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CLIMATE CHANGE: OUT OF THE LOBBY, ONTO THE STREET

Last December 100,000 people descended on Copenhagen, calling for serious measures to cut carbon emissions, investment in renewable energy and investment to deal with the impacts of climate change. The UN conference completely failed to do anything to tackle the biggest crisis facing humanity. Action was torpedoed by the two biggest polluters – the US and China – but all the countries involved put their own capitalist interests ahead of the planet.

Instead China and the US launched the ‘Copenhagen Accord’ alongside three other countries – India, Brazil and South Africa. The 193 countries represented at the talks “recognised” the accord, but did not approve it. And there is no reference to transforming the accord into a legally binding agreement. The accord states that leaders want to stop global temperatures from rising by more than two degrees above pre-industrial levels. It accepts that climate change is a real and serious issue and that it requires “strong political will” to combat it. But there is very little that details how climate change will be tackled or that commits world leaders to doing anything.

While Copenhagen was a disaster for just and equitable climate solutions, it was an inspiring watershed moment in the battle for climate justice. The governments and the elites have no solutions to offer, but the climate justice movement provided a strong vision and clear alternatives. Copenhagen will be remembered along with Seattle and Genoa, as a critical moment when the diverse agendas of many social movements coalesced and became stronger, asking in one voice for system change, not climate change. It was clear for everyone to see that capitalism and sustainability are opposed. The years of lobbying corporations and governments have yielded no results, its time for climate activists to get back on the streets and change the system.

Genuine solutions put forward by climate-justice activists include¹,

In 2010:

- A 10 percent cut in emissions by the end of 2010, radically reducing wasteful consumption, first and foremost in the Northern hemisphere, but also by Southern elites
- A ban on domestic flights, an 85 km/h speed limit on roads, end the roads program, massive investment in public transport
- End agrofuel use.
- Carbon dioxide to be considered an air pollutant to be regulated by law.
- Solar panels, ground heat pumps, and the highest insulation standards to be included as a mandatory part of the building code.

¹ Some immediate initiative promoted by the Campaign Against Climate Change, agreed at the Klimatforum in Copenhagen

- Government information programme - massive campaign to inform the public of the scale of the climate threat - booklet in every home, regular TV info, etc.

By 2020:

- Agriculture is the biggest source of GHG emissions. This is due to a model of agriculture that involves the intensive use of chemicals – fertilizer, pesticides and herbicides. Move to sustainable farming and fishing, and food sovereignty
- Climate jobs – launch a green energy revolution to upgrade buildings and public transport networks.
- Leave fossil fuels in the ground and invest instead in appropriate energy-efficiency and safe, clean and community-led renewable energy. Electrical utilities could be mandated to obtain their energy increasingly from renewable sources.
- Huge financial transfers from North to South, based on reparations for climate debts and subject to democratic control. The costs of adaptation and mitigation should be paid for by redirecting military budgets, progressive and innovative taxes, and debt cancellation

Since the Rio Summit on Sustainability in 1992 we were told that capitalism could respond to the needs of the planet and reduce greenhouse gas emissions. The last 20 years, culminating in the Copenhagen conference, shows that capitalism cannot solve the climate crisis. We need radical change in how the world economy is organized to have any hope of a sustainable future.

The main outcome of the Copenhagen conference is a renewed confidence on the part of the climate change skeptics. They have launched a new offensive to undermine decades of climate research. They are financed by some of the world's richest and most powerful companies – mainly the giant oil companies. It is now clear that it is only mass action by workers, people power, that will force governments to address climate chaos. Tackling climate change means breaking with capitalism and putting humanity and the planet before profit.

Climate sceptics back in fashion?

The failure of the Copenhagen conference to agree a new climate treaty has re-invigorated the climate change denial lobby. They have also drawn energy from the recent scandals involving the head of the Intergovernmental Panel on Climate Change (IPCC) and inaccuracies in the last IPCC report itself. This year the IPCC, the United Nations climate body, had to reverse dire predictions about the melting of glaciers in the Himalayan Mountains. In its current report the IPCC predicts that the glaciers could disappear by 2035. The correct date from the original paper is 2350.² Despite being made aware of this error by other research IPCC Chairman and Nobel laureate, Rajendra Pachauri, used the incorrect date to secure funding for his own research institute and continued to cite the false claim³. Another scandal last November, 'emailgate', exposed that scientists from the Climatic Research Unit at the University of East Anglia resorted to an underhanded solution to downplay inconsistencies in the data showing global warming over the last 1000 years⁴. The sceptics have also latched on to a number of mistakes in individual scientific

² The error in the IPCC report was highlighted by glacier specialist Georg Kaser before the publication but the report wasn't updated <http://www.spiegel.de/international/world/0,1518,672975,00.html>

