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CAPITAL, GLOBAL WARMING AND THE PARIS AGREEMENT

INTRODUCTION

The climate summit at Paris concluded on 12th December, 2015, with a new agreement on climate action accepted by more than 190 countries, an agreement that has been hailed by all world leaders, with very few exceptions, as a great achievement. According to Barack Obama, president of the United States, the Paris Agreement and the accompanying decision, passed by the 21st Conference of Parties (COP21), the supreme body that administers the United Nations Framework Convention on Climate Change (UNFCCC), “establishes the enduring framework the world needs to solve the climate crisis.” Other leaders have hailed the agreement in similar language. India’s Prime Minister, Narendra Modi, tweeted, “Outcome of #Paris Agreement has no winners or losers. Climate justice has won and we are all working towards a greener future.” Similar sentiments have been expressed by many other leaders from different nations.

There is no doubt that the problem of global warming due to human activity that uses fossil fuels is one of the most significant global environmental problems facing the world today. So when leaders across the world hail this agreement as paving the way to solving the problem, we need to critically understand what were the real outcomes of the Paris summit and to what extent it paves the way towards resolving this crisis that threatens human well-being on a global scale.

What is the origin of the problem of global warming and what are its consequences? Fossil fuels, including coal, lignite, peat, petroleum and its derivatives such as petrol and diesel, natural gas, and so on, that contain carbon, when used in any kind of industrial process lead to the release of carbon dioxide. This carbon dioxide leads to the warming of the atmosphere, leading in turn to a rise in the Earth’s average temperature, causing changes in the Earth’s climate, which will have serious negative impacts. Such impacts include more erratic rainfall, increase or decrease in rainfall in various regions, extraordinarily hotter summers and winters that will not be as cold as before, more extreme weather such as cyclones, rising sea levels that may inundate coastal areas and may cause many islands across the

world to be submerged, melting of glaciers that may affect river flows and so on. Such changes will be more dramatic if more and more carbon dioxide is pumped continuously into the atmosphere. These changes in climate, if not controlled, will in turn lead to lasting damage to the Earth's biosphere, affecting forests, biodiversity, animal and plant life and agricultural production in a number of ways. Some of these changes are already occurring today, though not yet on a scale to create large-scale disruption of human society and its activity, but if global warming is left unchecked such disruption is bound to follow. Global warming also occurs whenever there is interference with the global carbon cycle, such as through deforestation, and also through other gases such as methane. All gases causing global warming are known as greenhouse gases (GHGs), of which the most important is carbon dioxide.

There can be no doubt that crisis is indeed the correct term to describe the situation that the world is facing due to global warming. The reason is that a large part of modern industrial production is based on the use of fossil fuels. Our dependence on fossil fuels certainly cannot be labelled a historical error, as some environmentalists do, since without fossil fuels the expansion of productive forces would have destroyed the world's bio-resources (including wood from trees and oil from animal sources, such as whales). And the discovery of fossil fuels and their uses in turn promoted an unanticipated advance of human productive capacities. And yet it is this very fossil fuel use that now threatens humanity itself, both in the sense of the physical existence of human society as well as the advance of its productive capacities¹. This threat is real, especially if there is an absence of advanced technologies that liberate us from the use of fossil fuels,

However it would be erroneous to think that the crisis of global warming is a purely a technological crisis that can be resolved by the advance of technology. As is becoming increasingly evident, it is the fact that the development of the productive capacities of human society takes place within the given social and economic order of society, or to put it more precisely, within the framework of the given relations of production of society, that is beginning to emerge as the major obstacle to dealing with the global warming crisis in a rational and equitable manner. In particular, it is the reality of the globally unequal world that capitalism and, in particular, imperialism has created, and their desire to see this perpetuated that are the source, in a fundamental sense, of the obstacles to dealing with the problem of global warming in a rational and just manner. There two interrelated ways in which this inequality stands in the way of a solution. One of the primary manifestations of this inequality is the global division between developed and less-developed² nations, that is a reality despite the fact that the less-developed nations are not all at the same level of development. It is unsurprising that if we are to understand why the

problem of global warming appears so intractable at the level of co-operation between nations, we must begin with the conflict between the developed and less-developed nations, that has a long history of which climate is only the latest exemplar. The second is that given an unequal world, the solutions that developed nations try to force on the world are based on assuring that the economic order dominated by capital is not seriously undermined in any way that would threaten it. Alongside, while the less-developed nations argue against the developed ones at international negotiations, their domestic capital also seeks to ensure that their power is not threatened in any way in their domestic context.

