Realising renewable power’s potential means combating capital

By Simon Pirani, peoplenature.org, November 2023. Reposted from Spectre journal, with thanks

Any socialist vision of the future must deal with global heating and other ways that capital has ruptured humanity’s relationship with the natural world. That means specifying how fossil fuels may be driven out of the economy – and that, in turn, means considering reducing total material throughput, and using the potential of renewable electricity generation.

Against this background, the dramatic shift that has begun in the electricity industry deserves our attention. Economically, oil, gas and coal still dominate energy production – not only to generate electricity, but also in transport and industry, for heat and so on – and hoover up hundreds of billions of dollars a year in state subsidies.

But solar and wind power are starting to expand rapidly, not only in the US and some European countries but also in China. Capital is pouring into these technologies, with more money going to solar than to upstream oil investment globally for the first time in 2022. Engineers’ attention is increasingly focused on how networks can operate when dominated by these variable renewables.

This shift is fraught with dangers; large sections of capital see renewables as an addition to fossil fuels to help drive endless expansion, and the supply chains for the minerals needed are no less exploitative and extractive than those for oil or uranium.

Nevertheless, socialists have good reasons to welcome renewables.

They are secure, very-low-carbon sources of electricity that – in the context of far-reaching economic changes that reduce overall material and energy throughput – can be used to tackle dangerous global heating. Future electricity systems can and should be based on these technologies.

Furthermore, because renewables are deployed at both smaller scales (rooftop solar panels or single wind turbines) and larger ones, they have the potential – if combined with publicly- or commonly-owned networks that treat electricity as a commons rather than a commodity – to empower communities and push back corporate control.

Renewables are now under attack, however, from ecomodernists who see “big” technologies (e.g. nuclear power, carbon capture and geoengineering) as the means to deal with global heating. They have two types of arguments.

The first is that electricity networks simply can not handle renewables-dominated generation. This is disproved not only by the smooth working, now, of networks either dominated by variable renewables (Scotland, with 60%) or soon to be dominated by them (Spain and Germany), but also by years of engineering practice and academic research showing that the required changes to energy grids are difficult but eminently possible. (I have written about this elsewhere, 2)

A second set of specifically “left” ecomodernist arguments, to which I respond in this article, falsely present renewables as inherently linked to private capital, and nuclear as inherently linked to public ownership.

Most recently, Marxist geographer Matt Huber has made this case on the UnHerd web site, 3 claiming that environmentalists and leftists who embrace renewable electricity are being dragged along behind an “anti-social [neoliberal] reaction against society itself”. This colourful pronouncement builds on pro-nuclear arguments by Huber and Fred Stafford in the socialist journals Jacobin and Catalyst, 4 and on Huber’s responses to “degrowth”. 5

1 Variable electricity generation is from resources that stop and start for natural reasons – i.e. because the sun does not always shine and the wind does not always blow. Some renewables such as hydro power and modern biofuels are defined as non-variable.


3 Matt Huber, “Renewable energy’s progressive halo”, UnHerd, 19 May 2023


Here, I focus on the false logic that:

- Renewables, decentralisation, private capital, and neoliberalism go together; and that
- Nuclear, centralisation, public power, and socialism go together.

Here are seven reasons why this logic is flawed.

1. Neoliberalism in the 1970s and 80s was a centrally-directed reorganisation of capital’s power that strengthened centralised multinational corporations. It was not aimed at economic or technological decentralisation.

Huber claims that, in pursuit of private power, neoliberalism set out to demolish “large, rigid institutions” – unions, universities, even monopolistic corporations – that lay at the heart of the post-war boom, “in favour of smaller, more flexible production guided by a decentralised price mechanism”. He argues that this supposed “decentralisation” underpinned the rise of renewable electricity generation.

But even in its use of price mechanisms, neoliberalism was the very opposite of “decentralised”. The weapons it wielded on behalf of big, centralised corporations included the deregulation of finance capital, by such measures as abolition of capital controls and expansion of offshore financial zones. Financial markets were “globalised”, in many cases subordinating national markets to internationally-determined prices. No decentralisation here.

