Letter To Michael Jack MP 27/10/07

CLIMATE CHANGE – A CITIZENS AGENDA

Rt Hon Michael Jack MP
Chair EFRA Select Committee
House of Commons
London
SW1A 0AA

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Dear Michael,

Climate Change: Citizen's Agenda

I am really pleased to have the opportunity of contributing to the Committee's enquiry into the role we can play, as individuals and local communities, in tackling climate change. I will try to do so within the sequence of headings set out by the Committee. I hope it is also acceptable that I add a couple of additional headings that relate to lessons I have learnt from the construction of my own eco-house and from other approaches being taken outside the UK.

As you know, my own project attempted to look for somewhere that was completely derelict and presented all the worst features of hard-to-heat properties that the government's energy efficiency programmes will have to encompass. Technically, I suppose it was helpful that almost everything inside the building had decayed or collapsed. You don't have to worry about adapting existing wiring and plumbing systems if none exist. This also gave me the 'luxury' of being able to look at the materials that I might be able to use in the reconstruction process.
It also helped me see the big gaps that exist between current policies and a coherent approach to genuinely promote citizen involvement.
Yours sincerely

Alan Simpson MP

Climate Change: A citizen's agenda

Attempting to turn my own home into a sustainable house has given me first hand experience of both the opportunities and obstacles people face in playing an active part in the Climate Change agenda. We are asked to lighten our 'ecological footprint' by reducing energy consumption and energy loss, but how easy is this?

Ecological footprinting begins from recognition that there is a huge amount of embedded energy that has gone into materials already used within the built environment. Recycling these avoids the consumption of fresh resources and the disposal of existing materials into landfill sites. The more I went into this the more excited I was about its scope and potential. I attach a list of the recycled materials used in the house, though a fuller breakdown is set out on my website: www.alansimpsonmp.co.uk. Some of the different approaches to material re-use and the way in which this could be done in creative as well as functional terms, but I won't pretend that it was easy.

What worries me is that **there is no obvious resource point for the public to access information about recycled materials and the built environment.** If you are willing to look around there is, in fact, a real treasure trove of ideas that you can find. If we want the public to take this up on a large scale, we have to find ways of bringing this information (or its sources) together in an easily accessible way. I don't have a fixed view about whether the natural vehicle for doing this would be central government, local government or government regional offices, but **we have to have a strategy that makes it easy for people to find out what is available and be excited by some of the work already being done.**

The second issue I want to mention is the stage the renewable energies industry is at within the UK. The more I went into it, the more impressed I was about the glittering array of choices that are available. Less impressive is the availability of verifiable data about the ability of different systems to deliver what they claim. In some parts of the industry there are even doubts about whether firms can even deliver their own product. I think it is particularly important to address this in relation to wind turbines.

If you aim to be energy self sufficient, it is more likely that you will have to choose a combination of technologies. There are real problems about getting this to work and there is no single blueprint you can hope to produce. The location of the property, its exposure to light and wind, the availability of outside ground space, all influence the most appropriate combination of technologies. Many of the choices are genuinely exciting, but all will draw you to problems about interfacing.

The industry reminds me of an earlier stage in the I.T. industry. Companies were all coming up with wonderful software programmes, but none of them could talk to each other. So it is with renewable energy systems. You can complement the daylight input of photo voltaic panels with ground or air source heat pumps. You can combine solar water and solar electric panels. And you can have wind turbines and micro-CHP systems. But can you get the systems to combine? Technically, the answer is 'Yes', but this is the most immature part of the renewables market. Companies will supply their own kit, but connecting it into other component parts is a real minefield.

There is an urgent need for a government and industry initiative to look at interfaces between the different renewable energy systems.

My own house may well end up generating about 50% more energy than it consumes, but I suppose the most important thing that I learnt out of the process was that the real gains would come if this had been part of a neighbourhood or city-wide networked strategy. I will say more about this in the section on Decentralised Energy, but the reality is that there are no individual, stand-alone solutions to climate change. The most exciting consequence of the publicity about my house is that we have been able to persuade the City Council in Nottingham to support project proposals for a "**zero-energy zone**" for the southern part of the city. This would be able to make real use of the community based opportunities for renewable energy generation, energy pooling and energy efficiency measures. The beauty of this is that it would begin from meeting the needs of the fuel-poor rather than the cash rich. It may also allow us to get around some of the very real barriers that citizens face within the framework of both energy efficiency measures and renewable energy generation. It is these barriers that I want to explore first.