THE INTERNATIONAL NEGOTIATIONS AND THE DEVELOPED NATIONS-THIRD WORLD DIVIDE: FROM COPENHAGEN TO PARIS

The conflict between developed and less-developed nations in the global climate negotiations has by now a long history. Global warming is of course a global problem in a unique sense. Its solution requires the participation of all nations, since the greenhouse gas emissions (of which carbon dioxide is the most significant) of any one country, or any one part of the world, diffuses into the entire atmosphere and affects all nations. So all nations need to participate in the solution. But clearly the developed nations have been responsible for the bulk of the greenhouse gases in the atmosphere. So it is natural that they should bear greater responsibility in dealing with the solution to the problem and take the lead in addressing it, while eventually the less-developed ones would also join them in resolving the problem.

In an extraordinary conjuncture, as is clear in retrospect, this fundamental aspect was recognized in the first climate treaty, the United Nations Framework on Climate Change³. It noted clearly that while all nations were responsible for protecting the planet from global warming, it was to be done so "on the basis of equity and in accordance with the principle of common but differentiated responsibilities and respective capabilities." Further, it was agreed, in pursuit of this principle, that developed countries would take the lead in climate change mitigation⁴, would provide support for developing countries in terms of finance and technology transfer for climate mitigation and adaptation⁵, and that developing countries would join the effort later, keeping in mind their need for development, especially poverty eradication. Excellent as this formulation was, the history of the climate negotiations since then has been essentially that of the developed nations trying to pass the burden of climate change mitigation, as much as possible, on to the less-developed nations.

The strategy of the developed nations since then, broadly speaking, has been that of either forcing the less-developed nations to also join in sharing

the burden of climate mitigation or, if that were not possible, to renege from their commitment to take the lead in reducing greenhouse gas emissions sharply enough to limit the extent of global warming. On technology transfer they have been adamant in not limiting intellectual property rights for so-called "green" technologies, so that less-developed nations may have free access. In terms of financial support, they have been insistent on diluting the provisions of the UNFCCC by including the relabelling of general development assistance as climate finance or including private financial flows and equity flows also in the ambit of such financial support, thus reducing the extent of support through public funds which the less-developed nations wanted.

Till the Copenhagen climate summit of 2009, COP15, the developed nations' strategy in mitigation was to include the less-developed countries also in the scope of immediate declarations as to when they would start reducing emissions⁶, which of course these nations refused to accept. Faced with the imminent collapse of the summit, the United States, with President Obama leading the talks personally, initiated a shift of strategy. Henceforth, the rules of the game would not be to seek a binding commitment for reducing GHG emissions from nations (developed or less-developed) but that all would only have to say what they would do voluntarily and this would be the basis of agreement. Of course less-developed nations, especially the so-called emerging economies, including China and India, also had to promise something, but this need not be actual emissions reduction, but could include efforts to make their economies less emission dependent. Typically this was done by promising to reduce the ratio of the country's emissions to the GDP of the country. This was the essence of the Copenhagen declaration. The developed countries also promised to generate climate finance to eventually reach 100 billion US dollars per year in 2020, and initiated a process for a "technology mechanism" that made many promises of technology and information transfer and so on, without addressing the key issue of intellectual property rights or even allowing any modification of the patent regime for technologies needed to deal with climate change.

Significantly, the Copenhagen declaration, also declared that the global goal would be limit the rise in global average temperature of the Earth from pre-industrial levels by 2 degrees Centigrade, but of course it did nothing to ensure that the voluntary commitments in emissions reduction would add up to achieving this goal.

