WRITTEN SUBMISSION FROM HOLYROOD 350

**Holyrood 350 Response to the Proposed Scottish Climate Change Bill**

Holyrood 350 applauds the Scottish Government for the world leadership it has shown, not only in establishing this 80% reduction target for 2050, but in establishing other imaginative initiatives -such as the £27 million Climate Challenge Fund -to combat Climate Change.

Holyrood 350 (http://holyrood350.org/) brings together people who are actively working to reduce their communities' carbon footprint through relocalisation. Many of these initiatives have received funding from the Scottish Government's innovative Climate Challenge Fund.

This submission focuses only on the most fundamental question, Question 1, and the proposed target of 80% reduction of GHG emissions in Scotland by 2050 and 50% by 2030.

**Q 1 The Bill creates a statutory framework for greenhouse gas emissions reductions in Scotland by setting a 50% reduction target for 2030 and an 80% reduction target for 2050.**

**What are your views on the 2050 target and a 2030 interim target proposed in the Bill?**

When the Bill was first proposed the target of 80% by 2050 was groundbreaking, however it is now clear that**: Scotland needs to achieve a reduction of 100% by 2029 and 10% by 2011 to show the climate change leadership the world needs in order to start the race out of carbon, and to place us in pole position to take advantage of that race.**

**PART ONE: WHY?**

**Scotland must achieve a 100% reduction in emissions by 2029 and 10% by June 2011, primarily, but not only, because the Science says ever more emphatically that we must.**

**Why does the proposed bill ask Scotland to aim for 80% by 2050?**

The Scottish Climate Change Bill's proposed reduction targets reflect Lord Turner's Climate Change Committee's calculation that historically high emitting countries like Scotland must cut their emissions by 80% by 2050. This is in order to contribute to a Global reduction of 50% by 2050, in order to stabilise the climate and prevent runaway climate chaos.

**Why does the IPCC 2007 Report mean we should aim for 95% [not 80%] by 2050?**

The current Scottish Climate Change Bill, the EU, the UK and the IPCC have all accepted the scientific assessment that – in order to prevent runaway climate chaos -warming should not exceed **2°C** above pre-industrial levels. The IPCC's 2007 Fourth Assessment Report states that, in order to limit global temperature rise to **2°C**, global emissions must fall by 85% [not 50%] by 2050, a fall which would lead to concentrations of CO2 in the atmosphere of approximately 450ppm. It is acknowledged by all the relevant reports that global emissions cuts can only be achieved through global equity (i.e. through apportioning the same rights to emit to all people in the world), so this Global target of 85% required to keep us below **2°C** can clearly only be met by countries such as Scotland making cuts of 95% or more by 2050.

**Why does the science now say we must aim for 100% [not 80%] by 2029 [not 2050]?**

The 2007 IPCC report was, however, based on scientific findings and modelling from 2006 and earlier. Since then, the range of possible future scenarios on which the IPCC bases its targets, have been left behind by subsequent empirical evidence. What is now clear is that processes such as Arctic melting, methane being released from beneath the melting permafrost, and the weakening of the ability of the oceans, forests and soil to absorb carbon, are all happening far faster than the IPCC predicted. Furthermore, since these processes are both the result of global warming and themselves amplify that warming, it is dangerous to think – as Governments, scientists and campaigners have done up until now -

that a certain level of warming is 'safe' and to then aim to restrict the emissions increases and degrees of warming to that level.

Once the 'positive' feedback loops start to kick in, it will be extremely hard to stop them simply amplifying themselves in ever-accelerating feedback loops, however much we cut our greenhouse gas [GHG] emissions. For example, where the IPCC predicted an Arctic ocean ice-free in summer by the end of the century, it is now predicted this will happen by 20112015, eighty years ahead of IPCC predictions made in 2007 (Wasdell 2008, Climate Safety 2008).

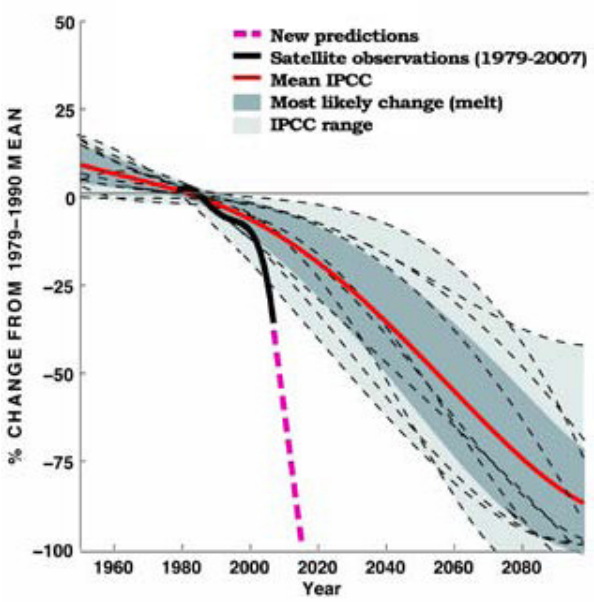


Fig 1 "Summer Arctic sea ice thus appears to be disappearing more than 80 years ahead of the IPCC's prediction, even though this was made as recently as 2007" Climate Safety (2008: 7) *http://climatesafety.org/wp-content/uploads/climatesafety.pdf*

