Energy, Crisis and World-Wide Production Relations[1]

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Abstract

The worldwide crises starkly pose the need to construct new global relations of production and exchange that are substantially more decentralised, participatory and egalitarian than the relations which currently exist, at the same time as being ecologically sensitive. The construction of a new energy system, based on a much higher proportion of renewable energy use than currently exists, is a fundamental part of this process.

Despite this clear need, the current dominant approaches to climate change focus on promoting regulatory reforms, rather than major changes at the level of production and consumption. This is true for governments, multilateral institutions and also large sectors of so-called 'civil society', including trade unions. Nevertheless the current economic-financial crisis offers an opportunity to reopen old discussions about control and ownership of productive infrastructure.

Changes within the energy sector are speeding up dramatically. A combination of ecological, political, economic and financial factors is converging to ensure that energy production and consumption are set to become central to the global restructuring of social relations in the years ahead. This is true of energy in general and the globally expanding renewable energy sector in particular. The way in which the world's energy system evolves in the years ahead will be intimately intertwined with different possible ways out of the world financial-economic crisis (which is also increasingly becoming a crisis of legitimacy and political control).

The multiple intersecting and mutually reinforcing crises starkly pose the need to construct new worldwide relations of production and exchange that are substantially more decentralised, participatory and egalitarian than the relations which currently exist. However, climate change and peak oil require a massive and rapid reduction in CO_2 emissions and

energy use, and hence also a fundamental change in how humans interact with nature and the ecology of which they are a part.

The process of building a new energy system, based around a greatly expanded use of renewable energies, has the potential to make an important contribution to the process of constructing new relations of production, exchange and livelihood that are based on solidarity, diversity and autonomy and are substantially more democratic, egalitarian and ecologically sensitive than those that currently exist. Furthermore, the construction of new social relations along the above lines is also likely to be crucial in order to avoid disastrous 'solutions' to the financial-economic and political crises.

Some kind of transition to post-petrol energy sources is virtually inevitable. However, the outcome is not a technical given. It is no longer a question of whether a transition to a new energy system will occur, but rather what form it will take. Will it involve a dramatic and rapid collapse, or will it be a smoother and more gradual process? Which technologies will a transition include, and on whose terms and priorities? Who will be able to harness the necessary global flows of capital, raw materials, knowledge and labour? Indeed, will people even let their resources, knowledge, skills and labour be 'harnessed' from above and outside, or will they strongly assert the possibility of using their skills and energy to their own benefit and on their own terms? And, above all, will the process be chaotic, reinforcing already existing hierarchies, or will it be part of a wider process of worldwide emancipatory social change based on the construction of new social relations?

Energy: Key to production, but also to life

As the world's energy system is on the verge of far-reaching changes, it is also coming up for grabs. In other words, a struggle for who controls the sector, and for what purposes, is intensifying. It is increasingly becoming clear, both to capitalist planners and those involved in anti-capitalist struggles alike, that some form of 'green capitalism' is on the agenda. We are told from all sides that it is finally time to 'save the planet' *in order* to 'save the economy'. In effect, this means that the transition process to

a new energy system will be central to the next round of global class struggle over control of key means of production and subsistence, since energy is essential to both production and sustaining life.

The class struggle, however, is inherently uncertain, and this is the central uncertainty of the transition process itself. Who will bring it about, and for what purposes, for whose benefit, and at whose expense? Importantly, given that energy is relevant to class relations in general (since energy both replaces and enhances human labour), energy 'crisis' and 'transition' are also relevant to class struggles in general, not just those that exist within the energy sector itself.

It will take many years before it is clear whether capital can harness new combinations of energy that are capable of imposing and maintaining a certain stable (and profitable) organisation of work the way fossil fuels did; or whether in fact a new energy system will not allow this to occur, and could actually strengthen the material basis for anti-capitalist struggles. We are in the early stages of what is likely to be a lengthy and complex struggle, the outcome of which will determine whether capital will be successful in its efforts to force labour (i.e. people throughout the world, as well as the very environment itself that green capitalism proclaims to save) to bear the costs of building a new energy system, or whether labour, understood in its broadest sense (i.e. social and ecological struggles over production and reproduction throughout the world) is able to force capital to bear the costs. This struggle is already becoming central in shaping social relationships, and is likely to become ever more so in the coming years.