Huber cites the neoliberal ideologue Friedrich Hayek writing about “decentralised planning”. But those words tell us little or nothing about the neoliberalism that actually existed, which Marxists long ago understood as a renewal and reorganisation of capital’s political and economic power: primarily a “political project to re-establish the conditions for capital accumulation and to restore the power of economic elites” rather than a “utopian project to realise a theoretical design [of markets]”, as David Harvey wrote.6

2. Market liberalisation in the US electricity sector tilted the balance away from (mostly publicly owned) utilities towards merchant generators. This was not “decentralisation” but a shift of power towards private capital. A simultaneous trend, not just in the US but globally, was towards physically smaller power stations, mainly gas-fired or combined heat and power plants. Except in Denmark, physically decentralised renewables (solar and wind) would not be significant electricity generators for another two decades.

Huber writes that neoliberal ideology “seized the [US] electricity sector” in the late 1970s; that for neo-liberals, electric utilities “epitomised the kind of inflexible and corrupt institutions targeted for demolition”; and that environmentalist ideology of the time (epitomized by Amory Lovins’ “soft energy path”) “conformed to this neoliberal critique of ‘big’ and ‘centralised’ utilities.” Thus, “against a complex and centrally-planned system, ‘grassroots’ local communities aspired to get off the grid entirely,” while at the policy level a “vision of a decentralised renewable-powered utopia actually accompanied a broader project of electricity deregulation” under president Jimmy Carter.

This sounds like a compelling narrative, but it does not hold up to scrutiny.

First, let’s put aside local communities who aspired to get off the grid. How that played out may be significant in the history of counter-culture, but they played no part in battles over energy policy.

Second, burgeoning neoliberalism was not the only factor determining energy policy in the US and other rich countries in the 1970s. After the assertion of pricing power by the Middle Eastern oil producers in 1973, the dominant narrative was of “energy crisis”, rooted in the dominant capitalist powers’ alarm at shifting terms of trade. This produced a politically-driven investment boom in nuclear and other non-fossil energy that both overlapped with, and cut across, market liberalisation policies.

Third, the minute quantities of renewable electricity generated in the mid-1980s were produced by corporations that relied on government support and Wall Street banks for their very survival. Huber calls them “a new class of capitalists building renewable energy projects” (a strange use of the word “class”). This group “need not care about the grid as a shared social system” but could focus on outbidding others in wholesale electricity markets. But their brief attempts to enter those markets was a catastrophic failure.

In the early 1970s, the development of wind turbines was undertaken not by “a new class of capitalists”, but by NASA. A small portion of the state funding was made available for small turbines, and by 1978 one commercial wind turbine was in operation. Then followed the wind “boom” of the 1980s in California, supported by around $1 billion of Wall Street finance. It peaked in 1987. Then construction slumped. During the 1990s, the entire US wind industry produced, on average, 3.3 Terawatt hours per year, less than one typical coal- or gas-fired power station’s output.

Huber states that the Public Utility Regulatory Policies Act (PURPA) helped wind power. So it did. But a far more important factor was the Energy Tax Act – which enabled investors to receive a guaranteed profit from wind projects even without generating any electricity (so much for neoliberal market mechanisms). This tax dodge was junked by the 1986 Tax Reform Act and the “boom” collapsed.7

Wind power emerged as a significant factor in the US only in

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the mid-2000s. This is shown in the graphic: the bar denoting wind power is invisible until then, while the one denoting solar power cannot be discerned until the 2010s.

In other words, there is no meaningful causal connection between Lovins’s “soft energy paths” argument (which in the 1970s was focused primarily on energy conservation and cogeneration, and not on renewable power), Carter’s PURPA, neoliberal markets, and the expansion of decentralised renewables a quarter of a century later.

Certainly, PURPA weakened the utilities, and reinforced the wholesale electricity market’s role in managing sources of generation. Gas played an increasing role, putting coal on the defensive. But the overarching theme here is not decentralisation, but political support by neoliberal politicians for gigantic corporations.