Furthermore, the melting Arctic leads to less heat being reflected back into space, which leads to greater warming, which itself leads to more of the Arctic melting, and so on, a process that at some point becomes entirely independent of our level of GHG emissions, and a process that has a huge impact on the melting of the Greenland ice sheets, sea levels, the ocean currents, temperature increases, and so on. The key point is that we have to make a dramatic cut in the bulk of our GHG emissions now. If we are to slow and have a chance of stopping these runaway processes, we must create a zero-carbon, not low-carbon, economy.

In Edinburgh on 9th February 2009, Lord Adair Turner, Chair of the UK Government's Climate Change Committee, gave one of Friends of the Earth Scotland's 'Building a low-carbon economy' lectures, alongside Professor Jacqueline McGlade, head of the European Environment Agency. Turner argued that meeting the commitment to reduce our emissions by 80% by 2050 would only cost us 1-2% of GDP. In the light of the disturbing scientific findings presented in the lecture given by McGlade straight after Turner spoke, Turner was asked why it would not make more sense to accept a higher cost than 1-2% GDP in return for a better chance of avoiding catastrophic climate change. His answer was that if we followed his committees advice and sought to stabilise at an increase of **2.4°C**, then we would avoid catastrophic climate change, and if the science was now saying something different then that would have to be reviewed, probably in a couple of years time.

The science clearly is saying something different. It is saying that current targets will guarantee catastrophe; and not just catastrophe for poor people in poor countries, but catastrophic climate change and possible extinction for us all (Wasdell 2008, PIRC 2008). For example, David Anderson of the Tyndall Centre for Climate Change Research argues that current negotiations for global agreements will guarantee levels of GHG in the atmosphere that will guarantee catastrophe. He concludes that "it is increasingly unlikely any global agreement will deliver the radical reversal in emission trends required for stabilization at 450 ppmv carbon dioxide equivalent (CO2e). Similarly, the current framing of climate change cannot be

reconciled with the rates of mitigation necessary to stabilize at 550 ppmv CO2e and even an optimistic interpretation suggests stabilization much below 650 ppmv CO2e is improbable.

(http://www.tyndall.ac.uk/publications/journal_papers/fulltext.pdf)

At the 'Building a low-carbon economy' lectures in Edinburgh earlier this month, it was put to Lord Turner that, under the current recommendations of the Climate Change Committee, and according to their own calculations, he had calculated that our grandchildren will have a greater than evens chance of finding themselves in what Turner calls the "danger zone" of **2°C** of warming and a 1 in 100 chance of finding themselves in what he calls the "extreme danger zone" of **4°C** of warming. From the report's descriptions of the likely impacts of **4°C**, It was pointed out that 4 degrees could quite properly be referred to as the "death zone", and Turner was asked: what percentage of our own, our children's and our grandchildren's income do we think most of us would be prepared to sacrifice to reduce those risks to say 1 in 10 and 1 in 1000 respectively? The questioners guess was that it would be more than 1-2%.

**Is the Climate Crisis a greater emergency than a World War?**

Where even the IPCC's 2007 forecasts would require Scotland to aim for GHG reductions of above 95% by 2050, the emerging science calls for us to urgently stop and reverse the drive for forms of economic growth which require us to continually accelerate the extraction of carbon from the ground to pass through our economy and into the atmosphere.

Lord Stern's and Lord Turner's idea that one can effectively continue with business as usual, while "stabilising" greenhouse gas emissions and the temperature increase at 550ppm or 450ppm is clearly an approach made outdated by the accumulating scientific findings on the ground and the scientific understanding of the nature of accelerating feedback loops. The recent PIRC Climate Safety (2008) report, for example, demonstrates that 550ppm and 450ppm are points on an avalanche of positive feedbacks, an avalanche that would overwhelm the power of human intervention to stop runaway climate change.

