Get it from the Sun (GIFTS)

Get it from the Sun (GIFTS) is a new initiative that aims to provide information and encourage cooperation among local authorities, town councils, charities, community energy groups, environmental NGOs and individuals working towards all-renewable electricity supplies at the local level, in spite of the subsidy cuts. Renewable electricity is the quickest way to achieve the carbon reductions the government agreed at COP21. Local initiatives can overcome government opposition.

Some little known facts about renewable power

1) By 2015 the UK had installed *10 times* as much renewable power as the Hinkley Point C nuclear reactors may generate in 2030. (Most data from *Nature Materials* and references therein).
2) Between 2006, when the decision was taken to go for new nuclear, and 2015 renewable power in the UK expanded *10 times.* New nuclear power is still at least 10 years away.
3) In four years to 2015 UK PV power expanded faster than mobile phones in the late 1990s.
4) Both onshore and offshore wind power expanded exponentially over the past decade.
5) Wind and PV were expanding so fast that, had it not been for the renewable subsidy cuts, they could have reached their all-renewable electricity supply targets by 2022.
6) German Kombikraftwerk projects have shown that the electricity demand of Germany (and the UK) can be met by around 80% wind power and PV. The ideal back-up is 15% or so of flexible bio-electrical power. Only around 5% storage power is necessary.
7) If flexible bio-electricity generation continues to expand at the rate achieved over the past four years it would reach its all-renewable target by 2025, before the first Hinkley reactor operates.
8) DECC expects renewable power, despite having expanded 10 times in 9 years, will *not even double* in the next *20 years,* leaving space for expensive & high carbon nuclear & natural gas.
9) DECC expects PV and onshore wind demand near zero by 2020, only offshore wind expanding.
10) If PV and onshore wind expand at *half* the rate in their *worst performing* years of the last decade, offshore wind expands with its worst year-on-year increase and bio-electricity continues recent progress, the UK could be all-renewable by 2029, before Hinkley reaches 3.2 GW.
11) In an all-renewable UK, wind fluctuations will take renewable supplies above demand for half the year. Inflexible nuclear power will be redundant. It will have to be sold to France, heavily subsidised by UK consumers, for most of the 35 years of its price guarantee.
12) Good Energy report PV & wind reduced UK wholesale electricity price in 2014 (now 4p/kWh)
13) Germany has more PV & wind and a lower wholesale electricity price (2.4 p/kWh @ 0.77 p/€)
14) DECC expects natural gas will raise electricity prices in 2020s – confirming fracking isn't cheaper!
15) If renewables expand as 10) German price fall suggests that by 2025 wholesale price in UK also 2.4 p/kWh. UK consumers will pay at least 7p of every 9.25 p of (inflation linked) nuclear price.

16) If the renewable subsidy cuts are reversed and paid from taxation (as are the higher fossil fuel subsidies) previous renewable expansion will continue and UK could reach current German renewable level before 2020 election. All the 4 p to 2.4 p fall would be passed to consumers.

Ways to keep the renewables expanding

1) Keep talking to investors. They dislike uncertainty, but now face three certainties about PV and onshore wind: subsidies cannot fall further, there are no fuel costs and Germany has shown that, as market penetration increases, wholesale renewable prices fall. So renewables should remain competitive. Good Energy has just announced agreement on the first subsidy-free wind farm.

2) Seek out new forms of finance, eg crowd sourcing. Organisations and individuals installing PV or wind power are motivated by the wish to do something about global warming not simply by return on investment (likely to be less without subsidy). Crowd sourcing will benefit from the popularity of renewables being much higher than nuclear or fracking on DECC's own figures.

3) Cooperation between organisations motivated by factors other than return on investment. Scotland is still committed to its all-renewable 2020 target. Many local authorities appreciate the benefits to their communities of clean renewable power. Schools can see the educational value of installing the power source of the future. The many new community energy groups that have sprung up all over the country are not going to lose their enthusiasm for the renewables just because government has made implementation more difficult.

4) Cooperate with renewable NGOs on a campaign to increase demand for renewable power by encouraging local authorities, universities, companies and individuals to switch their electricity supplier to an all renewable electricity supply such as *Ecotricity* or *Good Energy*.

5) Local authorities and community energy groups can cooperate to encourage local farmers and food companies to send farm and food waste for anaerobic digestion (AD). If the bio-methane is used to produce electricity, or is input to the gas grid, the waste collected may count towards the local 15% bio-electricity generation. AD is very low carbon as it avoids the greenhouse gases were the waste left to rot on fields or in landfill.

6) Local authorities and local action groups can cooperate to deny planning permission to new fossil fuel electrical generators that are supported by the government's flexible capacity subsidy. Residents Against Dirty Energy (RADE) were successful in Bristol. At the same time they could be encouraging new combined heat and power (CHP) electricity generation using bio-methane from AD to obtain funding from the government's flexible capacity subsidy.

I hope soon to have available via my website (burninganswers.com) two sets of software:

1) A spreadsheet that will enable users to match local electrical demand with renewable electricity supply from local wind, PV and biogas supply hour by hour over a year. The programme gives realistic targets for all-renewable supply and can take into account other local renewable supplies such as hydropower or households switching to all-renewable electricity suppliers.

2) Three animations for schools that have installed, or are thinking of installing, PV. They suggest games that pupils can play showing how solar cells and the silicon chips inside computers work.

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