³ IPCC Chairman Pachauri and his glacier expert Hasnain, who now works at The Energy and Resources Institute (TERI) in New Delhi, whose director is none other than Rajendra Pachauri, had announced a joint venture involving TERI, Iceland and the United States to study the Himalayan glaciers, with half a million dollars in funding from the New York-based Carnegie Foundation. <http://www.spiegel.de/international/world/0,1518,674087,00.html>

⁴ The so-called hockey stick graph was intended to prove that the average global temperature in the last 1,000 years was never as high as it is today. To arrive at the date, several groups of researchers reconstructed past temperatures, to a large extent based on tree-ring data. But one of the graphs differed markedly from the rest, leading to a controversy in the run-up to a conference of

papers used in the IPCC report to cast doubt on the whole science. Many of these errors were corrected by other more recent research that nevertheless supported the same conclusions – that human activity is causing global warming.⁵

While these scandals expose underhand practices by a few scientists and possible corruption by one leading climate scientist, they do not undermine the bulk of evidence supporting the conclusion that fossil fuel use is causing global warming. The IPCC report, published in 2007, is open about the inconsistencies within some research fields – such as problems with tree ring data that doesn't fit the current model exactly. More research is needed but we can corroborate the warming trend with other records – human records for the last 150 years and ice core samples beyond that.

The basic science underpinning global warming has not been questioned. In fact, in 1995 the main climate denial coalition, the Global Climate Coalition, said, “the scientific basis for the Greenhouse Effect and the potential impact of human emissions of greenhouse gases such as CO₂ on climate is well established and cannot be denied.”⁶ What is unclear and still a matter of scientific debate are the effects of this warming. Many scientists caution against some of the more controversial claims about the results of global warming contained in the IPCC report– that climate change will lead to the spread of malaria or to increased frequencies and intensities of some extreme weather events. In a complex system like the atmosphere definite outcomes can be difficult to predict. However we can already see some effects of global warming - increasing melting of ice shelves and sea ice in the Arctic and Antarctic, and it is possible to extrapolate from these findings to predict changing ocean currents and higher sea levels in the future.

These scandals have damaged people's confidence in climate science, this is being exploited by climate deniers who are hucksters for vested interests. The denialists' role is to entrench the status quo to the benefit of the big oil and energy corporations at the heart of the capitalist system. A coalition of US coal companies was the first to try to persuade people that the science was uncertain. Then the Heartland Institute (which has been sponsored by Exxon) published a list of 500 scientists “whose research contradicts man-made global warming scares.” It turned out to be nothing of the kind, as soon as these scientists found out what the institute was saying about them, most angrily demanded that their names be removed. One of the biggest climate change denial groups is called the Global Climate Coalition, which represented Exxon Mobil, Shell, BP, the American Petroleum Institute and several big motor manufacturers⁷. Even if you were to exclude every line of evidence that could possibly be disputed - the proxy records, the computer models, the complex science of clouds and ocean currents - the evidence for manmade global warming would still be unequivocal.

No other explanation for these shifts makes sense. Solar cycles have been out of synch with the temperature record for 40 years. The Milankovic cycle, which describes variations in the earth's orbit, doesn't explain it either⁸. But the warming trend is closely correlated with the accumulation

paleo-climatologists in Tanzania in September 1999. The abnormal temperature graph was "a problem and a potential distraction/detraction from the reasonably consensus viewpoint we'd like to show," paleo-climatologist Michael Mann wrote in an e-mail. For the IPCC report that was written at the time, the scientists eventually resorted to an underhanded solution to downplay the data behind Briffa's graph, which showed temperatures falling since the 1960s: the graph was simply cut off at 1960 in the IPCC report. <http://www.spiegel.de/international/world/0,1518,674087-2,00.html>

⁵ Flaws in temperature data from China that underpinned The Climate Research Unit's research on the strength of recent global warming has been uncovered. The argument over the weather stations, and how it affects an important set of data on global warming, has led to accusations of scientific fraud and may yet result in a significant revision of a scientific paper that is still cited by the UN's top climate science body. <http://www.guardian.co.uk/environment/2010/feb/09/weather-stations-china>

⁶ <http://www.nytimes.com/2009/04/24/science/earth/24deny.html>

⁷ From Patrick Bond's A lesson from Seattle for Copenhagen: Vigorous activism can defeat the denialists <http://links.org.au/node/1381>

⁸ Explained in more detail in George Monbiot's column <http://www.monbiot.com/archives/2009/12/07/the-real-climate-scandal/>

of heat-trapping gases in the atmosphere. The impact of these gases can be demonstrated in the laboratory. To assert that they do not have the same effect in the atmosphere, a novel and radical theory would be required. No such theory exists. The science is not fixed - no science ever is - but it is as firm as science can be. The evidence for manmade global warming remains as strong as the evidence linking smoking to lung cancer or HIV to AIDS⁹.