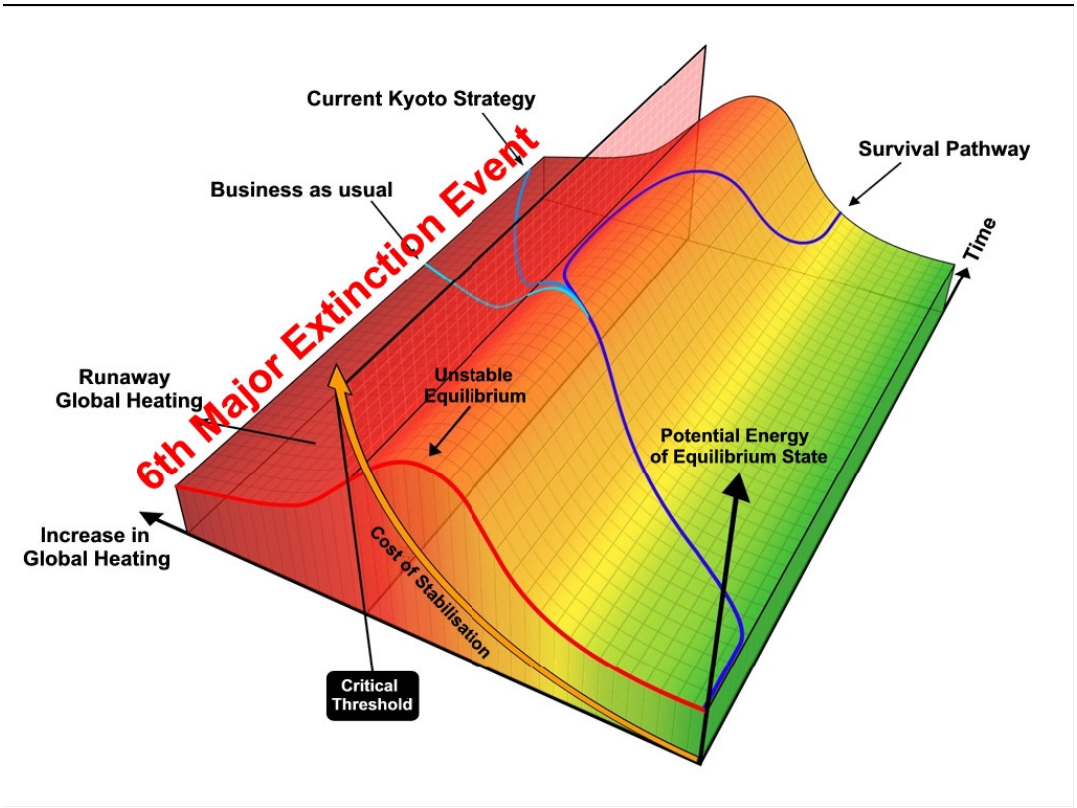


*Fig 2. "The critical threshold is represented by the wall, the wall beyond which we must not pass if we are to have any hope of re-stabilising the climate. Business as usual takes us over the hill and through that wall into a catastrophe. Current Kyoto strategy slows it down a bit, but we end up in the same place. The intervention that is required is one that slows down the feedback system, slows down the rise in temperature and holds us this side of the critical threshold until the temperature rise stops." David Wasdell (2008: 8) Accelerated Climate Change and the task of stabilisation. Westminster Briefing 5: " http://www.apollo-gaia.org/Presentation5.pdf*

It is for this reason that climate scientists like James Hansen say that a safe level of CO2 in the atmosphere is somewhere below 350ppm and we are already at 387 with global temperature change accelerating as the runaway process starts (Hansen 2008). Others, such as Professor Joachim Schellnhuber, head of the Potsdam Institute and climate adviser to the German Chancellor and the EU, told the Guardian (David Adam, 15 September 2008) that only a return to pre-industrial levels of CO2 would be enough to guarantee a safe future for the planet[1]. He said even a small increase in temperature could trigger one of several climatic tipping points, such as methane released from melting permafrost, and bring much more severe global warming.

That means that to have any hope of averting a massive extinction event we have to take CO2 out of the atmosphere by rapidly reducing our emissions to zero, while protecting and enhancing the resilience of the soils, oceans and forests to act as carbon sinks to – over decades -draw down the CO2 already emitted. This is a far greater global emergency than even a World War, since the very survival of our species is at stake. As Brian Davey points out: entering into a world war (in this case a 'war against climate change') involves no guarantee that you will see victory, and it isn't done on the basis of cost benefit calculations. You enter it because you have no choice, and -pulling together -you try everything possible to succeed (Davey 'From the Green New Deal to a War on Climate Change' 26 Feb 2009).

In World War Two Britain managed the huge switch in resource allocation that is required when people acknowledge there is an emergency and start working together. In World War Two military outlays (as per

[1] Shaun Chamberlin points out that "the pre-industrial concentration of CO2 in our atmosphere was 278ppm and did not vary by more than 7ppm between the years 1000 and 1800 C.E" (http://www.darkoptimism.org/2008/09/03/the-climate-science-translation-guide/).

cent of UK national income) rose from 15% in 1939 to 53% in 1941 (Davey 2008). This is the scale of resource redirection required, a redirection which would – as in previous world wars -also create full employment and social cohesion, and – if approached through policies such as those recommended below – also create an international level playing field for zero-carbon economies and so support the emergence of resilient communities interacting to build sustainability through equity, since survival for any one is only ensured through ensuring survival for all.

It is important to recognise the absolute centrality of equity to combating climate change. Turner, Stern, McGlade and all who have analysed the situation are clear that controlling climate change requires a globally equitable approach, if people in poorer countries are to participate in solving a problem that has historically been brought about by the actions and economies of the nations which have become wealthy through such action and economies.

