030 (of which only $4-5 billion is needed to achieve clean cooking). This is over five times existing investment, but only 3% of the world's total energy investment.

However, most of this investment goes into maintaining the existing fossil-fuel-based infrastructure which has given considerable benefits to the developed world. Changes are needed to encourage investment to be made in the developing world, and further targeted development aid such as that already being given by the EU and national governments.

## *Challenges and proposals: Move away from fossil fuels*

The second is that we can't just imitate the pattern of energy usage in the developed world, where the large majority of energy comes from burning fossil fuels, either directly or to generate electricity. This emits carbon dioxide into the atmosphere, which we know to be causing global warming and climate change. We are already at substantial risk of exceeding the 2 degree Celsius rise beyond which it is generally believed dangerous effects will occur. A major increase in developing world emissions would make avoiding it impossible.

However, the likelihood of being able to burn fossil fuels to this degree for long is low. Oil, gas and coal were created over millions of years and there is only a finite amount available on the planet. Although we are not going to run out of any of them completely in the near future, we have certainly discovered and extracted the bulk of the easily accessible and high quality supplies. This is why we're drilling for oil and gas in increasingly deep water, surveying the Arctic, and starting to extract from the Alberta tar sands and through oil fracking, at relatively high environmental and economic cost. Trends in coal are similar but less advanced.

Many argue that we cannot continue to produce oil and gas in the quantities we do currently, but even if we can, the combination of increased extraction costs and increased demand by countries such as India and China means that the trend of increased energy prices we've seen in recent years is going to increase, putting the cost beyond the reach of the poorest in the world. (The least developed countries already pay an average of 5% of their GDP on imported oil.)

## *What should be done practically?*

To achieve these goals we thus need to invest primarily in renewable forms of energy appropriate to such countries: predominantly solar, wind and biomass. These are still relatively new technologies with higher initial costs and risks, but we have no realistic alternatives. Current legislation and international frameworks which tend to favour the existing status quo need to be dismantled.

In addition, these need to be local and small-scale so they can operate without the need for the kind of national power grids prevalent in the developing world, particularly in remoter areas where building such infrastructure would be impractical and expensive, and where national governance is weak.

Cleaner cooking can be provided by supplying stoves that run on electricity, solar power, or smokeless fuels such as propane and charcoal pellets. (Although these still produce $CO_2$, they produce less than traditional methods, due to greater efficiency.)

## *What about here?*

While much of the UN's proposal concerns the developing world, we face the same need to move away from fossil-fuel power, which is a similarly substantial project. As a stepping stone towards reducing carbon emissions by 80% by 2050, we have an EU-set target of 15% energy to be sustainable by 2020, and a government target under the Renewable Energy Strategy of 30%. As of 2010, we had only achieved 3.3%.

A considerable amount of work thus needs to be done, including the building of new wind farms despite current public opposition. We also need to improve energy efficiency and where possible cut consumption altogether: not expending energy at all is even better than sustainable energy!

## *What is the Christian angle?*

What does this have to do with us? It combines three principles of our Christian life and relationship with God:

- **Care for God's creation:** we should care about the effects that our energy use is having on the planet God has given us to live on and look after.
- **Care for God's people:** we should care for the poor and suffering, and be concerned for the injustice that some in the world have little access to energy but many use vast amounts.
- **Wise use of what God has given us:** energy is a gift from God for our benefit and enjoyment. Is our use of it faithful to him, or are we being wasteful?

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