Relations of production, reproduction and consumption, over regulation and policy

The kind of massive and rapid reductions in CO_2 emissions (and the corresponding changes in the system of energy production and consumption which are necessary for this to occur) will not be possible without very far-reaching changes in production and consumption relations at a more general level. The dominant approaches to climate change, however, focus on promoting regulatory reforms. This is true for governments, multilateral institutions and

also large sectors of so-called 'civil society' (especially the major national and international trade unions and their federations, and NGOs).

The stark reality is that the only two recent periods which have seen a major reduction in global CO_2 emissions have coincided with periods of very sudden, rapid, socially disruptive and painful periods of forced economic *degrowth*: namely the breakdown of the Soviet bloc, and the current financial-economic crisis. In May 2009, the International Energy Agency reported that, for the first time since 1945, global demand for electricity was expected to fall. Experience has shown that a lot of time and political energy have been wasted on developing a highly ineffective regulatory framework. Years of international climate negotiations, the institutional basis for global regulatory efforts, have simply proven to be hot air. Only *unintended* degrowth has had the effect that years of intentional regulations sought to achieve. Regulatory efforts will certainly be pursued, and furthermore, they may well contribute to shoring up legitimacy, at least for a time, especially in northern countries where the effects of climate change are less immediately visible and impacting. Nonetheless, it is becoming increasingly clear that solutions will not be found at this level.

The problem is one of production. The current global system of production is based on endless growth and expansion. This is simply incompatible with a long-term reduction in emissions and energy consumption. Despite the fact that localised, and momentary, reductions may well actually occur, the energy consumption and greenhouse gas emissions of the system as a whole, and in the long run, can only increase. All the energy efficiency technologies in the world, though undoubtedly crucial to any long term solution, cannot, *on their own*, square the circle by reducing total emissions from a system whose survival is based on continuous expansion. Leadership in an emancipatory transition process is unlikely to come predominantly from above from international regulatory fora, but is more likely to come from autonomous movements self-organising from below in order to gain greater control and autonomy over energy production and consumption. This is not to say regulation is not important. It is altogether essential. However, the regulatory process is unlikely to be the driving force behind the changes required, but rather a necessary facilitation process to secure a legal and institutional framework (as well as financial support) conducive to a

grassroots process led from below, which enables wider changes to occur and to deepen once they are already underway. Furthermore, it is highly unlikely that emancipatory regulation that is strong enough to be effective could even come about without major pressure from below, far greater than currently exists.

The need to construct new relations of production

Leaving the necessary changes in the social relations of production and consumption (of energy, and more generally) to the logic of accumulation of profit in the world market is likely to both be far too slow, given the urgency of the climate crisis, and also immensely socially disruptive. And, given the above-mentioned effectiveness of unplanned 'degrowth' in reducing emissions, relative to international negotiations, an urgent question facing emancipatory social and ecological struggles is how to collectively and democratically construct a process of planned rapid and broad degrowth, based around collective political control and democratic and participatory decision making over production, consumption and exchange.

'Peak oil' starkly poses the question of how to collectively manage scarcity in a fair manner in order to avert extremely destructive power struggles that will exacerbate already existing inequalities (especially in relation to class, race, gender and age). It will also be crucial to seek to avoid the forced imposition of austerity measures on people. Solutions that do not actively strive to avoid pitting different workers, both waged and unwaged, in different regions of the world against one another, are almost certain to result in a transition being carried out on the back of these workers and their communities. The failure of emancipatory movements to force capital to pay the burden, would, in all likelihood, prove immensely divisive and destructive.