This solution obviously did not satisfy many small nations, including the Least Developed Countries, the small island states that were in danger of being submerged due to sea-level rise and other nations, including the European Union, that wanted some stronger measures against global warming, but were sidelined by the US at Copenhagen. In Durban, at COP 17 in 2011, they mounted a fresh effort to initiate such action and succeeding in passing a resolution, known as the Durban Platform, to start

work for a legally binding agreement, binding on all countries, to initiate strong action on reducing GHG emissions.

The Durban Platform, also saw a successful effort by the developed nations to remove any reference to equity or common but differentiated responsibilities in the resolution, which of course ensured that the United States and other climate laggards such as Australia or Japan supported the resolution. The resolution marked 2015 as the year to come to this new agreement and thus the stage was set for Paris. The ambivalent role of successive Indian governments in dealing with global warming was also exposed at Durban, for while New Delhi demanded equity, it did not come to the negotiating table with any concrete measures or plan for an equitable solution to global warming.

THE PARIS AGREEMENT

In the runup to Paris there were three key developments spread over the last year that shaped its final outcome. First, the leadership of the developed nations again passed to the hands of the United States, instead of the European Union, which had led at Durban. As a consequence the question of a legally binding agreement at Paris was off the table since the US Congress would certainly not accept any kind of legally binding agreement, especially given the Republican Party's majority in both the Senate and House of Representatives. So voluntary commitments it would be.

Second, in 2014, the US and China announced a climate deal⁷, signed by the presidents of both countries, as part of which China made a specific promise that its emissions would reach a maximum by 2030, that it would try to achieve this target earlier if possible and would have 20% of its primary energy consumption from non-fossil fuels. This was a major concession by China, and muted the criticism from developed countries considerably, but it was also a clever one as we shall see shortly. The United States for its part announced that it would reduce its annual GHG emissions to 26-28% below 2005 levels by 2025, and would strive to achieve 28%. The Obama administration's strategy was to achieve this through reductions mandated directly through the Federal Environmental Protection Agency (EPA) thus bypassing Congressional scrutiny. This strategy may still not work, since 28 States have gone to the US Supreme Court appealing against related restrictions imposed on thermal power plants by the EPA.

The third development was the China and France Joint Presidential Statement on Climate Change on 2nd November, 2015, issued during the French president Hollande's visit to Beijing just prior the summit⁸. In the declaration, it is clear that China ensured that certain key principles would be accepted in the Paris Agreement including the principles of equity and common but differentiated responsibilities and that the differentiation

between developed and developing nations would be maintained in the agreement. How and in what manner these were to be operationalised was another matter. In view of the US position, both China and France would have realised that neither of the two would be spelt out in any operational detail in the agreement.

In the run up to Paris over the years, negotiations were fraught and difficult, but the key development was the setting up of voluntary commitments from all Parties that chose to make them, known as Intended Nationally Determined Contributions (INDCs). More than 150 countries eventually submitted these to the UNFCCC. Developing country Parties included requests for financial support, technology transfer and capacity-building support while also differentiating the kind of commitments they could make with or without financial support from the developed countries. From the time of Copenhagen, some developing country governments, became increasingly susceptible to the blandishments of the developed countries in the form of promises of aid for climate adaptation or disaster relief in future. As a consequence several of them, such as Ethiopia, appeared willing to undertake more climate mitigation than their fair share, without ensuring that their future development in industrial production would not be hampered by such effort. A large number of smaller countries were also far more concerned with adaptation and were prepared to face a future development trajectory based on tourism and so on. This group of countries, the majority of whom were never major emitters of GHGs were put together into a coalition by the United States and the European Union, to put pressure on the major economies among less-developed nations including China and India, while the United States, the EU and other rich countries hid behind the world's poorest nations⁹.