Climate strategy after Copenhagen

To anybody interested in the future of the earth's climate, the conclusion of the Copenhagen conference represents either colossal disappointment or profound rage. The financial pledges— if honored— that rich nations made to poor nations will do nothing to combat global warming. The few climate related agreements that were made were of zero substance, especially when compared to what the situation demanded. The conference deftly sums up the inability of capitalism to deal with climate change. World leaders met as representatives of their capitalist classes and trading blocks, not as a collective parliament of humanity determined to solve the issue of climate change. As a result what was billed as humanity's last change to deal with climate change before potential catastrophic effects kick in was scuppered on the rocks of capitalism. For a generation of climate activists it is now clear that we need to get rid of capitalism to have any chance of a sustainable future. Any framework calling for legally binding targets for reducing emissions was abandoned. Even this was too much for 21st century capitalism. Instead, Obama proposed an 'accord' where "each country [would] set its own rules and to decide unilaterally how to meet its target." The failure to reach agreement was not the result of bad policy from naïve leaders, but an inherent feature of capitalism.

Giant corporations in different countries are constantly growing and competing with each other for a very limited global marketplace. This vicious competition pushes all other social issues into the background — human and ecological needs are subordinate to blindly chasing profits. What makes rational sense for the system as a whole – dealing with climate chaos that could massively disrupt world agriculture and population, falls apart because of the individualised nature of property relations. In short US (and EU) companies say "why should we become uncompetitive compared to the Chinese companies through investing in cleaner technology and lose marker share". Such an irrationally competitive system cannot be smoothed over with good intentions and on-paper cooperation. Deeper, conflicting corporate interests between nations are the motor force pushing countries further apart the more cooperation is needed. These corporations, most importantly the big oil companies, are at the heart of capitalism. Any plans to introduce alternative energy systems will run into opposition from the core of the capitalist ruling class. They have actively blocked any change that would cut their profits – from blocking the introduction of electric cars to funding foundations claiming climate change isn't happening.

As long as governmental policy is dictated by corporations action on climate change is doomed. Thus, the battle to save the environment must include a fight against these corporations, who wield a political/economic vise grip over society. Only by publicly controlling these billionaire-owned mega-enterprises can the cooperative impulses of the earth's people find their full expression. The outcome of the Copenhagen conference has radicalised a new generation of environmental activists. Looking to market based solutions to global warming has failed. In Copenhagen environmental activists united with workers, anti-capitalist activists and movements in the majority world to build a new movement against capitalism to save the planet.

⁹ <http://www.monbiot.com/archives/2009/12/07/the-real-climate-scandal/>

Failure of market based solutions

The Kyoto agreement was signed in 1997 and set targets for greenhouse gas emissions to be met by 2012. Most of these amounted to a 40% cut in emissions for rich countries based on 1990 emission figures. After ten years of implementation the results show that most countries have missed their targets. Ireland is one of the worst cases, until recently competing with the US for first place in CO2 emissions per capita.¹⁰ Kyoto's solution for climate change was the creation of a number of new markets to trade pollution – that is to extend capitalism into the atmosphere.

The EU Emission Trading Scheme (ETS) was the first to be set up in 2005. This is the main mechanism the Irish Government is proposing to reduce the GHG emissions of the top 100 polluters in Ireland¹¹. ETS is a scheme to commodify the atmosphere and set up a stock exchange dealing in greenhouse gas emissions. Instead of trading shares companies would trade pollution quotas. Just like the normal stock market, this scheme rapidly descended into a centre of speculation unconnected with attempts to solve the climate crisis. The scheme rewarded the biggest polluters with the most permits. It is plagued by permit fraud and accounting errors. Initially the European Commission also overestimated the number of units needed and set a high price for each CO2 unit, at up to €30 a tonne. But individual companies, particularly energy companies, rapidly saw they had millions of tonnes of CO2 units that they didn't need, and so they sold their surplus, making huge profits.

A report by Open Europe, in July 2006, found that UK oil companies made a lot of free money from the scheme: £10.2m for Esso; £17.9m for BP; and £20.7m for Shell. So the major polluters got a free reward from the scheme.¹² And behind this profiteering, the environmental reality was that these major producers of carbon emissions were under no pressure to cut emissions. In fact many of these scheme had a net addition to GHG emissions.¹³

Clean Development mechanism & Carbon Offsets

Another scheme set up by the Kyoto agreement was the CDM (Clean Development Mechanism). This scheme supposedly cut greenhouse gas emissions by letting companies write off their own emissions against clean technology transfers to the developing world. Most of these schemes have a dubious scientific basis or are downright fraudulent. Until July 2006, the CDM executive board did not reject a single project. The specialist companies engaged to verify the schemes were being paid by the companies they were asked to check.¹⁴ 53 percent of the existing schemes come from just six monster projects, in India, China and South Korea, all of which engage in the most controversial form of carbon reduction. They manufacture refrigerant which produces as a side effect a gas called HFC-23. Although carbon dioxide is the most common greenhouse gas, HFC-23 is 11,700 times more likely than carbon dioxide to add to global warming. Refrigerant companies find it relatively cheap to install an incinerator to burn the HFC-23 and claim 11,700 carbon credits have been saved. These companies are now earning millions of euros from these credits - more than from selling their refrigerant products. This scheme encourages these companies to produce

¹⁰ <http://www.epa.ie/whatwedo/climate/whatisclimatechange/whatareirelandsgreenhousegasemissionslike/>

¹¹ 2007 EPA report, 3.