Systems rather than appliances

A citizen's contribution to the climate change challenge inevitably begins in their own home and their own neighbourhood. In the home, there is lots of advice about switching equipment off, changing light bulbs, improving loft insulation and the like. The government's Warm Front programme and the energy industry's EEC (Energy Efficiency Commitment) funding have been good at promoting this awareness.

What worries me is that **the current approach is fragmented, partial and short term**. At best it addresses energy loss from the fabric of buildings and energy supply from more efficient equipment. At worst, households who cannot afford their share of new equipment costs just settle for the insulation work. Energy companies are not stepping in with offers to spread equipment installation costs over a 2-3 year period so that households can effectively make the repayments out of reductions in energy consumption. In part, this is a reflection of current energy market rules restricting companies to 28 day contracts with their customers.

Energy companies have a point when they complain that it is not economic to make such offers in an energy market that is driven by short term contracts and least price competition. Climate change commitments then get driven into the same superficial and short term trap. It makes me question whether the separation of Warm Front and EEC funding is a sensible or helpful division. We may be better off combining the funding and/or looking at new forms of energy contracts.

Period	Warm Front	EESoP / EEC[1]
2002-2003	£163 million	£70 million
2003-2004	£164 million	£200 million
2004-2005	£166 million	£200 million
2005-2006	£210 million	£560 million
2006-2007	£340 million[2]	£560 million

It is clear that industry contributions have overtaken government funding in the fuel poverty programme, but this does not necessarily bring about comprehensive access to low energy equipment or energy generating systems. **The government needs to look at the case for bringing Warm Front and EEC into a single fund to deliver comprehensive energy packages to people.**

The second element in this is that **neither the government nor the energy industry have a coherent approach that crosses from energy efficiency into renewable energy generation**. It doesn't help when ministers swap £10 million from the fuel poverty programme into renewable energy work, when nothing connects them up. The disconnections became clear in the work on my own home.

It may be morally comforting to generate more energy than you consume, but as one of the energy

[1] The Energy Efficiency Commitment does not have a budget as such. Companies are set energy saving targets to be achieved and EEC spend is whatever is the cost of meeting the targets. A further complication is that the programmes have developed since 1994 and are not annual programmes but cover a number of years. The table sets out the approximate levels of expenditure associated with the different energy saving targets

[2] Estimate based on the increased funding announced in the 2004 Spending Review and the Pre-Budget Report of December 2005.

company reps told me bluntly, "Who gives a toss? Under today's energy market rules, we are in business to sell you energy consumption, not to sell you less. What you use comes from us, and we bill you for it. What you feed back into the Grid could be going anywhere. It is a pain in the ass to have to measure it, and even more to have to pay for it. That's why most companies don't go out of their way to make it easy or attractive." A snapshot of energy supply and buyback prices gives you an indication of the current UK situation.

Electricity supply and Buy-back prices Oct 2006		
Company	**Price paid back to customer per kWh**	**Price Charged to customer/kWh[3]**
British Gas	**No buy back**	**17.78**
Ecotricity	**4.5p**	**14.74 [4]**
Edf	**7.6p**	**16.00**
Eon/Powergen	**9.5p**	**17.69**
Good energy	**4.5p**	**11.96[5]**
Npower	**Buy back is at same price as energy sales**	**9.88p[6]**
Scottish Power	**No buy back**	**13.92**
Scottish & Southern	**3.8p (this rises to 7.8p if the customer has a ROC)**	**16.51**

Technically, I am told that the removal of a single diode valve in existing energy meters could allow for the two way flow of energy in the home. The dilemma is that, under current energy market rules, companies that did this could only lose revenue, whilst those that do not would make more. **Government has to look at revising current energy market rules in order to make feedback systems attractive and obligatory within the climate change programme.**

A further issue that arises in relation to feedback metering relates to its visibility and promotion. I was astonished to find that my feedback meter turns out to be a small box tucked away at the side of the input meter. I had expected that new meters would have been produced, for prominent display within the house, giving immediate feedback about home energy consumption and generation. **Urgent action needs to be taken to make input/output meters standard installations within the home in order to raise people's awareness of their own use (and production) of energy.**

A much more coherent approach has been taken to renewable energy generation in Germany. In 1991, Germany introduced the Electricity Feed Act. This gave citizens a right to contribute to electricity supply and companies a duty to facilitate this feedback. In 2000, they strengthened this provision in the Renewable Energy Sources Act. This introduced a series of preferential feedback tariffs in order to

[3] Standard tariff for the first 700 – 900 kWh
[4] Ecotricty match the local supplier price, this is the London figure
[5] Good Energy does not offer a reduced tariff for higher consumption. Its unit charges vary by region. This is an average figure across 14 regions. There is also a daily standing charge averaging 16.33p
[6] Calculated by region. Figure shown is London price

promote the generation of renewable energy.