The Indian government went to Paris with an agenda that made repeated references to India's need of adequate carbon space (the meaning of this concept will be shortly described) and climate justice with promises of substantial domestic efforts to boost the role of renewable energy, large-scale re-forestation and so on. It also proposed a specific target for the ratio of emissions intensity to GDP to be achieved by 2030. While it quietly gave up the first in the later stages of the conference, the scale of ambition of the renewable energy targets have raised the suspicion that have been significantly exaggerated beyond what is feasible.

Compared to the Copenhagen conference, the Paris summit ended with much less acrimony, with an agreement that in its wording was welcomed by all nations. There was something for everybody, or so it seemed. The less-developed nations got frequent references to equity and common but differentiated responsibilities, the developed nations were explicitly assured that they would not be held responsible for loss and damage suffered by less-developed nations on account of climate change and related extreme events (such as cyclones, drought, etc), references to periodic five-year

reviews and transparency that made the US happy, urging countries to improve their commitments at later dates that made island nations happy and so on.

However at closer look, it is remarkable that all the world's leaders signed on to an agreement that flies in the face of science and ignores the most recent advances in climate science. The promised commitments to reduce GHG emissions are not adequate to safeguard the planet but there is at present no mechanism to further extract the commitments from developed nations that are necessary. And thirdly, it provides no mechanism in actuality for operationalising equity despite the words in the agreement.

THE GLOBAL CARBON BUDGET AND THE CARBON GRAB OF THE DEVELOPED NATIONS

From the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC), that reviews the scientific research produced globally on this subject, one of its most conclusions was the concept of the global carbon budget¹⁰. The scientific evidence is clear that the more humanity emits greenhouse gases the more the globe will warm up with the increase in temperatures being roughly proportional to the total emissions that take place over a given period.

To keep the increase in global average temperature of the Earth below a given level, the world there fore has only a certain cumulative amount of GHGs it can emit over a specified time period. This amount depends also on the probability of keeping to the specified limit. From 2012 until 2100, for a 50% probability of keeping below 2 deg C in global average temperature rise, the global carbon budget, that is the allowed cumulative carbon dioxide emissions for the world is 1300 billion tonnes (Gt). For a 66% chance of keeping below 2 deg C the budget is 1000 Gt of carbon dioxide. If the desired temperature limit is 1.5 deg C, then for a 33% chance of keeping below it, the budget is only 850 Gt of carbon dioxide. For a 50% chance of keeping below 1.5 deg temperature rise, the carbon dioxide budget is only 550 Gt.

Given this science, it is clear that policy decision that is natural is to decide which of these carbon budgets, depending on the appropriate temperature rise is the one the world should adopt and subsequently to ensure that the emissions from all countries when added up, stays below this figure.

In fact it was already clear by the work of the UNFCCC that the sum total of all the countries' emissions (including their projected reduction in emissions) would lead to 542 Gt of carbon dioxide emissions by only 2025 and 748 Gt of emissions by 2030!! In other words, a good chance of keeping temperature rise below 1.5 deg Centigrade is fairly impossible. And even 2

deg C, given that the global carbon budget in the previous para refers to the period until the end of this century, is very difficult to attain.

But in an amazing move, the United States and the EU with their coalition of the smaller less-developed nations opted to write into the Agreement the goal in terms of temperature rise that they would have would be 2 deg C, while striving to keep it below 1.5 deg C. While specifying the goal, they specified that the world would try to reach the maximum emissions at the earliest, and encouraged countries to do it as soon as possible, with less-developed nations taking maybe longer.

But no quantitative targets were of course attached even for developed nations. Thus while specifying the temperature goal, they provided no means to attain it.

In addition, if it is clear that the global atmospheric commons can be quantified in this way, then the equitable way to utilising the commons (in terms of allowed emissions) is to provide an equitable share of it to all nations, based on some particular equity principle¹¹. As we have noted, India, and some smaller less developed nations such as, and particularly, Bolivia, did raise this issue but their submissions were ignored (and nor did they, particularly India, expend much effort in attempting to push it further). But with a definite carbon budget, if voluntary commitments are allowed for the developed nations, what it amounts to is the grabbing of carbon space by these nations. This is exactly what the Paris Agreement has achieved, namely that it has sanctioned the continued carbon grab of the developed nations. Of the projected emissions till 2030, the developed nations share amounts to almost 25%, well above their fair share. India will contribute only 8-11% of these emissions, while China would contribute 31%.