¹² <http://www.openeurope.org.uk/research/etsp2.pdf>

¹³ A nine-minute film launched on the internet in December 2009, [The Story of Cap and Trade](http://www.storyofstuff.org/capandtrade) (<http://www.storyofstuff.org/capandtrade>) gives all the ammunition climate activists need to understand and critique emissions trading, and to seek genuine solutions.

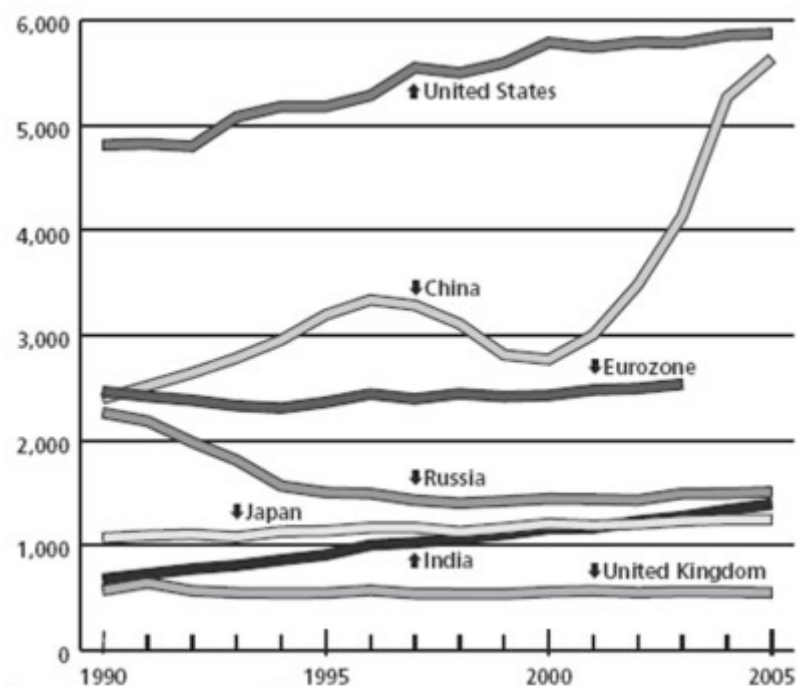
¹⁴ Nick Davies on Carbon offsets <http://www.guardian.co.uk/environment/2007/jun/02/india.greenpolitics>

unnecessary HFC-23 and burn it for profit – adding to global warming rather than reducing GHG emissions¹⁵.

Carbon offsets are similar to the CDM. They involve specialised companies who offer schemes to reduce (or offset) greenhouse gases used by consumers and companies by investing in CO2 recovery projects like planting tree. The problem is that most are scientifically unreliable with regard to how much CO2 they remove and are more about green-washing (giving companies a green image) rather than actually tackling the problem – reducing the use of fossil fuel energy¹⁶. Some tree-planting projects in Guatemala, Ecuador and Uganda have been accused of disrupting water supplies; evicting thousands of villagers from their land; seizing grazing rights from farmers; and running plantations where the soil releases more carbon than is absorbed by the trees.¹⁷

The great irony behind the failure of the Kyoto Protocol is that it represented, even in its original conception, only a very modest, symbolic first step in arresting the global warming trend. Although aimed at a stabilization of greenhouse gas emissions at around 5 percent below the 1990 level, it fell far short of the massive cuts in emissions that world climate scientists have repeatedly insisted would be necessary in order to stave off global warming. According to the *London Times* (July 9, 2001), “Not even the treaty’s most ardent advocates contend that it is enough to contain global warming. Several models suggest that its impact by 2100 will be a temperature increase of just 0.15 °C less than would occur if nothing is done. Emissions reductions through market mechanisms as promoted by the Green Party and environmental NGOs have been unable to meet the challenge of climate change. Since 1990, all countries (except the UK and Russia) have increased their emissions¹⁸.

Chart: CO2 emissions, selected countries (millions of tons)¹⁹



¹⁵ <http://www.guardian.co.uk/environment/2007/jun/02/india.greenpolitics>

¹⁶ New Internationalist magazine special investigation into the Carbon Offset industry <http://www.newint.org/features/2006/07/01/carbon-cycle/>

¹⁷ <http://www.newint.org/features/2006/07/01/keynote/>

¹⁸ UK emissions (due mainly to its massive shift from coal to North Sea gas) have been on a flat trend. Russia is the only large economy that has reduced emissions substantially since 1990, during a period in which its economic output and population declined.