The frenzied logic of capitalist expansion, with construction companies and generators lobbying heavily, led to an excess of generating capacity—in 1982, amounting to about 40% of the total. Capitalist markets did what they do, and many large projects, especially nuclear, collapsed. The Washington Public Power Supply System (now Energy Northwest) cancelled four out of five nuclear plants it had begun, triggering a bond default in 1982 that, at the time, was the world’s biggest.9

To tell this story as one in which renewables are identified with neoliberalism, and nuclear with public power, is to rewrite history in the service of ecomodernist ideology.

3. Socialists who advocated decentralised and locally-controlled energy technologies in the 1970s and 80s were neither allies of neoliberalism nor opponents of technological development: on the contrary, they framed their visions explicitly in terms of anti-capitalism and aspirations for public and collective forms of ownership.

Huber writes, with reference to the 1980s:

[If] most of the 20th century was about large-scale social integration of complex industrial societies, the neoliberal turn represents an anti-social reaction against society itself. For parts of the right, there was ‘no such thing’ as society, only individuals. But the environmental Left made a comparable turn: large-scale complex industrial society was rejected in favour of a small-scale communitarian localism. In this framework, ‘communities’ could opt out of society and usher in democratic control over energy, food and life.

In support of this claim, Huber quotes the German philosopher Rudolf Bahro saying that “we must build up areas liberated from the industrial system”.

The “left” is such a general category as to be pretty well useless, in my view. But however widely you define it, Bahro in the 1980s ceased to be representative of it. He no longer thought of himself as part of the left, and called for dialogue between the left and right, even extreme right. His colleagues did not view him as part of the left by this point either, with his “radical anti-modernism” constituting a “fundamental divide” with the left.10

In contrast to Bahro’s drift to anti-industrial environmentalism, there is a wealth of socialist writing that saw capitalist social relations as the underlying cause of the 1970s “energy crisis” and environmental crises more broadly. For example:

□ The Italian autonomists who urged a “post-nuclear transition”, by way of research of alternative energy sources “on a democratic and decentralised basis”, to lay the foundations for “a new energy strategy at the level of more advanced technology”. This, they believed, “implies making choices which qualitatively transform not only energy use but also the capitalist mode of production and its social organisation”.11 No “small-scale communitarian localism” here.

□ The US socialist writer Barry Commoner, who, summarising his view of the way to prevent “the assault on the environment”, argued for “the transformation of the present structure of the technosphere, bringing it into harmony with the ecosphere”. This would mean “massively redesigning the major industrial, agricultural, energy and transportation systems”; such a “transformation of the systems of production conflicts with the short-term profit-

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8 Amory Lovins, Soft Energy Paths (Harper & Row, 1979), chapter 2
9 Simon Pirani, Burning Up: a global history of fossil fuel consumption (Pluto Press, 2018), page 132; Daniel Pope, Nuclear Implosions: the rise and fall of the Washington public power supply system (Cambridge University Press, 2008)
maximising goals that now govern investment decisions”. This is the very opposite of a rejection of industrial society.\(^\text{12}\) Even André Gorz, perhaps the 1980s’ most forceful socialist proponent of decentralised energy, saw its development as inextricably bound up with social transformation. He addressed the issue explicitly. Objections could be raised to a focus on such technologies, on the grounds that “it is impossible to change the tools without transforming society as a whole, and that this can not be accomplished without gaining control over the state”, he wrote. “This objection is valid, providing it is not taken to mean that societal change and the acquisition of state power must precede technological change. For without changing the technology, the transformation of society will remain formal and illusory.”\(^\text{13}\)

Huber’s blanket accusations against the “left”, whatever that is, are cynical and unfounded. Worse, they obstruct a real discussion about the various historical strands of socialist environmentalism and what is to be learned from them in the 21st century.

### 4. The social forces that promoted wind and solar technologies in the 20th century were the state, and (especially in Europe) social movements. Private capital moved in later.