The novel feature of the German approach is that there is no public subsidy involved. Government sets the tariff structure but tells the industry to fund it itself. Thus, micro-generation of electricity from solar power currently gets paid around 35p/kWh. This is around four times the supply price of electricity and compares with the UK average buy-back price of about 3.5p/kWh.

Consumers are encouraged to go down this path because the price differential is guaranteed for 20 years (reducing by 5% a year). The impact of the change has been profound. Some 80% of all new buildings going up in Berlin generate their own energy. There is a 'Bundesliga' of German eco-cities who compete with each other on sustainable energy terms. Over 100,000 properties now have solar roofs. 300,000 citizens hold shares in the 18,000 wind turbines that feed into the energy Grid. And the 'renewables' economy has delivered 150,000 new jobs, annual investment of €6 billion and an annual turnover of €12 billion. This is what has allowed Germany to deliver 11% of its current energy needs from renewable energy sources, compared to the UK's 3.7%.

The UK will never make a similar breakthrough in promoting renewable technologies whilst we rely on indirect market inducements rather than direct market intervention. We have to introduce stronger short term and long term market obligations. Nor will we make a significant step change unless we set ourselves tougher renewables targets.

As table 3 makes clear, the UK may claim to be on track for its 2010 renewables target, but only because we have set ourselves a miserable, unambitious target in the first place. **The countries making the most dramatic contributions in moving towards sustainable energy systems are those who have set themselves the most demanding targets.** Britain will not lead the world in tackling climate change if the only target we set ourselves is to get out of bed in the morning.

	2004	2010 target
Austria	58.8	78.1
Belgium	2.1	6.0
Cyprus	0.0	6.0
Czech Republic	4.0	8.0
Denmark	27.0	29.0
Estonia	0.6	5.1
Finland	28.3	31.5
France	12.9	21.0
Germany	9.7	12.5
Greece	9.5	20.1
Hungary	2.3	3.6
Ireland	5.1	13.2
Italy	15.9	25.0
Latvia	47.1	49.3
Lithuania	3.5	7.0
Luxembourg	3.2	5.7
Malta	0.0	5.0
Netherlands	5.7	9.0
Poland	2.1	7.5
Portugal	24.4	39.0
Slovakia	14.3	31.0
Slovenia	29.1	33.6
Spain	18.2	29.4
Sweden	46.1	60.0
United Kingdom	3.7	10.0
EU 25	**13.7**	**21.0**

Note: The percentage contributions are based on the national production of electricity from renewable sources divided by the gross national electricity consumption.

Source: EUROSTAT

Table 3 – EU 25 Renewables

Obligations versus inducements

Traditionally, Britain has suffered from a mindset which assumes that if you want the poor to do something you have to make it obligatory. On the other hand, if you want the rich to act you have to offer them inducements. Every time there are proposals for a shift to renewable energy (or renewable fuels) industry demands a public subsidy for doing so. The Germans have demonstrated that this can be done without public subsidy.

The cost impact of these changes on German citizens was measured in 2005 and revealed that the overall cost on consumers' energy bills was €1.4 (£1) per month. Apart from the economic gains that I have already set out, **this change in energy market rules reduced German carbon emissions by 58 million tons of Co_2... in 2005 alone.**

Compare this with the estimated contribution to carbon savings from the entirety of the UK Climate Change Levy. Cambridge Econometrics estimates that the Levy reduced Co_2 emissions by 3.1 mtC in 2002 and 3.6 mtC in 2003. By 2010 the annual savings is estimated to be at the level of 3.7 mtC... one fifteenth of the annual carbon savings Germany makes from its change in energy markets rules. When you add in the fact that the Climate Change Levy was 'sweetened' by a Treasury reduction of 0.3% on employers NI contributions, costing £1.5 bn in 2004 (and rising to £2.1 bn pa in 2010), **you have to ask whether the real carbon savings from over £1.5 bn a year would more effectively come from directing it into renewable energy investment.** We could have delivered a fourfold increase in the Warm Front programme, or a similar quantum change in renewables investment, from this funding. At a domestic level it would mean you could almost give away energy generating systems to the poor and allow them to share the proceeds with their energy suppliers.