¹⁹ World Bank, *World Development Indicators Online*, <http://devdata.worldbank.org/dataonline>.

China's emissions and India's emissions have more than doubled, and China has now overtaken the United States to become the world's largest emitter of greenhouse gases.

These schemes extended capitalism by commodifying the atmosphere. This highlights one of the basic contradictions of capitalism exposed by Marx. Rather than responding to the dangers and scarcity caused by environmental destruction, capitalism sees in these new scarcities avenues for profit and expansion. For example when clean water is abundant it has no value, but when it is scarce they can charge for it. This logic of capitalism means there is no internal brake to respond to the cost of environmental destruction. Capitalism will continue to try to make profits from the destruction it causes until life is unsustainable.

The limits of Green reformism

The record of the Green Party in government in the South of Ireland shows the limits of creating a green capitalism. The Greens justified moving from being a protest party to supporting capitalism because of the urgency of action on climate change. It is a record of failure. The Greens in government have focused on trying to solve the climate crisis by encouraging 'green capitalist' solutions by privatising energy production, transport, and relying on developers to construct energy efficient buildings. They have all failed. The fall in CO2 emissions in the last year can be fully attributed to the economic crisis (fewer car journeys, fuel cutbacks) rather than the result of government action to tackle climate change.

Ireland's target in relation to the Kyoto Protocol is to limit emissions in the period 2008-2012 to 13 per cent above the baseline estimate. Based on the latest figures, Ireland's emissions were 25.4 per cent higher than the baseline estimate that underlies Ireland's allowable emissions of 315 Mt CO₂eq for the period 2008-2012, as proposed to the European Commission in 2006²⁰. The latest breakdown for GHG emission figures are from 2007: Agriculture is the single largest contributor to the overall emissions, at 26.8% of the total, followed by Energy (power generation & oil refining) at 21.5% and Transport at 20.8%. The remainder is made up by Industry and Commercial at 17.9%, the Residential sector at 10.2%, and Waste at 2.8%²¹. Even if all the campaigns focused on the individual and residential sector delivered (the power of one campaign etc), this would only reduce GHG emissions by a maximum of 10%. Rather than the individual, consumer led approaches to climate change that the Greens have focused on, we need massive state directed investment.

The ESB was one of the most efficient energy producers in Europe. We could produce 42% of our energy needs from renewables²². Instead of directing the ESB to invest massively in renewable energy such as wind the FF-Green government started to break up the ESB to privatize it and create openings for "Green capitalism". The result is that Ireland is far behind its potential in renewable energy. In 2007 transport accounted for 20.8% of emissions, over 95% of that was from cars. Transport is the fastest growing source of Green House Gas (GHG) emissions²³. The Greens have stood over one of the biggest investment in road infrastructure in Ireland's history. The road building programme is a massive state subsidy to the oil/car industry. A similar level of subsidy to public transport could mean we could have a free public transport system. Instead the Green Party in government has stood over repeated attempts to break-up and privatise the public transport system, most notably Dublin Bus.

²⁰ Stephen Rogers in the Irish Examiner Wednesday, August 12, 2009 <http://www.irishexaminer.com/ireland/snidojmhid/rss2/>

²¹ EPA 2007 report, 5.

²² "Northern Ireland Strategic Energy Framework 2009: Pre-consultation scoping paper", DETI, November 2008

²³ http://www.envirocentre.ie/includes/documents/ghg_prov_inventory_2007_161020081.pdf

Nearly one third of Ireland's housing stock was built since 2000. Instead of demanding the highest standards of building and insulation most of these buildings were substandard even at the time²⁴. The announcement in the 2009 budget in the South of a Carbon Tax was hailed as a successful move by the Greens. But the new carbon tax is a socially regressive tax. It's a flat tax like VAT – hence it hits the poorest hardest. It simply transfers the cost of pollution onto consumers.

The Greens ditched opposition to war and the use of Shannon Airport by the US Military to get into government. The irony of this wasn't lost on people. They began to support a policy in large part determined by the major oil companies – invasion of Iraq and Afghanistan to secure control of energy resources, in order to influence policy to undermine the control those self same companies had on energy policy at home. Needless to say such manoeuvres simply ended up strengthening the position of the global oil companies. The same irony can be seen in their decision to drop support for the people of Rosspoint against the Shell gas pipeline to gain energy security.

The experience of the Greens in Ireland is mirrored by the Greens in Germany. In order to secure a seat in government the German Greens signed up to the war in Yugoslavia when Joschka Fischer was vice chancellor and foreign minister, followed by the war in Afghanistan. They didn't secure their promise of closing Germany's nuclear industry – reactors are to be closed at a much slower rate, and even this may be overturned by the new government. The attempt to work within the system to build a green capitalism has been a failure. It has simply given corporations, including the energy giants, a cover to keep up their polluting practices. Even the limited targets of reducing GHG emissions have not been met.