In the US, the state was the main driving force for the development and diffusion of wind power in the 1980s (see point 2 above). The state also played the main role internationally, but social movements also counted.

In Denmark, the world’s leading developer of wind power in the 20th century, the initial impetus came from a community movement based on co-operatives: by the mid 1980s, there were 150,000 of them. Preben Maegaard, a leading wind power activist, argued in a retrospective analysis that the state, having by the 1990s accepted that wind would be the dominant electricity generator, worked to shift power away from communities into corporate hands.\(^\text{14}\)

In Germany, social and political forces worked together in a different configuration: a parliamentary alliance of Social Democrats and Greens fought for subsidies that supported renewables development by both corporate and municipal entities. By the 2000s, similar rules were being adopted across the European Union.\(^\text{15}\) There was and is a tension between such state support and the market liberalisation ethos that dominates EU policy.

As a recent report by the European Public Service Unions concluded, “public support for renewables” (which they support) was incompatible with “competition policies” (which they oppose). “In other words, energy liberalisation is clearly at odds with decarbonising energy policies.”\(^\text{16}\)

In the 2010s and 2020s, the most rapid expansion of wind and solar electricity generation was and is in China, where investment policy and industrial strategy are firmly state-directed. It goes alongside continued expansion of climate-trashing coal. Elsewhere, state support has started to give way to private capital in recent years, as the cost of supplying renewably-generated electricity to fossil-fuel-dominated grids has fallen sharply. Large amounts of capital are flowing into wind and solar as a consequence.

There is a relationship – though not a straightforward or direct one – between these social and economic changes, and technological changes. Both solar and wind technologies have been impacted by the “third industrial revolution”, that started with semiconductors and gave rise to personal computers, the internet and mobile phones. But perhaps even more important is the effect on electricity networks.

Grids that previously distributed electricity from large central power stations to users are now being re-made to take electricity in from multiple, smaller generators and distribute it much more flexibly: the potential for decentralising control of grids, and for reducing total throughput in line with the fight to prevent dangerous climate change, are substantial.\(^\text{17}\)

To sum up: there was no direct causal connection between neoliberal market liberalisation and the expansion of renewable electricity generation in the US. The state and social movements have driven renewables diffusion; now that costs have fallen sharply, large amounts of capital has moved in.

### 5. The potential benefits of renewable technologies are social: progress in tackling global heating, and more democratic and collectively-controlled energy systems. The labour movement and social movements face struggles to prevent capital from enclosing and appropriating these benefits.

Huber claims that in the US the wind and solar industries “only provide temporary construction jobs” and that, once the installations are built, “the jobs disappear and the only plausible economic benefits besides rents flowing to private landowners are marginal increases in local tax revenues”. This is a narrow view of renewables’ benefits, not only because it is so US-specific, but also because it views “economic benefits” separately from the ecological effects of different types of electricity generation.

The advantage to humanity of renewables expansion – that even under capitalism it creates the potential for closing down coal- and gas-fired power stations and thereby improves the chances of averting disastrous climate change – is not an “economic benefit”, but is still very, very important.


\(^{13}\) André Gorz, *Ecology as Politics* (Pluto Press, 1987), page 19


\(^{15}\) See: Craig Morris and Arne Jungjohann, *Energy Democracy: Germany’s Energiewende to Renewables* (Springer, 2016)

\(^{16}\) European Public Service Unions, *Going Public. A decarbonised, affordable and democratic energy system for Europe: the failure of energy liberalisation* (EPSU, 2019), page 14

\(^{17}\) I have written about this in detail in: *Wind, water, solar and socialism. Part 2: electricity networks*, People & Nature, September 2023

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Huber writes that neoliberal electricity restructuring has led to an alliance between big tech firms and other investors and renewable energy producers, to avoid relying on US utilities; that markets in renewable energy certificates are used for greenwashing corporate reputations; that naive environmentalists “have become unwitting allies of the Gogles and Berkshire Hathaways of this world”, because they “fail to recognise their renewable advocacy often enables the further neoliberalisation of electricity”; and that the left, “seduced by climate rhetoric”, has “become the unwitting ally of this programme”.

