

Energy, crisis and world-wide production relations

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Changes within the energy sector are accelerating dramatically. A variety of ecological, political, economic and financial factors are converging to ensure that energy production and consumption 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 world-wide relations of production and exchange that are substantially more decentralised, participatory and egalitarian than the relations that currently exist. However, climate change and peak oil require a massive and rapid reduction in CO₂ emissions and energy use, and hence also a fundamental change in how humans interact with nature and the ecology they are a part of.

The process of building a new energy system based on a greatly expanded use of re-

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newable 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 avoiding 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 wider process of world-wide 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 over who controls the sector and for what purposes is intensifying. It is becoming increasingly clear, both to capitalist planners and those involved in anti-capitalist struggles, 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.

However, class struggle 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.

Many years will elapse 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 for 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 (that is, people throughout the world, as well as the very environment itself that green capitalism proclaims it wishes to save) to bear the costs of building a new energy system, or whether labour, understood in its broadest sense (namely, 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.

A question of relations of production, reproduction and consumption, not regulation and policy

The kind of massive and rapid reductions in CO₂ emissions (and the corresponding changes in the system of energy production and consumption that 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. However, dominant approaches to climate change focus on promoting regulatory reforms. This is true of 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 that have seen a major reduction in global CO₂ 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 during 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 much 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. Unsurprisingly, hot air has resulted in global warming. Only *unintended* degrowth has had the effect that years of intentional regulations sought to achieve. Regulatory efforts will certainly be pursued, and they may well contribute to shoring up legitimacy, at least for a time, especially in

Northern countries where the effects of climate changes have less immediately visibility and impact. Nonetheless, it is becoming increasingly clear that solutions will not be found at this level.

The problem is one of production. The current world-wide 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 occur, energy consumption and greenhouse gas emissions of the system as a whole can only increase in the long run. 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 forums, 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 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 deepens ones already under way. Furthermore, it is highly unlikely emancipatory regulation that is strong enough to be effective could even come about without major pressure, far greater than currently exists, from below.

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 be both far too slow, given the urgency of the climate crisis, and immensely socially disruptive. And, given the abovementioned effectiveness of unplanned degrowth in reducing emissions relative to international negotiations, an urgent question facing emancipatory social and ecological struggles is how collectively and democratically to construct a process of planned rapid and broad degrowth, based on collective political control and democratic and participatory decision-making over production, consumption and exchange.

‘Peak oil’ starkly poses the question of how to manage scarcity collectively in a fair manner in order to avert extremely destructive power struggles that exacerbate existing inequalities (especially in relation to class, race, gender and age). It will also be crucial to seek to avoid the 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, automobiles, petrochemicals, mining, construction, the export sector in general and industrialised agriculture.

It is, however, 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 necessary pace and scale 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 all the world’s population, rather than the profit needs of the world market and the select few workers and communities 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.

However, following years of market-led reforms and an unprecedented concentration of wealth and power, we are still very far from this reality. This is true both in concrete terms and 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 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 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 under way 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, which in differing degree 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. Frequently, for example, in Colombia,

South Africa or Iraq, they have faced harsh repression from state and military forces. 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 world-wide 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 the 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 under way in relation to electricity generation and distribution, infrastructure and pricing. Such struggles are occurring in South Africa, France, Germany, Dominican Republic, India, South Korea or Thailand (again, to name just some of the struggles in the sector). Similarly, there is a world-wide process of resistance to the privatisation of forests, one of the main sources of the non-commercial biomass fuels that meet the domestic energy needs of approximately 2 billion people worldwide. Women, 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 have strongly emphasised cooperative and local control. This has included farmers' wind energy cooperatives in Denmark, citizen energy projects in Germany (including cooperatives, buying local grids and all-women's initiatives); or a worker-owned cooperative in Spain that became 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 over 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 interesting examples in Southern countries, such as in relation to micro-hydro in Nepal, wind in Argentina and household- and village-level biogas digesters in India.¹

However, the processes that emphasised democratic and participatory community-controlled development of renewable energies and that contributed importantly to the ability of the inhabitants of territories rich in such energy resources to build somewhat autonomous and empowering development paths, are now being frequently 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 of and control over 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 (among 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; palm in Colombia, Indonesia and Malaysia; and soya in Argentina and Paraguay (among 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 more centred on working conditions, rather than workers' ownership. However, there are some exceptions to this. In Indonesia, workers in the palm plantations have also taken steps to take over the mills. And in the weeks between the first and final drafts of this article were written, what is likely to be a historic turning point in the wind industry is unfolding in the UK.

¹ 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, requiring more time to go into than is available here.

The country's only wind-turbine component manufacturing plant (owned by Vestas, the world's largest producer of wind turbines) currently faces closure, with the sacking of 600 workers. The workers occupied the plant for about three weeks. Demands from workers and their supporters have included government nationalisation of the plant, as well as converting it into a workers' cooperative. The workers have met with a combination of widespread social support as well as (limited) use of riot police and court rulings. The issue remains unresolved.

Finally, it is worth mentioning the importance of patents and the ownership of knowledge and technologies. Despite initial murmurings about 'open source' technology and non-commercial technology transfers 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.

However, the outlook for struggles over ownership and decommodification in energy-intensive industries such as cars, avia-

tion, transport or tourism is more pessimistic. The dominant strategic discourse in this regard from major organisations in these sectors is equally pessimistic. Ownership struggles have, by and large, already been lost. Over the last several 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 for serious struggle over (or even discussion of) major changes to patterns of ownership and control.

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

Crisis as an opportunity for reorienting our struggles

However, the current economic-financial crisis also offers an opportunity to reopen this 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, have spread around the world, including in the US, 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, and are still on a very small scale. Notably, the Detroit car factories have virtually been left to go under, or been given lifelines in order to draw out their demise. Certainly, they have not been taken over by workers and communities and converted into renewable energy production plants. Yet, albeit way too little, way too late, even the head of the United Autoworkers Union made a fleeting and cautious reference to worker occupations of the plants. 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, involving close to 1,000 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 cars and steel, that 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 task of collectively taking over the key means of production and decommodifying the major productive processes is immense. We are certainly not yet ready. However, what is both possible and long overdue is, at a minimum, to 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 that contribute to

these goals, so that in the medium term, as the economic-financial and ecological crises deepen, we may 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 world-wide division of labour. This will already be an important step towards bringing about a profound democratisation of how wealth is produced and distributed throughout society.

Some useful literature on energy, labour and technology

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