Is a green New Deal possible?

The dominant approach to the world ecological crisis, focusing on technological fixes and market mechanisms, is a kind of denial; one that serves the vested interests of those who have the most to lose from a change in economic arrangements. Al Gore exemplifies the dominant form of denial in his book, *Our Choice: A Plan to Solve the Climate Crisis*. For Gore, the answer is the creation of a "sustainable capitalism." He is not, however, altogether blind to the faults of the present system. He describes climate change as the "greatest market failure in history" and decries the "short-term" perspective of present-day capitalism, its "market triumphalism," and the "fundamental flaws" in its relation to the environment. Yet, in defiance of all this, he assures his readers that the "strengths of capitalism" can be harnessed to a new system of "sustainable development." Similar ideas have inspired some environmental activists to put together a Green New Deal (GND) proposal²⁵, North and South, to tackle climate change. Proponents of the GND claim that the triple crisis of climate, finance and unemployment can be tackled through state led investment in a GND that can revive 'green capitalism' – a policy of Green Keynesianism.

The proposed GND in the South is a stimulus plan for the economy: €3.7 billion a year for the next two to three years. It is proposed to finance it from the revenue of a carbon tax (400 million Euro a year), from the auctioning of carbon permits (which will not start before 2013), and with new borrowing with "green" bonds.

The Green New Deal recommendations are:

- 75,000 climate jobs (25,000 in the north) – To focus on a home insulation programme, expanded public transport, investment in recycling and renewable energy schemes.

²⁴ http://www.esri.ie/irish_economy/permanent_tsbesri_house_p/

²⁵ South http://www.comharsdc.ie/files/2009_TowardsGNDIreland_rpt.pdf,
http://www.foe.co.uk/resource/briefings/ni_green_new_deal.pdf

North

- A 42% of power generation from renewable energy by 2040

These policies could alleviate the worst suffering of the economic crisis for working class people by giving employment and cutting energy bills. However it will take a fight against capitalism to get these policies implemented, they won't be championed by a section of the capitalist class for a number of reasons: The Green New Deal demands a major expansion of the public sector but the governments North and South are committed to cutting back on the public sector. Rather than take some of the money back off the wealthy to fund an expanded public sector both governments are committed to continued neo-liberal policies. After NAMA and the bank bailouts Fianna Fail are now saying there is no money left for a stimulus package like the GND.

A complete shift away from an oil based economy means taking on the power of the oil companies but the experience of the Copenhagen conference and that of the Greens in government in the South shows a complete failure to do this even on a small scale. Governments aren't independent of these giant corporations – rather they do their bidding. Similar Keynesian policies failed to solve capitalist crisis in the past. Roosevelt's New Deal didn't solve the crisis in 1930s America – it took WWII to do that. In the 1970s Keynesian policies failed to solve the economic crisis. Capitalism responds to profitability not sustainability. Until fossil fuels become more expensive than renewables capitalists won't switch. The timescale for this to happen is longer than is available to avoid major climate change²⁶.

The GND argues that capitalism can respond to the increasing costs of environmental destruction. But the contradictions of mainstream economics are most evident in its inability to respond to the planetary environmental crisis. For example, Thomas Schelling, winner of the Bank of Sweden's Nobel Memorial Prize in Economic Sciences (aka the Nobel Prize in Economics), wrote in *Foreign Affairs* in 1997 that "Agriculture [in the developed world] is practically the only sector of the economy affected by climate, and it contributes only a small percentage — three percent in the United States — of national income. If agricultural productivity were drastically reduced by climate change, the cost of living would rise by one or two percent, and at a time when per capita income will likely have doubled." There is no understanding here of production as a system, involving nature (and humanity), outside of national income accounting. A decrease by half of agricultural production would necessarily have an extraordinary impact on the price of food.

This fatal flaw of mainstream economics can be traced back to its conceptual foundations. They abandoned the distinction between wealth and value. Capitalism can only value things in exchange. They treated nature as a "free gift" to humanity and hence lost the possibility of a broader ecological and social conception of wealth. Marx strongly resisted the abandoning of the wealth-value distinction, going so far as to criticize other socialists if they embraced the "value equals wealth" misconception. "Labour," Marx pronounced at the beginning of the *Critique of the Gotha Programme*, "is not the source of all wealth. Nature is just as much the source of use values (and it is surely of such that material wealth consists!) as is labour, which itself is only the manifestation of a natural force, human labour power."²⁷ In the beginning of *Capital*, he cited William Petty, the founder of classical political economy, who had said, "labour is the father of material wealth, the earth is its mother." Because it subsumes all wealth into (exchange) value only commodities for sale on the market really count for capitalism.