This trail of guilt by association leads nowhere. Yes, there is corporate tension between big tech and the US utilities: the former sees decentralised electricity generation as a way to weaken the latter. Big tech has used new technologies in this way before, for example in the online advertising, transport, and postal industries. But the lesson is not that the internet, the post, or urban transport are bad in and of themselves; rather, it is that society in general and the labour movement specifically must champion public and collective forms of ownership and control.

One does not have to go further than New York to see how this is done: the Public Power NY campaign, whose efforts recently led to the adoption of the Build Public Renewables Act, has won endorsements from unions representing more than 1 million members in the state.18

Beyond the US’s borders, we can hear heated discussions among trade unionists across the global south about how to combine social justice goals with the urgent decarbonisation of energy systems.

One starting-point for learning about these is a draft framing document, published last year by Trade Unions for Energy Democracy. Policies that pretend simply to switch from fossil-based energy to renewables are “clearly not viable”, the authors write in their introduction; “the situation demands a policy framework built around public control and ownership of energy, one that can consolidate cooperation and planning”.19

In Europe, too, where pro-nuclear French unions are at odds with anti-nuclear unions in other countries, the need for public ownership is at the centre of discussions.

To accuse “the left” of being an “unwitting ally” of big capital does many of these people a tremendous disservice.

6. The claim that renewable power is necessarily inimical to workplace trade union organisation is unfounded.

Huber writes that “the shift away from utilities and towards decentralised merchant generation explicitly undermined the labour unions who had built up their power under the older, established utility system”. He quotes a trade union organiser on the anti-union atmosphere in the “clean tech” industry, and then writes: “It is much easier to organise workers in centralised power plants than scattered solar and wind farms whose [sic], after all, only provide temporary construction jobs.”

The oversimplified message here is: solar and wind are bad for unions, large nuclear and hydro are good for unions (a derivative of the false identifications of “solar and wind, neoliberal” and “nuclear and other centralised power, public” mentioned at the start).

The message is at odds with the facts. The “older established utility system” in the US was broken up in the 1980s. This did indeed damage the unions, with the loss of 150,000 unionised jobs in the 1990s.20 But the short-lived California “wind boom” played a negligible part, if any, in these events, and the appearance of substantial amounts of renewable electricity generation in the US came at least 20 years later.

As for whether it is easier to organise workers in centralised power plants than in solar and wind farms, I do not know enough about union organisation in the US to say. I do know that the question of organising workers in power generation (i.e. power stations and solar and wind farms) cannot be separated from organising workers in electricity networks, distribution and construction jobs.

Furthermore, the prospects for union organisation are bound up with the fight to extend forms of public ownership in the electricity sector. There is plenty of evidence that renewable electricity generation, and its supply chains, are dominated by companies every bit as rapacious and exploitative as those in the fossil fuel and nuclear industries. But there is also evidence that trade union organising is advancing across the electricity sector, very often hand in hand with political campaigning for public ownership.21

The challenges facing trade unions in the electricity sector also need be considered in a wider social and technological context. The “third industrial revolution”, combined with the shift in power away from labour towards capital that we define as neoliberalism, has wrought gigantic changes to the way in which labour is exploited worldwide.

Logistics and supply chains have taken on an unprecedented importance; the internet has changed the way that hundreds and millions of people work and is used by corporations to develop new, more exploitative and very often precarious forms of labour.