In fact, in terms of a global budget for the period 1870-2100 (that is from the Industrial Revolution onwards), the developed nations have more than exhausted their fair share of the global carbon budget and in fact are deep in carbon debt. Thus the Paris Agreement has also erased the historical responsibility of the developed nations. In the periodic reviews of the commitments of developed and less-developed nations that are planned as part of the Agreement, it is unlikely that this can be brought back to the agenda. In fact, the US has emphasised that with the Agreement, historical responsibility is off the table. On the contrary, in these reviews, it is countries like India that will be under severe pressure to cut their emissions even further, while China has insulated itself with its declaration of a peaking year, that allows it to claim its fair share of the long-term carbon budget.

PROFITS BEFORE THE PLANET: CAPITAL AND CLIMATE ACTION

Thus the world is set on a dangerous course from Paris. Either the developing world, especially India, will be extraordinarily deprived of carbon

space compromising their development or the global carbon budget limit for 2 deg Centigrade temperature rise will be breached, leading to severe consequences for the populations of a large number of less-developed nations, amounting to almost a majority of the world's population.

One may ask what gives rise to this widespread inability to act on recognized scientific information especially among the developed nations, information that is the product of the science done by and large by their own scientists. What is often not recognized is that the answer must be sought more fundamentally in the way capital in the developed countries shapes and determines, and even dictates overtly, when necessary, the policies of the state. In the entire climate change debate, the explicit role of capital, or the implicit manner in which states strive to ensure that the interests of capital are safeguarded has not been adequately emphasised. While a significant section of global public opinion, especially among environmentalists, is reduced to hand-wringing at the lack of progress in dealing with global warming, they have as yet to see the role of capital in this state of affairs.

The first point is that capitalism has a fundamental incapacity when it comes to dealing with problems like global warming, that are problems of global collective action. As a rule, capital resists regulation, even though to tame the intrinsic anarchy of capitalist production arising from competition, that is fundamental to capitalism and the capitalist system in general, regulation by the state is a necessity. Particularly in the case of the environment, capitalists have been even more resistant to regulation, though in a number of cases it has had to come to terms with its unavoidability. This is partly of course as a consequence of the struggle of the population at large against environmental destruction which harms social well-being, which capitalism has also had to take account of, alongside its own self-interest. Nevertheless, particularly in the neo-liberal era, any hint of planning or regulation draws the most visceral reaction from the capitalist class. Thus there is always a sharp contradiction under capitalism between the recognition of the need to regulate the behaviour of individual capitalists through the aegis of the state, alongside constant calls at different periods of time for the withdrawal of the state from its regulatory functions.

This is strikingly evident, especially with the developed countries, in the case of climate change. There is no desire among a majority of nation-states for a strict imposition of limits on emissions, to protect human society, within which industrial and other activities would have to be carried out. While in the initial years after the UNFCCC was signed, such an agreement with strict limits seemed a possibility, the preferred process now is that of each country being free to announce its own plan of reducing emissions, without worrying whether they will add up to an adequate effort to protect the planet. There is no doubt a conflict of interest between capital from the advanced countries and capital from the developing countries. But it is quite

clear that even the section of global capitalism from developing countries, particularly from India, Brazil and South Africa, do not want such limits either, notwithstanding their protestations of equity when developed nations do not do their share.

It is typical of capitalism's mode of thinking to present this acute absence of co-operative action, when in fact co-operation is rationally required, as freedom and a "democratic" way whereby there is no "imposition" and all nations need do only what they can. This of course is small comfort to those sections of the world's population who need to see urgent action because of their extreme vulnerability to the effects of global warming. But many of the governments of such vulnerable nations, especially the smaller or economically weaker ones, because of their inability to stand up to metropolitan capital are reduced to pleading for money for adaptation, money that is emerging only as a negligible trickle when much larger sums are in fact required.