In its latest 5 year plan, even China is taking a more robust approach to polluting industries and their responsibilities for carbon reduction. Industries are given pollution reduction targets and pollution reduction deadlines. Businesses have been told that those who fail to meet the targets and deadlines face a 3 year ban on raising stock market capital. Elsewhere there is an unambiguous sense of the urgency of change that Britain seems to lack.

In or out of the Grid? – the case for decentralised energy

The UK presents a number of barriers to citizens who want to become energy contributors as well as energy consumers. Despite the fact that it is commonplace in other parts of Europe (and in the UK) 'net metering' systems are neither promoted nor encouraged by energy suppliers. At the point of writing this submission only npower buys energy back from householders at the same price it supplies. As the company points out, it makes a loss in doing so because some of its competitors refuse to pay anything that their customers put back into the national Grid.

Ofgem is aware of the disparities that exist but has done little to rectify the situation other than 'urge' companies to pay their customers a fair price for electricity provided. There is no legal duty to do so at the moment, though this will change in the coming year. It still leaves the UK a long way short of the preferential tariffs system Germany has introduced (and which gives the energy a clear, level playing field upon which to promote micro-generation). **The UK should move towards the German model of**

guaranteed preferential tariff for micro-generation if it wants to promote citizens involvement in the sustainable energy programme.

What is less clear is whether this should also prompt a fundamental re-think of energy networks. My own experience is that energy suppliers see the Grid almost as an energy lake that they scoop supply out of. It is, however, a lake which simply absorbs consumer inputs in a vague and non-attributable way. Often the argument used against one-for-one (or reverse metering) payment schemes were that the Grid is so inefficient it would be unfair on suppliers to have one-for-one pricing.

The Grid may have been a good idea for the middle of the last century, but for the current one, the approach to decentralised energy systems may have much more to offer. This is the approach already being pursued in Denmark and in the Netherlands, where more than half of the country's energy comes through decentralised systems. The criticism of the UK's national Grid is that over 60% of energy inputs go up in steam at the power station, and a further 20% is lost in the transmission systems that deliver the energy to your home. The Dutch and Danes claim that their systems have a 90-95% efficiency rate of turning energy inputs into energy outputs.

If decentralised energy systems are a more sensible model for the 21st century they could also transform the relationship between the citizen and the energy system. My own energy surplus would have been more effectively transferred into a local energy network. Such a network would ideally combine residential, commercial and business sectors. The advantage would come because these sectors are likely to generate their surpluses (and needs) at different periods of the day. The greater the degree of mutuality in the process, the less the need to look at energy storage issues as opposed to energy transfer ones.

A number of companies and local authorities already have energy generating systems that transfer electricity between locations on private wiring networks. The difficulty is that currently there are tight limits on the maximum amount of energy generation allowed within a private wire network. **The government should remove the upper limit for energy generation within private wire networks.** To allow these to develop on a city wide or sub-regional basis could open up a whole new era of citizen involvement (and stakeholding) in their own sustainable energy networks.

Ditching the myth of Carbon Trading

I could not continue without addressing how we might move towards a genuine empowerment of citizens as the drivers of carbon reduction and sustainable energy programmes. The starting point, again, came from the barriers I encountered in becoming a 'clean energy' contributor to the carbon savings process.

Ministers advised me that if I couldn't get a decent price for clean energy from the energy companies, I could sell my energy in exchange for carbon credits. Energy companies, under their Renewables Obligation commitments, are obliged to buy a small but rising proportion of their energy from renewable sources. I would not be a big enough supplier to be entitled to ROCs (Renewable Obligation Certificates) but I was encouraged to apply for mini-ROCs (or ROCettes as the trade has begun to call them).

The truth is that small towns aren't big enough to claim ROCettes. Individual contributors are forced to offer their clean energy through carbon brokers. This is what took me into the murky world of carbon

trading. I hope the Committee will at least look hard at this before we are sucked, irretrievably, into its absurdities.

The carbon con-Trick

Carbon emissions trading is the Emperors New Clothes of our time. It is a giant intellectual scam. Dreamt up by the money markets, and providing the City with huge opportunities for fiddling, it is so complex that most of the public lose the will to live before making any sense of it.
It is bizarre that the 'big idea' for tackling climate change should rely on the creation of a mythical good (the absence of something) that then gets traded (speculatively) against its anticipated future price. City traders have been orgasmic about its importance, but investors in productive industries say it creates volatile markets that deter serious and long term investment decisions.