Turner writes that "it is difficult to imagine a global deal which allows developed countries to have emissions per capita in 2050 which are significantly above a sustainable global average" (2008: 2), and therefore, "a fair global deal will require the UK to cut emissions by at least 80% below 1990 levels by 2050" (2008: 1). However, he adds that "The good news is that *reductions of that size* are possible without sacrificing the benefits of economic growth and rising prosperity" (2008: 1, emphasis added). It appears possible to deduce that his Committee calling for only an 80% cut by 2050 (despite the calculations of his own committee and those of the IPCC) may have been more to do with Turner's perception of the politically possible, rather than a sober estimate of action commensurate with the science. As will be discussed below, the political and economic Global situation has been transformed over the last twelve months, and what may have appeared politically impossible – the regulation and redirection of the financial system – may have become politically inevitable as a result of the ongoing financial meltdown. The fact that what so recently appeared politically impossible may now be politically inevitable can provide us with some hope that we can make it politically possible to take the radical steps needed to combat climate change.

NASA's James Hansen and his colleagues argue that "Continued growth of greenhouse gas emissions for just another decade practically eliminates the possibility of near term return of atmospheric composition beneath the tipping level for catastrophic effects. If humanity wishes to preserve a planet similar to that on which civilisation developed and to which life on Earth is adapted, paleoclimate evidence and ongoing climate change suggest that CO2 must be reduced from its current 385ppm to at most 350ppm. Remaining fossil reserves should not be exploited without a plan for retrieval and disposal of the resulting atmospheric CO2".

James Hansen et al. "Target Atmospheric CO2: Where Should Humanity Aim?" April 2008 (http://arxiv.org/pdf/0804.1126)

Therefore, as the November 2008 Climate Safety (http://www.climatesafety.org) assessment makes clear, we must aim for 100% reductions in our GHG emissions within 20 years – by 2029 – and we must kick start this process by taking the relatively easy steps which will enable us to reduce our emissions by at least 10% below 1990 levels by June 2011. Relatively easy steps, but accompanied by a complete reorientation from measuring GNP in terms that reflect the throughput of carbon through the economy to ensuring individual, family and community survival and well-being.

## PART TWO: HOW?

### How can Scotland achieve a 10% reduction by 2011 and 100% by 2029, and so show the leadership the world needs to start the race out of carbon (and can, as a result, prepare us for Peak Oil and revitalise the Economy at the same time)?

Man-made climate change is the consequence of industrial activity, and accelerating climate change emissions are driven by basing our economy on fossil fuel use, and on an approach which measures GNP in terms that reflect the throughput of carbon through the economy. Since even the International Energy Authority (which, up until it's 2008 report, was denying that Peak Oil was anything other than a distant eventuality) now admits that Peak Oil is fast[2] approaching, the action we have to take to stop accelerating climate change is action which can also prepare us for a world in which fossil fuels are no longer cheap

[2] Peak Oil is the point at which we have used half the available oil, after which supply will never be able to meet demand.

and easily available.

We are therefore asking the Scottish Government to act with other governments (or, if other Governments are unwilling, then we are asking the Scottish Government to democratically secure the power) to demonstrate global and pre-emptive leadership, by immediately and rapidly transforming Scotland from an oil-dependent economy driven by growth, to a sustainable and resilient zero-carbon economy guided by the urgent need for sustainability, equity and long-term security.

While international negotiations are focussed on whether we should hit the wall of dangerous climate change at 60mph, 50mph or 40mph, we need instead to stop focusing on future targets and start braking fast so that we don't hit the wall at all. To rephrase this in terms of David Wasdell's representation [Fig 2 above]:

(i) If our current emissions are setting up future feedback loops which will take us over the 'Critical Threshold' hill, then the ball of consequences will roll downhill towards the Earth's 6th extinction event with unstoppable acceleration.

(ii) If, however, we devote a war-effort of collective energy to setting up and intensifying current action designed to decarbonise the economy and society now, then we should still (just) have time to set up positive feedback loops whose impact on restraining future temperature rises should cut in just in time to halt our rolling over and down that hill, although the science is now pretty clear that current climate change related weather events will intensify, and we will inevitably be teetering at the top of the hill as a consequence of the cumulative effect of emissions which we have already pumped into the atmosphere.

The longer we leave reducing emissions the greater the cumulative impact, so the question is whether we are able to take action now to dramatically reduce total emissions. The question will not be: whether we have managed to reduce total emissions by 60, 80 or 100% by 2050. The question is: how fast can we create a zero-carbon economy and society now?

**Where would this place us in relation to other economies?**

The first key move is to recognise what the science is telling us, then to recognise that the steps which are technologically, economically and socially required of us will not only: (i) ensure our technology is at the cutting edge; (ii) place our economy in pole position to benefit from helping other countries to subsequently take the steps that – sooner rather than later – they are all going to have to follow us in taking; but will also (iii) enable us to make our communities resilient and vibrant places to live.