Since capital has a fundamental problem in dealing with collective action issues especially at the global level, any attempt at resolving such issues is messy and complicated, with different sections of capital expressing contradictory views on what needs to be done. But there are clear criteria for capital of the terms under which any attempt at resolving such issues should be undertaken.

One of these criteria is that capital needs to be assured that whatever be the means of solving an environmental problem, such means will not affect, or at least not seriously, the fundamental imperative for profit-making. Curbing or limiting profits by increasing costs without any corresponding adjustment elsewhere is anathema to capital. In general, even a state of urgency is not sufficient to persuade capital to lower its profits. The long history of capital in sectors such as pharmaceuticals and chemicals has shown that the common interest of society as a whole will take a back seat until that particular section of capitalists are prepared to or are forced to stop production of hazardous substances.

In many ways, the reluctance of developed countries to take urgent action to drastically reduce greenhouse gas emissions amounts to precisely the reluctance of their capitalists to forego the potential profits from the large amounts of capital invested in innumerable sectors that depend on the use of fossil fuels, or the drastic devaluing of capital in such sectors, while making new and heavy investments in other methods of production. While a growing section is now beginning to seriously consider how fossil fuel use may be drastically reduced, another section is quite reluctant to take any immediate action, with the latter still appearing to have the upper hand.

A section of environmentally minded ideologues of capital seek to move the climate change agenda forward by threatening that capital in fossil-fuel dependent sectors of productive activity will be devalued, becoming "stranded assets," and urging rapid downsizing of the investment in such

sectors. Clearly the strategy is to spur climate change action by “scaring” investment out of fossil-fuel based activity. But the response of important actors in finance such as the World Bank, insurance and re-insurance multinationals and so on, has been in the first instance to promise to curb fresh investment in the developing countries, where cheap access to fossil fuel based energy is actually necessary in the short-term, without any significant effort to do anything similar in the developed countries.

The section of capital from developing countries though is not to be found wanting compared to their metropolitan brethren. Hence their love of the Kyoto Protocol, now virtually defunct, under which developed countries had specific emission reduction commitments (though small) and the developing nations had no limits at all. Even now, when it is clear that even developing nations must also find new pathways of industrial development, they still hanker for a global agreement that will leave them without any burdens at all. This is especially reflected in the attitude of the Indian state in the climate negotiations. While eloquently, and justifiably, arguing against the developed nations, it refuses to ease the negotiations by spelling out clearly to what extent it will contribute in the future in specific ways and what these more specific commitments could be.

Another section of environmentally minded experts seek to reassure capital that moving out of fossil fuel based production, even if it devalues capital in some existing sectors, and investing new methods of production will itself be a stimulus, that it will provide a new arena for more profits and continuing growth, especially in an era of recession where it is proving difficult to even moderately accelerate growth in the developed world. Thus the language of “green economy” and “co-benefits”, where the latter refers to the idea that the attempts to reduce greenhouse gas emissions would have other positive outcomes that provide an extra incentive to invest in reducing emissions, has to come to acquire an important place in the climate change debate. But it remains to be seen if capitalists are to be so easily persuaded. The current state of affairs, especially if we go by the widespread presence of “climate deniers” in the developed countries, suggest that there is still a long way to go before they buy into such arguments.

The second fundamental criteria for capital to deal with the problem of global warming on its own terms is the assurance that any solution will be through the market. In the early days of action to protect the environment and deal with environmental pollution, it seemed that imposing limits directly, with increased costs and decline in profits was the only solution. But these methods, now disparagingly referred to as “command and control”, have been superseded by attempts to solve environmental problems through market mechanisms, such as pollution trading. After all, in the logic of capital, if the value of commodities is set not by need but by exchange, why should this not apply to the value of the environment itself? In capital’s view, if this logic can apply to essential human needs and well-being as in

the case of medicines or food, why can this not be extended to the environment as well? It of course does not matter to capital that markets will not always work as they are supposed to or that the idea that markets provided the best means of achieving a harmonious economic order is more often than not illusory.