²⁶ The Hubbert peak theory is based on the observation that the amount of oil under the ground in any region is finite, therefore the rate of discovery which initially increases quickly must reach a maximum and decline. In the US, oil extraction followed the discovery curve after a time lag of 32 to 35 years. The theory is named after American geophysicist M. King Hubbert, who created a method of modeling the production curve given an assumed ultimate recovery volume. Estimates vary but peak oil is likely to occur between 200-2050.

²⁷ Karl Marx, *Critique of Gotha Programme* Part 1

Clean air, water, natural resources and the whole of nature are free gifts and as such are of no intrinsic value. Their destruction therefore bears no cost to capitalism. If the system isn't stopped it will devour all of nature. Although it is often supposed that increasing environmental costs will restrict economic growth, the fact is that under capitalism such costs continue to be externalized on nature (and society) as a whole. Capitalism creates private riches through the destruction of the commons. From the standpoint of capital accumulation, global warming and desertification are blessings in disguise, increasing the prospects of expanding private riches. It provides new prospects for private profits through the selective commodification of parts of nature. For example the waste management industry and carbon trading or the rush to privatise water – the new 'blue gold'.

Marx incorporated the ideas of wealth (use-value) and value (exchange value) into his theory and was therefore able to account for the costs of ecological destruction. His idea of the metabolic rift showed how capitalist agriculture undermined the natural processes and cycles that regenerated nature and therefore human beings too²⁸. The contradiction between capitalism and nature can today be seen in the potential destruction of the whole biosphere. Trying to save the planet from the ecological destruction caused by capitalist expansion, by a further expansion of capitalism is a contradiction and shows the irrationality of the Green New Deal proposal. Capitalism is a system of unsustainable development – 'sustainable' or 'green' capitalism is a contradiction.

Marx and ecology

Marx and Engels are famous for their critique of capitalism and for advocating social revolution, they are far less known for their concern for the destruction of the environment and the need for sustainability. However taken together, their views on the relationship between human society and the environment rank them among the most advanced environmentalists of their day. Inherent in the premises of historical materialism is the notion of the coevolution of nature and society. Human development, the unfolding of human potentials, and the emergence of new needs and talents presuppose the material production of means of subsistence.

Marx and Engels offer a materialist and dialectical theory of the relationship between humanity and nature. Human beings are part of nature and as such were formed by natural forces. However through collective labour humans also shaped the world around them and in turn were further shaped by that changed world. Marx rejected mainstream ecology's radical division between nature and society, according to which societies face insurmountable natural limits.

A limit often talked about today is overpopulation – that the earth cannot feed many more people. 'Population theorists' assume the current agricultural output and social organisation (capitalism) are fixed limits rather than the products of human organisation – and therefore changeable. According to Marx, capitalism is an economic system profoundly at odds with a sustainable planet. The exploitation of nature is as fundamental to the profit system, he argued, as the exploitation of working people. One of the key goals of socialism is to liberate the natural world from the anti-environmental impacts of corporate greed.

Marx argued that, "From the standpoint of a higher economic formation, the private property of particular individuals in the earth will appear just as absurd as the private property of one man in other men". He was scathing of the capitalist economic notion that the air, rivers, seas and soil can be treated as a "free gift of nature" to business. "Even an entire society, a nation, or all simultaneously existing societies taken together, are not owners of the earth. They are simply its possessors, its beneficiaries, and have to bequeath it in an improved state to succeeding

²⁸ Martha E. Gimenez, Does ecology need Marx? *Monthly Review*, Vol. 52, No.8, 2001. <http://monthlyreview.org/101gimen.htm>

generations.”²⁹ The market system is incapable of preserving the environment for future generations because it cannot take into account the long-term requirements of people and planet. The competition between individual enterprises and industries to make a profitable return on their investment tends to exclude rational and sustainable planning.

Engels explained this destructive dynamic: “As individual capitalists are engaged in production and exchange for the sake of the immediate profit, only the nearest, most immediate results must first be taken into account. “As long as the individual manufacturer or merchant sells a manufactured or purchased commodity with the usual coveted profit, he is satisfied and does not concern himself with what afterwards becomes of the commodity and its purchasers. The same thing applies to the natural effects of the same actions.”³⁰ In Marx and Engels’s time, this feature of capitalism was especially apparent in farming and agriculture. Marx argued that. “The way that the cultivation of particular crops depends on fluctuations in market prices and the constant changes in cultivation with these price fluctuations — the entire spirit of capitalist production, which is oriented towards the most immediate monetary profits — stands in contradiction to agriculture, which has to concern itself with the whole gamut of permanent conditions of life required by the chain of human generations”. Capitalist farming is unsustainable because it inevitably starves the soil of nutrients. It is nothing less than “an art, not only of robbing the labourer, but of robbing the soil”³¹.