A recent report by experts from Hewlett Packard and Forum for the Future (*Climate Futures: Responses to climate change in 2030* -October 2008) examines five sharply different scenarios for a 2030 world. Recognising the gravity of the situation -and that climate change will be the backdrop to all business, political and human decisions over the coming decades they make the business argument for greater climate change regulations now:

"Acting quickly is best for liberal markets. Some of the strongest objections to addressing climate change have been that we will constrain markets, and hence our freedom, at too high a cost. People have feared that climate change was a cover for rolling back the market reforms of the last decades. But in our scenarios, liberal market-based solutions seem much less attractive as time goes on than statist responses. This puts a different light on how to defend freedoms from market reforms. Advocates of liberal markets should act as soon as possible, pushing for a global agreement with teeth, national measures that use financial incentives, and the removal of market distortions that encourage unsustainable and wasteful resource use. The result may be a more constrained market system than today, but the long-term alternative could be a desperate turn to big government and protectionism" (2008: 69)

They go on to argue that ""the historians of the future will call these the climate change Years". If we have not acted soon enough "they may look back at us with a complete lack of comprehension or even disgust, rather as we look back on slave-owners. Or if climate change feels solved, or on the way to a solution, they may look back on us as heroes." (2008: 70). In arguing for taking immediate steps now they add that: "steps taken now could open up previously impossible or unimagined paths of hope for combating climate

change" (2008: 68). The key distinction here is between (i) action which creates hope through not only directly reducing emissions but also inadvertently sets up a range of unanticipated positive knock on effects; and (ii) becoming paralysed either by despair or by hope that someone else will do something (or as Lord Turner remarked, paraphrasing St Augustine on goodness: Lord, make me carbon neutral, but not yet).

Perhaps the most useful – if unexpected – metaphor for the situation we have got ourselves into is that of the plane that took off from New York's La Guardia airport last month, and lost both engines due to the engines sucking in geese and losing all power. The pilot cold have just thrown up his hands in horror, or tried returning to La Guardia in the hope that he could make a more normal landing. Instead he calmly and with complete focus took the plane down where he could: on the Hudson River. The plane was wrecked; but everyone survived. If, metaphorically, the plane is an economy devoted to insatiable growth, and the geese are the intervention of nature, the pilot is each of us who are alive today. To return to metaphors closer to Turner's paraphrasing of St Augustine, another way of conceptualising this is to consider that such miracles do not just happen; they are made through focused action.

## HOW TO REDUCE EMISSIONS BY 100% BY JUNE 2029[3]

### 1. PRICING CARBON OUT OF THE ECONOMY

**The first and most crucial step we are calling on the Scottish Government to take** is to price carbon into and out of the economy, in order to dramatically reduce and then *stop carbon being extracted from the ground to pass through the economy into the atmosphere*.

We call on the Scottish Government to introduce a scheme -by the time of the Copenhagen summit, December 2009 -to ensure that high-carbon products, modes of transport, energy sources and services, are fast replaced by zero-carbon ones. The necessary rapid rise in the cost of high-carbon options would be accompanied by the rapid development and shift to zero-carbon ones.

**'Contraction and Convergence'** is the most widely and globally accepted framework for capping and rapidly reducing carbon emissions to a level compatible with the continuation of human and other mammalian life on the planet. It aims to contract (cap and reduce) emissions in a way which does not penalise those least responsible for emissions (the poor in the Global South and North) but instead enables a convergence in which high emitters dramatically reduce their emissions in a way which supports low emitters to maintain or attain a reasonable quality of life. It is based on

(i) **the survival principle**: reducing emissions to an ecologically tolerable level; and
(ii) **the equity principle**: reducing them in a way which is socially tolerable, i.e. acceptable to the majority world, since our leadership will be fruitless unless they are willing to follow our lead in decarbonising society.

**'Cap and Dividend' [or 'Cap and Share']** is a politically attractive way for any country to unilaterally implement 'Contraction and Convergence': it is a straightforward way to radically reduce our emissions and create a far more energy healthy, socially stable and internationally secure society. It is fiscally neutral, in that all the money raised through oil, gas and coal corporations having to buy the right to bring carbon into the economy will be redistributed – on an equal basis -to the whole population.

'Cap and Dividend' is based on the fact that the atmosphere is a global commons which we all equally rely on. It gives each person the right to the same proportion of overall emissions which are reduced year on year, so reducing our collective emissions to zero and (if we ensure the resilience of carbon absorbing oceans, forests and soils) over time allowing emissions already in the atmosphere to be drawn down into

[3] Here we focus on the 4 strategic ways of reducing emissions, but there are a whole host of piecemeal moves which can have a massive cumulative effect. For examples of possible piecemeal changes (as well as strategic approaches) see George Monbiot's 'Here's the plan' (http://www.monbiot.com/archives/2006/10/31/heres-the-plan/) or Climate Safety's 'A few suggestions' on page 23 of their Climate Safety Report (http://climatesafety.org/wpcontent/uploads/climatesafety.pdf). Ideas range from: electricity tariffs where energy becomes cheaper the less you use, ending domestic flights, a 55mph speed limit, using the £76 million earmarked for replacing Trident to build wind turbines and carry out a national insulation programme, get rid of private courier vans and return post to Royal Mail postmen walking.

these ‘sinks’.