Hence carbon taxes and carbon trading are on the top of their agenda in how to deal with global warming, even if various attempts at both across the world have so far shown little success in limiting emissions in a serious way. Where emissions have been limited, it has often been the case that other economic factors, such as a shift in the economic structure from the decline of manufacturing and the growth of finance and services have played an important role. In the case of Eastern Europe and Russia, emissions have gone down simply because of the collapse of their economies in the post-socialist era. Most recently, there is suspicion that the current stabilization of emissions in the developed world is a consequence of recessionary trends in their economies rather than meaningful action.

Technology under capitalism and capital's attitude to technology are an intrinsic part of the fundamental irrationality of the capitalist mode of production. On the one hand, the development of technology is a necessary consequence of competition among different capitalists and also part of the strategy of recovery from the periodic crises of this mode of production. On the other hand, individual capitalists or sections of capitalists do not invest in new technologies unless forced to do so, due to more immediate imperatives. Thus under capitalism, the development of science and technology, or more generally the development of productive forces, alone do not guarantee that rational solutions to society's problems will emerge. Nevertheless, technology is also the rallying cry of the capitalist class when forced to confront problems that are clearly due to social or economic origins. And so it is in the case of global warming as well. As a consequence, we have the somewhat bizarre situation of the world's largest renewable energy projects coming up in the developing world, with the resulting higher costs of energy, and large numbers of whose poor already pay dearly for energy. But a part of the developed world in part is going in reverse gear with respect to the promotion of renewable energy as in Australia and Britain or generally neglecting it as in the United States.

The number of statements from industry, especially from the heads of major global corporations, provide a clear and striking illustration of our argument. For instance, a recent statement from leading CEOs, sponsored by the World Economic Forum, covering some 78 companies, and accounting for, as they proudly proclaim, "\$2.1 trillion dollars in revenue in 2014", while promising to help save the world, demands as the primary goal the setting of a carbon price, either explicitly or implicitly.

The Economist magazine, among the authentic voices of global capital, in an editorial prior to the Paris summit, asserted that it was only new

technology that could save the planet. Among other things it remarked that renewable energy programs were not very useful, that new energy research and methods of "geo-engineering" were more promising. Above all for the Third World, the answer is "Living with it" as sub-heading in the editorial proclaimed. The couple of sentences there are worth quoting in full: "Radical innovation is the key to reducing emissions over the medium and long term, but it will not stop climate change from getting worse in the meantime. This is where the realism comes in: many people will have to adapt to a hotter Earth, and some of them will need help." Cutting carbon dioxide emissions rapidly and urgently by the developed world is just not the best thing to do in their view!!

The global alliance for energy research led by Bill Gates and others promises tremendous new investment in energy research. What it implicitly endorses is the idea that an attempt to cut emissions right away is not part of the story, but has to await better technologies for emissions reduction, when it will become more feasible, read profitable, for capital to do so. But in a recent interview to The Atlantic magazine, that is "kinder and gentler" than the Economist in its tone, he also acknowledges the truth. Investment in energy research does not take place because their aren't sufficient returns on investment for the private sector. And that the private sector is inept at managing the risks of innovation and that the state is a better agent. And so on. And yet, the solution is, just as his foundation has done in the case of essential pharmaceuticals, to fund the technology development required through the individual initiative of various high-wealth individuals so that industry can profitably utilise those technologies.

The crux of the problem with capital in the context of global warming is not that capital is wedded to fossil fuels per se. On the contrary it is the fundamental irrationality of the capitalist system, that while science and technology, the product of social labour, uncovers the problems and can even find the necessary technological solutions, the rational means of utilizing these discoveries is blocked precisely because the inviolability of the appropriation of profit by a few from production must be guaranteed for the benefits of this knowledge to be utilised. It would be erroneous to argue that capital will not seek any solution to the problem of global warming at all. But on the other hand, in seeking to do so while ensuring its own self-preservation, the danger is real that it will exacerbate the extent of damage to the world and expose it to greater danger than the rational capacities of human society alone warrant. The wilful setting aside of science in the pursuit of an agreement at any cost at Paris shows that this danger of climate brinkmanship (like the nuclear brinkmanship of an earlier era, whose dangers still persist) is real.