The first year of the European Emissions Trading Scheme (ETS) bore this out. When the scheme started, politicians expected carbon permits to be traded at around €10 per tonne. Instead it peaked at around €30. But then, when countries like France and Spain announced much smaller emissions than expected, the carbon price tumbled.

Governments have made this speculative market even more absurd by giving carbon allocations/permits *free* to the five major polluting sectors, rather than charging companies for their allocation. Some countries issued more permits than their emissions justified. None shared permits equally between polluting and non polluting industries. The result was a bizarre set of internal transfers (and confusion). British universities and hospitals were forced to buy several million pounds of permits while the largest oil companies received huge handouts from the scheme. Overall, the UK energy sector received free handouts of over £800m from the carbon trading scheme last year. Not a penny of this went into meeting the energy needs of the poor in Britain.

The Environmental Audit Committee described the first year of the ETS as 'a race to the bottom'. The more you look at its weaknesses the more you are left wondering whether its real purpose will be to provide a long term cover for hidden subsidies to underpin the nuclear industry.

As it stands, the ETS does not even necessarily reduce emissions. It allows swaps of allocations and permits in a small number of industries, rather than reducing net carbon emissions in the economy as a whole. In theory, it aims to promote North/South carbon permit trading, to pay for cleanup programmes in the South. Many analysts, however, are already pointing to the dubious (and short term) nature of carbon trading opportunities with the South.

Much of the trade seems to be focussed on the annual Carbon Fair that is organised by the World Bank in Cologne. Well organised countries like China have impressive stalls and glossy brochures, offering hundreds of projects for polluters to invest in (buying off their own pollution excesses in the process). Whether any of this delivers genuine carbon savings is a deeply debatable point.

In my case, I would have been lucky to get a seat next to the Senegalese trader who was offering a couple of carbon saving projects from a small table in the corner of the Fair. My own small scale offerings of carbon-free energy would only have been allowed into the Fair by a middle man. Usually these are niche investment banks. Any other UK citizen would have faced the same prospects. **The Committee should**

look at whether direct citizen involvement in carbon saving is undermined by the whole philosophy of the ETS, and whether the ETS should itself be abandoned in favour of a more direct system of preferential tariffs for renewable energy production.

The economist William Nordhaus, of Yale University, has argued that the whole approach to carbon emissions trading needs to be fundamentally re-thought. He follows the EU assessment this summer also suggesting that a shift from permits to taxes was a more effective intervention stratagy. The benefits of such a shift include:-

- There would be a stable and known marginal cost of carbon rather than a speculative and volatile market in permit trading.
- It would limit the potential for large scale corruption.
- Taxes on fuel could be easily incorporated without distorting the scheme, and
- It would reduce the dependence on politically unpopular and unaccountable income transfers between countries.

At present, **the process of citizens making their own clean-energy contribution to government carbon reduction programmes is complex, bureaucratic and often inaccessible.**
Individually, there is a weak and erratic payback system that does not encourage citizen involvement.

Collectively, Britain offers nothing that encourages citizens to become contributors to, and stakeholders in, their own local energy networks.

The models of decentralised energy systems and direct tariffs, already being applied in other European economies, offer far greater advantages that the UK needs to urgently embrace.

Let me conclude on the 'big picture' implications of intervention mechanisms, chosen by governments, to address the climate change challenge. The British government has adopted a light touch, regulatory approach to markets that, consequentially, have become intensely short term in outlook. The additional reliance upon a carbon trading market has created a speculative and volatile carbon market that deters long term investment decisions. Even on the Government's estimates, carbon savings from their Emissions Trading Scheme will only deliver 8mtC per year. This should be measured against the 58mtC gains in Germany last year, arising solely from the impact of their introduction of preferential tariff systems for individual suppliers of renewable energy. Businesses as well as individual households see the immediate gains from becoming clean-energy contributors, and at a fraction of the cost (or bureaucracy) of the equivalent processes in Britain.

The Prime Minister is right to say that we only have a 10 year 'window of opportunity' to make fundamental changes to how we address energy security issues for this century. These changes will have to deliver not 60% but 90% carbon reductions by 2050.

I am passionately convinced that some of the changes in approach that I have looked at and outlined would allow us to meet these challenges. Part of the attraction is that they would open up an active sense of citizen involvement (and citizen ownership) in the process. Sadly, I am equally convinced that there is nothing in Britain's current approach that makes this remotely attainable. That is what drives

the need for an urgent and radical re-think.