**Introducing ‘Cap and Dividend’ to Scotland:**

In the ‘Cap and Dividend’ system the vast majority of the population are immediately better off and only those who can afford it (the heavy emitters) are penalised for disproportionately polluting the global commons. Introducing this system to Scotland, would mean that those bringing carbon into the economy (those very few companies importing or producing coal/ oil/ gas/ cement etc) would take part in an annual auction to buy the right to bring carbon into the economy.
The extra price they have then paid is

> **(i) passed on to manufacturers and other users of the fossil fuel they bring into the economy**, which leads to higher prices for all those using those products, services, modes of transportation etc which have carbon embedded in them; but the cash generated from the auction of these carbon emission permits is
> **(ii) passed on to the population at large** (directly into their bank or, preferably, in terms of stability, their post office accounts) so that people can deal with the increase in prices. This means that (a) those using more than their fair share of carbon are penalised because all such prices will have risen, while those using less (the great majority) will benefit with extra cash in their pocket, and (b) producers will be immediately encouraged to develop non-carbon based products/ services/ modes of transport, and avoid producing carbon ones.

After a 3 year settling in period, ‘Cap and Dividend’ (http://www.capanddividend.org/ or http://www.capandshare.org) could – if necessary -then be supplemented by people using Carbon Cards (similar to credit cards) to monitor their purchase of CO2 embedded goods and services (This is drawn from the ‘Tradable Energy Quota’ system -http://www.teqs.net/). Those purchasing more carbon than their fair share would now not only be paying for it through the price of the goods purchased, but would also receive proportionately less cash from the carbon auction dividend. Those purchasing vastly more carbon would start paying into that dividend fund themselves (at an exponentially increasing rate). Meanwhile the great majority (those who bring in less CO2 than their fair share) would receive this extra cash from those bringing in more. As the rapid rise in the cost of high-carbon options takes effect there would be a rapid development and shift to zero-carbon ones. As the amount allowed into the economy is reduced year on year, our collective emissions are reduced to zero.

**ADVANTAGES: Political and Practical Advantages of ‘Cap and Dividend’:**

1. **A vote winner in that**

   (i) it immediately puts money in peoples’ pockets and leaves them to choose the lower and zero-carbon options if they wish.
   (ii) it ensures that all the money from the auction (and subsequently from heavy emitters) is passed on directly to the vast majority of families and individuals; and, since none of he money will be kept by Government, there is no way this could be misconstrued as a way of raising Government revenue[4].

2. **Easy to use** -It doesn’t require anyone to have to be involved in selling carbon shares. Its introduction would involve people receiving cash rather than a less attractive carbon ration (as proposed in the ‘Tradable Energy Quota’ scheme http://www.teqs.net/). However, once the system was embedded, it could move beyond the simple ‘Cap and Dividend’ equal allocation of cash, so that dividends reflect carbon use.
3. **Market solution** – it doesn’t seek a different political or economic game, it simply changes the rules of the game so that the market has to internalise the carbon cost.
4. **Transferable potential** -this system could easily, if people wished and at a late date, be expanded to include the real costs of non-Fairtrade or non-Organic products in a similar

[4] In order to raise revenue for (i) urgent carbon reduction public schemes of work, and (ii) helping the poor here and in the Global South deal with climate change, the Government could make agreements reached in tax havens carry no weight in our courts. The unpaid tax recovered from tax havens could easily finance such massive projects (*The Green New Deal*).

way which gave people money.

5. **Technologically innovative** – the certainty of the cap (the permitted level of carbon in the economy) being reduced rapidly year on year, would immediately boost jobs and investment in the development of zero-carbon energy, goods and services.
6. **Creates a level playing field**: Together with the Government (i) reducing energy demand and ensuring 100% renewable energy, and (ii) re-regulating and re-directing finance (see 2 and 3 below), this policy will create a level playing field in which food and energy, goods and services, will be produced closer to home, helping build socially and ecologically healthy communities (see 4 below).

**CHALLENGES: Political and Practical Challenges of 'Cap and Dividend'**

A. **UK context**: the Holyrood Scottish Government declared a target of 80% CO2 reductions by 2050 prior to London increasing its target from 60% to 80%. Scotland seeking to price carbon out of the economy would create tensions with the Westminster Government (unless they follow suit as rapidly as they did with the change from a 60% to 80% target). UK law would not allow Scotland to unilaterally implement such a system, but if people in Scotland powerfully push to do so, this would put huge pressure on the UK Government to again follow suit or to accept Scottish autonomy in this and related areas.

B. **EU and WTO context**: the EU and WTO could argue against us imposing stringent taxes on carbon embedded imports from countries which do not have a similar scheme. However, such a tax would be necessary to create a level playing field by levelling up international practice, and would put pressure on other EU countries to abandon the discredited 'Cap and Trade' scheme which gave away free Carbon Permits to the heavily emitting companies allowing them to increase profits, increase emissions and increase prices for citizens who themselves received no compensation.