Of particular importance in relation to building a new energy system are the key means for generating society's wealth and human subsistence. These include: land, seeds, water, energy, factories, universities, schools, communication infrastructures etc. Especially significant in this context are the major energy intensive industries, such as transport, steel, auto-

mobiles, petrochemicals, mining, construction, the export sector in general, and industrialised agriculture.

However, it is very difficult to imagine that it will be possible to bring about a rapid and far-reaching process of collectively planned emancipatory change, at the pace and scale which is necessary, unless these key means of generating and distributing wealth and subsistence are under some form of common, collective, participatory and democratic control, decision making and ownership. Furthermore, it is crucial to make sure that they are used to meet the basic needs of the entire world population, rather than the profit needs of the world market and the select few workers and communities who are able to reap the benefits of this. In other words, there is an urgent need to *decommodify* these sources of wealth as much and as fast as possible.

Following years of market-led reforms, and an unprecedented concentration of wealth and power, however, we are still very far from this reality. This is true both in concrete terms and also in terms of our collective aspirations and strategic approaches. Dominant political strategies for achieving change are entrenched in seeking minor regulatory reforms (at best including state ownership) rather than a more fundamental shift in power relations pertaining to structures of ownership and control.

Consequently, an urgent task for the years ahead is to discuss what kind of short-term interventions might help to make such a political agenda more realistically achievable in the near and medium term future. It is not a new discussion. In the past, collective ownership, management and control of key means of production (either in the form of worker, community, cooperative or state) have been at the heart of radical proposals for social struggles. Furthermore, emancipatory left-wing critiques of state communism, socialism, social democracy and their respective bureaucracies have not been based on a rejection of collective ownership of key means of production. Instead, they were based on a strong critique of the fundamentally limited nature of state ownership as being a model for democratic, participatory and self-organised social change from below – on an understanding, in other words, that state control is in some ways simply a modified form of private ownership and capitalist class relations.

Struggles for control of the means of (re)production in the energy sector and energy-intensive industries

Within the energy sector itself, the picture is one of intense struggle. Important struggles over ownership and control of energy production and extraction processes, as well as over access and price are underway throughout much of the world. This has entailed developing a range of different forms of ownership, including by communities, users, workers, cooperatives, municipalities and states that, to differing degrees, challenge private ownership and commodification. Broad social sectors have been involved: energy users, affected communities, peasants, indigenous peoples and workers both in the energy sectors and more generally. They have frequently faced harsh repression from state and military forces, for example in Colombia, South Africa, or Iraq. In many areas, what is at stake in these struggles is literally life and death. On the one hand, struggles over energy ownership have been at the heart of foreign military occupations, such as in Iraq, but have also provided a key material resource basis for wider emancipatory or even revolutionary social processes, such as in Venezuela or Bolivia. These are the struggles that currently define the global energy sector. They are a central, and frequently overlooked, aspect, and cause, of the so-called 'energy crisis'. In no small way, what is emerging is a crisis of capitalist control over the sector – though this is certainly not the only cause of the energy crisis. Importantly, these struggles are likely to intensify in the future. Furthermore, they have by no means already been lost by emancipatory movements.

While there are widespread, and ongoing, struggles over control of fossil fuel reserves, such as oil in Nigeria, Iraq, Ecuador, Venezuela or Colombia and Bolivia (to name but a few examples), similar processes are also underway in relation to electricity generation and distribution, infrastructure and pricing. Such struggles are being waged in South Africa, France, Germany, the Dominican Republic, India, South Korea or Thailand (again, to name just some of the struggles in the sector). Similarly, there is a worldwide process of resistance to the privatisation of forests, one of the main sources of non-commercial biomass fuels, which meet the domestic energy needs of approximately 2 billion people worldwide. Women,

who are the ones who mainly collect and process these fuels, are often at the heart of such resistance, especially in Africa, Asia and Latin America.