Furthermore, Marx held that “all progress in increasing the fertility of the soil for a given time is a progress towards ruining the more long-lasting sources of that fertility”³². The more a country starts its development on the foundations of modern industry, like the United States, for example, the more rapid is this process of destruction. Marx and Engels understood the Earth’s ecosystem as dynamic and complex — an intricate, delicately balanced process of interacting components where any changes that occur feed back with new, and often unpredictable, effects. We disrupt the natural ecosystem at our peril, Engels warned. “Let us not, however, flatter ourselves overmuch on account of our human victories over nature. For each victory nature takes its revenge on us. “Each victory, it is true, in the first place brings about the results we expected, but in the second and third places it has quite different, unforeseen effects which only too often cancel out the first.”³³

Many times Marx described the normal interaction between human society and the natural world as a kind of “metabolism”. Capitalist production creates a “metabolic rift” — a sharp break in the relationship — between humanity and the Earth. The environmental results of this deepening rift have proved devastating. “The development of civilisation and industry in general has always shown itself so active in the destruction of forests that everything that has been done for their conservation and production is completely insignificant in comparison”, Marx pointed out. Engels added: “At every step we are reminded that we by no means rule over nature like a conqueror over a foreign people, like someone standing outside of nature.” On the other hand, “we have the advantage of all other creatures of being able to learn its laws and apply them correctly.”³⁴ That is, we can organise society in step with nature’s limits.

Marx and Engels held that socialism aimed to end class exploitation and also re-establish the “metabolism” between people and the Earth. This is impossible unless the profit motive is removed as the main reason for production in human society. A system of participatory

²⁹ Simon Butler, *Karl Marx the ecologist*. Available at <http://www.greenleft.org.au/2009/784/40374>

³⁰ *ibid*

³¹ *ibid*

³² *ibid*

³³ *ibid*

³⁴ *ibid*

democracy and rational planning is needed instead. Engels argued that only the working people organised as “associated producers” can “govern the human metabolism with nature in a rational way”. This “requires something more than mere knowledge. It requires a complete revolution in our hitherto existing mode of production, and simultaneously a revolution in our whole contemporary social order.”³⁵ Today, with climate change threatening life itself, the ecological contradictions of capitalism have reached truly dire proportions. The environmental crisis will undoubtedly play a far larger role in the demise of the system than Marx and Engels realised 150 years ago.

Ecological sustainability means socialist revolution

The resources and technology are there to tackle climate change, the problem is capitalism. Trillions have been wasted in the arms trade and in saving the banks in the last few years. That money could go to tackling global warming. The reason the investment doesn't happen is that capitalist investment responds to profitability, not rational argument for sustainable development. We have technology that can reduce and even reverse GHG emissions dramatically. Introducing them however means taking on the power of some of the world's biggest corporations – the energy companies, who in turn control the world's most powerful governments. Technical fixes for global warming like ‘Carbon capture and storage’³⁶ rely on risky, untested technologies and we have insufficient time to run the risk that they won't work. Even if they do work they do nothing to tackle the unsustainable logic at the heart of capitalism. They simply postpone and even bigger crisis to a later date.

Capitalism drive to ‘accumulate for accumulations sake’ as Marx explained, drives it to prioritise short term profit over sustainability. Capitalism is an irrational system – even faced with environmental catastrophe the ruling class is incapable of responding. Class exploitation, imperialism, war, and ecological devastation are not mere unrelated accidents of history but interrelated, intrinsic features of capitalist development.

The technical requirements for climate stabilization are clear. The global energy infrastructure needs to be fundamentally transformed to be based on renewables. Much of the world's economic infrastructure will have to be changed accordingly. Agriculture will need to be reorganized to follow sustainable principles and to be freed from dependence on fossil fuels for fertilizers and machineries. The entire transportation system will have to be re-built, with railways and public transportation operated by renewable electricity playing prominent roles. All of these need to be accomplished without undermining the basic needs of the world's population. Only a global co-ordinated plan for production can hope to meet this goal – a globally planned and rationally organised economy.

Not only do the solutions have to be large enough to deal with the problem, but also all of this must take place on a world scale in a generation or so. The speed and scale of change necessary means that what is required is an ecological revolution that would also need to be a socialist revolution. Only this offers the chance of global co-ordination necessary. It will take mass action by workers and the poor to force change. Copenhagen showed that change won't come from inside the system. A revitalised ‘green capitalism’ is a pipe dream, capitalism is increasingly resembling a vampire sucking the very life out of the planet.

Lovelock's “revenge of Gaia”, what Frederick Engels, in the nineteenth century called the “revenge” of nature, now writ large on a planetary scale. It will not be automatically overcome

³⁵ ibid

³⁶ <http://www.greenpeace.org.uk/blog/climate/the-problem-with-carbon-capture-and-storage-ccs-20080103>

simply by getting rid of the existing system. Yet, such a revolution remains the necessary first step in any rational attempt to save and advance human civilization. Time is running out, it is now clearer than ever that there is only one solution, revolution.