C. **Impact of our re-localisation on the Global South**: Cheap products from the Global South would be priced out of our market through the requirement that they internalise their carbon costs at source or, if not, have taxes imposed on entry. However: (i) international trade tends to maintain undemocratic elites in power who impoverish people through taking their land and/or paying little for their labour. Removing this source of such elite's wealth, diminishes their power, helping democracy; and (ii) since these cheap products externalise social (not just ecological)l costs, Fairtrade schemes (point 4 above) could be introduced to address the social issues directly.

**Conclusion -Pricing Carbon into and out of the economy:**

'Cap and Dividend' [or 'Cap and Share'] must be introduced – or in the process of being introduced -by the time of the Copenhagen summit in December 2009 in order to ensure that carbon is rapidly treated as a toxic and addictive substance which we as individuals and as a society need great help to stop being addicted to. This clear, equitable and practical way of rapidly doing this will ensure that all products and services that carry carbon into the economy and out into the atmosphere also carry a punitive financial cost. This would kick start modes of transport, energy and production which are zero-carbon. Any products entering the country (or set of countries) imposing such a tariff on their own carbon-based products and services would, necessarily, have to impose an equivalent tax on any services and products entering the country, in order to ensure a level playing field for all, and in order to begin the process of quickly levelling up international practice from carbon profligate to zero-carbon.

**2. SWITCHING FROM CARBON HUNGRY TO ENERGY HEALTHY INFRASTRUCTURE**

We call on the Scottish Government to, by December 2009, be in a position to implement a policy framework, legislative programme and support to enable a rapid switch from carbon hungry to energy healthy infrastructure.

This would involve an immediate end to the construction of infrastructure which is accelerating our carbon use and accelerating climate change, including the immediate end of motorway building, airport expansion, and out of town shopping centres. A rapid transformation in energy production, construction and in

transport infrastructure, including rolling out effective mass insulation and energy conservation schemes, public and community benefit renewable energy schemes, and exponentially expanding and electrifying (and reducing the fares to low or zero levels on) public transport.

To move to being an energy healthy society by 2028 we need to rapidly 'Power Down' and 'Power Up':

(i) **'Powering Down'** from using carbon based and polluting energy sources and from being energy obese, thereby reducing energy use by 50% by 2029; and
(ii) **'Powering Up'** by rapidly expanding renewables (including tidal, wind, CHP and hydro) to provide for all our remaining energy needs by 2029.

This transition will happen anyway as oil, gas and coal run out, but needs to be done now in order that the carbon from the the remaining fossil fuels are not released into the atmosphere.

However, it has to borne in mind, that global average (mean) temperature have already risen by between **0.75°C** and **0.8°C** since pre-industrial times, and a minimum additional **0.6°C** of warming is still due from emissions to date -the delay in warming being a consequence of the time-lags in the system – so there is only another **0.6°C** of warming possible before we hit **2°C**. That **2°C** increase may be reached as a result of accelerating feedback loops, but we have to consider whether there is still some play in the system, so that we can devote some further emissions, not to building motorways, runways, flying, producing plastic goods and so on, but to helping to build the renewable energy infrastructure we need.

How the energy transformation can technically be carried out by 2029 is outlined in the Centre for Alternative Technology's widely acclaimed Zero Carbon Report. It is also clear from this, that it would be unnecessary and potentially entirely misguided to pour energy and resources into the expectation that we could develop bountiful, cheap and safe nuclear energy, and continue to use coal (through developing effective carbon capture and storage). The Zero Carbon Report makes clear that renewable solutions are available and can meet our real needs (rather than our manufactured wants) now if we choose to pour our energy into developing them (see: http://www.zerocarbonbritain.com/).

**3. ESTABLISHING A RADICAL GREEN NEW DEAL**

We call on the Scottish Government to recognise the underlying cause of the 'triple crunch' of the credit-fuelled financial crisis, accelerating climate change and the fluctuating but (over the long term) soaring energy prices which will accompany Peak Oil.

We call on the Scottish Government to -by December 2009 – have developed a policy framework and legislative programme to re-regulate the financial sector; and have begun the process of either:

(i) **Persuading the Westminster Government to implement such legislation** or, if the Westminster Government refuses, then
(ii) **Creating this as 'Shadow legislation'** and consulting the people of Scotland on whether they support the Scottish Government's leadership in tackling these three connected crises.

Where even a year ago, it would have been seen as electoral suicide to advocate re-regulating the financial sector; there is now a huge popular appetite (amongst both expert analysts and the population at large) for such a move. The rules of the economic system have legally obliged companies to pursue the highest returns for shareholders without thought to how this can destroy the social, economic and environmental fabric. The quickest (even if least long-term) approach to increasing profit has been through externalising the social and ecological costs of producing goods and services (hence the outsourcing or production and service jobs to the Majority world).

**As a first step, we call on the Scottish Government to:**

(i) **Push for transparency in transnational financiers and corporations dealings** so that they become accountable for the impacts they are having, and so that we ensure they are accountable through paying tax rather than using tax havens to avoid contributing

their fair share to paying for the transformation we collectively and urgently need to undertake.