Ursula Huws, a leading socialist writer on labour, argued recently that precariousness is the “normal condition of labour under capitalism”, especially outside the rich world and among women in the rich countries. Given the power imbalance between capital and labour, what historians need to explain is how the boom-time rich-world norm of mostly white, mostly male workers in permanent jobs was able to persist for as long as it has.22

The changes in the electricity sector are part of this larger picture. It may have been “easier” to organise electricity sector workers 40 years ago than it is now, but to think those conditions can be reproduced now is to deny the way that history happens, and to oppose renewable electricity generation on these grounds is to ignore the general, social

18 See the Public Power NY web site, https://publicpoweryn.org/about/
19 TUED, Towards a Public Pathway Approach to a Just Energy Transition for the Global South (December 2022)
20 Sharon Beder, Power Play: the fight to control the world’s electricity (The New Press, 2003), page 125
21 The Trade Unions for Energy Democracy web site is a valuable source of information on this.
interest in its development as a means to deal with climate change.

7. The false identification of renewables with neoliberalism goes hand-in-hand with a false identification of nuclear power with public power. This amounts to a call for socialists to embrace a deeply anti-human technology.

In the very last paragraph of his UnHerd article, Huber writes that “a revived electric public utility system could indeed integrate some renewables in sunny and windy regions (on land and offshore), but grid planners will acknowledge some level of ‘firm’ low-carbon generation like hydroelectric and nuclear power will be required.”

Elsewhere, Huber has argued that nuclear is indispensable. With Fred Stafford he wrote in Catalyst journal that “from a socialist perspective aiming for reliable, nonstop, zerocarbon power, nuclear energy would be the foundation of the grid.” Huber and Stafford set out a vision of “big public power” in which “the public sector would subsidise the mass buildout of large-scale zero-carbon energy generation infrastructure including nuclear power and, where geography suits, renewables”.

It is important to note that if a grid is moving towards a renewables-dominated approach, planners would hardly select nuclear power as the back-up option, for technological reasons. Unlike e.g. gas or hydro, nuclear power stations’ output can not easily or quickly be switched up and down. The nuclear lobby aims, where it can, to dominate grids in place of renewables; Huber and Stafford are effectively calling on the labour movement to support it.

This would be damaging step backwards.

First, because nuclear power has failed to expand in Europe and the US, despite the fulsome political support given to it since the 1980s; it is extremely expensive and capitalist markets have preferred other solutions.

Second, the progress made by civilian nuclear power can be attributed in large part to its deep and continuing connection with military nuclear power.

Third, not only has the existential danger posed to humanity by the nuclear bomb not disappeared, but the issue of nuclear waste means that nuclear power – despite being a low-carbon form of electricity generation – brings with it serious and unsolved ecological problems.

Nuclear power is the ultimate techno-fix. Huber and Stafford, in arguing in its favour, ignore its frightful history and, in particular, nowhere mention its relationship to the nuclear bomb. Instead of considering its social context, they reproduce some of the nuclear industry’s disingenuous arguments.

To conclude: the identification of neoliberal politics with decentralisation is false (point 1). The liberalisation of the US electricity market in the 1980s was not a decentralising policy, had almost nothing to do with renewables, and was linked to a massive, largely unsuccessful centralised state effort to expand nuclear power (point 2). Socialists who advocated decentralised energy in the 1970s and 80s were not allies of neoliberalism “against society”; on the contrary, their visions of future energy systems were resolutely anti-capitalist (point 3).

The social forces that initially pushed solar and wind technologies were not “neoliberal”: they were the state and social movements, against the background of the “third industrial revolution” that has profound implications for electricity networks (point 4).

Renewable electricity generation is not doomed to benefit capital; if we can prise it from capital’s grip, it has great potential benefits to society, including helping to tackle global heating and enhancing democratic control and collective ownership of energy systems (point 5). Union organisation is a different task from 40 years ago, whatever the technologies, and there is no evidence that centralised electricity generation is inherently more amenable either to unions or to public ownership (point 6).

The false logic – renewables equals private, nuclear equals public – is for all these reasons unsustainable. It is deployed as part of a pro-nuclear argument (point 7). Pulling the labour movement behind this anti-human technology would be damaging to socialism.

Reposted with thanks from Spectre journal.

Wind, water, solar and socialism. A related article from People & Nature.


23 For a lay person’s explanation of this, see David Elliott, Renewable Energy: can it deliver (Polity Press, 2020) pages 77-78