Much of the global environmentalist movement, sections of which in its early days had a clear anti-capitalist stance, has now withdrawn into a "pragmatic" mode where a critique of the role of capital in the making of

environmental problems and blocking the means of their rational solution has been pushed aside. Scientific environmentalism as opposed to the Utopian variety, must bring back the role of capitalism to the center of the environmental question.

The significance of global warming question for the broader Left across the world lies in the renewed justification of its fundamental opposition to capital. Paris shows, as never before in the history of climate and sustainable development negotiations, that the capitalist economic and social order is what stands in the way of re-organising the productive capacities of human society on a rational and sustainable basis. At the same time, it provides a renewed opportunity to mobilise the working people of the world in the struggle for a just and equitable transformation of the relations of production, showing how it is linked to protecting humanity itself. India, will in all likelihood, be among the main arenas of this struggle in the years to come, where development and the advance of well-being of the bulk of its population must be undertaken in the shadow of the threat of global warming.

NOTES

- 1 Some hold the opinion that limiting the productive capacities of human society, is the way forward, even in a new and equitable social and economic order. However such opinion appears to emerge from the viewpoint that the productive forces of human society will continue in the irrational and environment-damaging form always as it does under capitalism. In an infinite world, the productive capacity of human society will always have the potential to create new problems. However their rational solution will be possible new ways that are not available under the current social and economic order. What they are will of course be found only through concrete practice and not through speculative thought.
- 2 We will use the term less-developed nations throughout, except in the specific context of the UNFCCC and the negotiations where the term, developing, officially recognized in the text of the UNFCCC is appropriate.
- 3 Somewhat confusingly, the same term UNFCCC is usually used for both the original treaty as well as the organisation that administers the treaty.
- 4 Climate change mitigation refers to the reduction of greenhouse gas emissions across all relevant sectors to ensure that global warming is kept under reasonable limits.
- 5 According to the UNFCCC website, the term adaptation “refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change.”

- ⁶ In the language of climate negotiations, this was referred to as declaring a peaking year, namely the year when the GHG emissions would reach a maximum and then decline.
- ⁷ For a review of the US-China climate deal see Jayaraman, T. , "Climate Change and Development: Implications of the US–China Joint Announcement on Climate Change," *Review of Agrarian Studies*, vol. 4, no. 2, (2014), available at http://www.ras.org.in/climate_change_and_development.
- ⁸ Available at <http://www.diplomatie.gouv.fr/en/french-foreign-policy/climate/2015-paris-climate-conference-cop21/article/china-and-france-joint-presidential-statement-on-climate-change-beijing-02-11>.
- ⁹ Dubbed as the "high-ambition coalition", its existence was dramatically revealed during the Paris summit, but in its actual influence it turned out to be something of a damp squib. For an amusing review of this coalition and its significance see Bhushan, Chandra, *High-Ambition Coalition? Are You Joking?*, Centre for Science and Environment blog, available at <http://www.downtoearth.org.in/blog/high-ambition-coalition-are-you-joking—52081>, viewed on December 18, 2015.
- ¹⁰ In fact the IPCC highlighted the global carbon budget in its press release of the first part of the report released in September, 2013. The New York Times was among the papers that reported this. See for instance, Justin Gillis, "UN Panel Endorses Ceiling on Global Emissions", New York Times, September 13, 2013, available at http://www.nytimes.com/2013/09/28/science/global-climate-change-report.html?pagewanted=2&_r=0
- ¹¹ Even in the perspective of neo-classical economic theories, the "efficient" way to utilise a commons resource is to assign definite property rights and then allow these users to trade in the resource. However in the absence of a good definition of property rights on the global commons, through legally binding quotas, the prospect of the development of a global carbon market is also not bright.