(ii) **Push internationally for tax havens and their secretive dealings to be stopped,** and in the meantime push for legislation to make any agreements reached in such jurisdictions lack any legal status here.

**Over the longer term, we call on the Scottish Government to:**

(iii) **Build a new alliance between politicians, environmentalists, industry, agriculture, and the unions.** One which puts the interests of the real economy ahead of those of footloose finance in order to make massive investment in renewable energy and wider environmental transformation, leading to the creation of an employment rich, secure and environmentally healthy society. The programmes and policies required to begin this process are detailed in The Green New Deal (new economics foundation, Larry Elliott, Caroline Lukas et al 21 July 2008. See: http://www.neweconomics.org/gen/)

(iv) **Reorientate the money system** so that it exists (at national and local, and ultimately international, levels) in order to protect money as a shared commons which we all need to facilitate exchange, and as such exists to serve the wellbeing of society, rather than is used to increase the profits of the few at the expense of society and the environment (Davey 2008).

**4. SUPPORTING COMMUNITY RE-LOCALISATION**:

We call on the Scottish Government to dramatically increase its excellent support for communities seeking to make the transition from an oil dependent economy to a local one. This movement is evident in the wave of Transition Town, Going Carbon Neutral, etc., initiatives (see, for example, http://www.transitionscotland.org/, http://pedal-porty.org.uk/, http://fifediet.wordpress.com/, etc).

The Land Reform (Scotland) Act should be expanded to extend support to urban communities to also have the first right (and support) to buy important community land and buildings when they come on the market. This expansion must not be at the expense of existing support for rural communities to do likewise, but can enable urban communities to rebuild themselves, partly through learning from the experience of rural community initiatives (see, for example, http://www.isleofeigg.org, http://www.caledonia.org.uk/).

As the previous three actions are taken to stop the extraction of carbon, a level playing field will emerge in which food, energy and the things we need and want are produced far closer to home, with decisions increasingly being made at a local level; enabling us to re-establish healthy local economies and communities. In place of large corporations producing cheap and shoddy goods through exploiting cheap labour and engaging in practices (including long distance transportation) which damage the environment, in place of our fuelling those aspects of the economy in China and the rest of the Majority World which enable those with power in such countries to further exploit those pushed off their land and denied their rights, we will come to rely on establishing healthy local economies here, which will enable healthy economies there.

The three previous steps create the grounds for this fourth step which ultimately depends on people being willing to rebuild their communities as sustainable, healthy, resilient and desirable places to be through relocalising their economy. This fourth step involves the transition to viable vibrant interlining communities: where the commons is managed through negotiation and co-operation rather than through the imposition of developments by those who are absent from a locality and therefore never have to deal with the consequences of their decisions, decisions which are driven by how much they can extract from localities, rather than driven by the desire to make those localities sustainable.

The crucial point about this focus on relocalisation is that, according to the Stockholm Institute, without a completely new approach (such as this) even the most radical of their three alternative visions of the future led to well over **2°C** rises. When they ran the three alternative scenarios through the Met Office's Hadley

Centre's modelling system[5], the rises were as follows:

(i) AGREE & IGNORE – the current approach in which international negotiations lead to weak target setting which countries then effectively ignore – led to rises of **4.85°C**;
(ii) KYOTO PLUS -successful binding international negotiations with targets countries keep to – led to rises of **3.31°C**; and
(iii) A radical STEP CHANGE market approach to severely restrict companies using fossil fuels in the first place – led to rises of **2.89°C**.

So, without a dramatically different pathway – such as this rapidly spreading relocalisation process supported and amplified by the policy framework to make zero-carbon a possibility we cannot stop the devastating extraction of carbon, nor demonstrate to the world how to get back below 350ppm and so stay below the danger threshold of **2°C**.

In summary: there is no way we are going to be able to pull back from the brink and – in the process - develop the localised economies needed for fulfilling zero-carbon lifestyles unless:

(i) There is clear legislation in place to ensure a level playing field for all, so that individuals, companies and public bodies are able to act to reduce emissions
(ii) There is a clear programme to change energy use, infrastructure, and the materials we use, from carbon-based to carbon-neutral
(iii) There is swift legislation to curb the ability of finance and the profit motive to exploit and damage, rather than serve society, and unless
(iv) There is dramatically increased support for communities to make the transition.

**CONCLUSION:**

We call on the Scottish Government to respond to the World Crisis that the science is telling us we are now in, and to demonstrate world leadership by (i) making our target a reduction in emissions of 100% by 2029, and 10% by June 2011, and by (ii) taking the necessary steps to begin that dramatic reduction now.

We call on the Scottish Government to demonstrate clear outstanding leadership in the race out of carbon. This will put us in pole position to take advantage of that race, but, more importantly, it will kick start the race for human survival which so far has consisted of Governments discussing the rules of a race which should have long since begun.

[5] http://www.stockholmnetwork.org/downloads/publications/Carbon_Scenarios___Executive_Summary.pdf