Importantly, such struggles are also intensifying in relation to the globally expanding renewable energy sector. Since the 1970s, many pioneering initiatives in renewable energy had a strong emphasis on co-operative and local control. This has included farmers' wind energy co-operatives in Denmark, citizen energy projects in Germany (including co-operatives, buying local grids, and all-women's initiatives); or a worker-owned cooperative in Spain that was successful in becoming one of the important producers of wind turbines for the world market, and was a member of the Mondragon industrial cooperative group – a group that has existed for more than half a century, involves many different industrial sectors and has over 100,000 worker-members. These local and democratic ownership structures mainly emerged in northern countries, the major pioneers of new renewable energy technologies in this period. However, there have also been some interesting examples in southern countries, such as in Nepal in relation to micro-hydro, Argentina in relation to wind, and India in relation to household and village level biogas digesters.[2]

However, such processes which emphasised a democratic and participatory community controlled development of renewable energies, which contributed in an important way to the ability of the inhabitants of territories rich in such energy resources to build somewhat autonomous and empowering development paths, are now frequently being undermined. This is because of the threats posed by private investors, companies, and free trade agreements, all with the full support of national policies aimed at undermining previous forms of democratic and participatory control.

The question of ownership and control over the territories rich in renewable energy resources is becoming increasingly important. In Mexico, indigenous communities are being deceived and displaced so that the country's wind resources (amongst the best in the world) can supply electricity to major multinational companies, such as the Mexican arm of Walmart. In China, police have killed peasants protesting against inadequate compensation for wind turbines installed on their land. In Denmark, rural wind energy cooperatives are finding it increasingly hard to compete with private investors and are being taken over.

Importantly, labour struggles are also emerging in the sector, especially in relation to the production of the raw materials for agrofuels. This includes sugar in Brazil or Colombia, oil palm in Colombia, Indonesia and Malaysia, and soya in Argentina and Paraguay (amongst others). In Germany, a leading country in the production of wind and solar energy infrastructure, the major trade union IG-Metall is organising workers in the face of poor working conditions in the plants where the infrastructure is produced. So far, these struggles are centred more around working conditions than on the issue of workers' ownership. However, there are some exceptions to this. In Indonesia, workers in the oil palm plantations have also taken steps to take over the mills. And, in the weeks between the first draft and the final version of this article, what is likely to prove to be a historic turning point in the wind industry is in the process of unfolding in the UK. The country's only wind turbine component manufacturing plant (owned by Vestas, the world's largest producer of wind turbines) currently faces closure and the sacking of 600 workers. The workers occupied the plant for about three weeks. Demands from workers and their supporters have included nationalisation of the plant, as well as converting it into a workers' cooperative. They have been met with a combination of widespread social support as well as the (limited) use of riot police and court rulings. The issue remains unresolved.

Finally, it is also worth mentioning the importance of patents, and the ownership of knowledge and technologies. Despite some initial murmurings about 'open source' technology and non-commercial technology transfer movement arising in the renewable energy sector, inspired by the open source computer software movement, such a process is still virtually non-existent.

On a more general level, it is worth looking at contemporary struggles over land and energy-intensive industries: Land is one of the most basic elements of subsistence for humans throughout the world, and is also essential for capital accumulation. It is both a key means of production, and of the reproduction of human life. Collective ownership and decommodification of land are still at the heart of many, if not most, rural and indigenous struggles throughout the world today. It is in these struggles that the clearest political discourse surrounding control of the means of production can be found.

The outlook for struggles in energy-intensive industries such as automobiles, aviation, transport or tourism, however, is more pessimistic in terms of struggles over ownership and decommodification. The dominant strategic discourse from major organisations in these sectors is equally pessimistic in this regard. Ownership struggles have by and large already been lost. Over the last many years, most struggles in these sectors have revolved around demanding certain reforms in the production and labour process, as well as improved user access. However, little space remains open for serious struggle (or even discussion) for major changes to patterns of ownership and control.

At the more radical end of ecological critique there are many discussions about the need for a profound change in production relations. The organisations and collectives with such perspectives, however, frequently lack the social base necessary for such a process of change to actually happen. In particular, they have little capacity (and sometimes lack even the will) to contribute to serious debate within trade unions and other worker organisations within these sectors, with the result that their more sophisticated critique amounts to just that: a critique without a process of change accompanying it. On the other hand, the dominant 'green' discourse, though often well-connected to trade union organisations working on sustainability from a worker perspective, scarcely even talks about ownership of key means of production. Most campaigns from this broad group of organisations are pushing for change within the existing framework of social relations. Finally, the dominant trade union discourse in these sectors favours tripartite bargaining, 'decent work', and social peace, based around regulating production for private profit in an expanding world market.

Crisis as an opportunity for reorienting our struggles

However, the economic-financial crisis also offers an opportunity to reopen this old discussion, since the old model of Keynesian class compromise and stabilisation of struggles aimed at changing ownership patterns of key means of production is dead, and in all probability will not be resurrected.

Furthermore, *unless* the discussion on production is reopened, it is very likely that the 'solutions' found to the economic-financial crisis will be authoritarian.

Starting with the economic and financial collapse of Argentina in 2001, factory occupations and self-managed industrial production and exchange have returned to the political landscape. In the wake of the current worldwide financial and economic crisis, a ripple of factory struggles, including worker occupations and kidnapping of bosses, has spread around the world, including in the U.S., the UK and numerous countries in Eastern Europe. Such struggles are largely defensive, related to redundancy conditions, rather than proposing a new model of ownership, production and control, moreover they are still on a very small scale. Notably, the Detroit car factories have virtually been left to go under, or given lifelines in order to draw out their demise over time. Certainly they have not been taken over by workers and communities and converted into renewable energy production plants. Yet, even the head of the United Autoworkers Union made a fleeting and cautious reference to workers' occupations of the plants, albeit way too little, way too late. Yet this is a rhetoric that has not been used in such places for many decades. In South Korea, workers in the car industry have recently sustained an occupation of a car factory that lasted over two months and involved close to 1000 workers and armed self-defence. It was only defeated after a prolonged struggle involving several thousand riot police. For the most part, with the exception of the Korean car plants, these have been small processes. Nonetheless, they are of great importance and appear to be on the upsurge. Importantly, the industries in crisis are some of the key energy-intensive industries, such as automobiles and steel, which are especially relevant to the issue of energy transition and worker-community led conversion processes.

The stark reality is that we are very far from bringing about the kind of change in production and consumption relations that is needed to solve the climate / energy crisis. We may in fact never be in a position to do so. However, if we are to have any chance of avoiding a socially and ecologically disastrous process of climate change and enforced change in social relations, it will be important to at least pose the question of how

this might come about. Until we face up to this, efforts to tackle climate change will go nowhere. The tasks of collectively taking over the key means of production and decommodifying the major productive processes are immense. We are certainly not yet ready to take them on. What is both possible and long overdue, however, is to at least take some initial steps towards deepening a long-term strategic debate about how, and for what purposes, wealth is produced and distributed in society, and how people's subsistence needs are met, as part of a shift to a new energy system. Through a process of debate, we will hopefully be able to slowly develop collective interventions which contribute to these goals, so that in the medium term, as the economic-financial and ecological crises deepen, we might then be able to do what is not possible now, and collectively plan the process of production and consumption, based on a clear process of class struggle that brings together workers (both waged and unwaged), communities and users of energy and energy intensive sectors, across the hierarchically divided worldwide division of labour. This will be an important step towards bringing about a profound democratisation of how wealth is produced and distributed throughout society.

Notes

1 Published in: Brand, Ulrich, Bullard, Nicola, Lander, Edgardo and Müller, Tadzio (Eds. 2009), 'Contours of climate justice. Ideas for shaping new climate and energy politics', special issue of *Critical Currents* no. 6, Uppsala: Dag Hammarskjöld Foundation (www.dhf.uu.se).

2 Collective and locally controlled renewable energy infrastructure played a significant part in China's rural energy development during the early years of the Chinese revolution, but this is a very different story.