# 3. Commons-Based Renewable Energy

# in the Age of Climate Collapse

by David Hammerstein

*“… the main lesson to be learned from the collapses of past societies is that a society's steep decline may begin only a decade or two after the society reaches its peak numbers, wealth, and power.”*

Jared Diamond, Collapse1

One of the fallacies in our unrealistic thinking about the future is the idea that renewable energy can substitute the fossil fuels that have been the basis of economic growth over the last two centuries. The “100% renewables” slogan suggests that all we have to do is change energy technologies in order to go on with business as usual. This techno-optimist marketing spin reinforces a certain social complacency, leading us to grossly underestimate the great challenges that a real energy transition would pose. The global collapse of our environment and our climate demands much more than a change in our energy production model. It requires us to question the basic premises of our extractive models of agriculture, industry, tourism, transport and construction2.

A simple ’tech-fix’ approach to renewables is promoted to avoid structurally challenging the basic premises of our growth-dependent and extractive economies that cause most of the current life-threatening climate disorders and extinctions. We can only approach 100% renewables in a socially fair and environmentally sustainable world if we substantially reduce our use of energy and resources by shrinking our physical economies, especially among the wealthiest, most consumerist 20-30% of the global population. This de-growth of our economies is not possible only by means of technical efficiency measures. It requires major political change and state regulations in favor of sufficiency and the preservation and regeneration of the global natural commons. This is a daunting task3.

Today, solar energy and wind energy represent only around 2% of our global energy mix, while fossil fuels supply over 80% of our energy needs. A rapid substitution of fossil fuels by these renewable sources would demand a war-like mobilization of people and financial means that today is nowhere to be seen on the political horizon. Our energy transition has not even begun in earnest while our window of opportunity for slowing catastrophic climate change is rapidly closing. Today 98% of global trade, 100% of aviation, 99% of vehicles, 99% of construction, over 90% of agriculture and the vast majority of household heating are powered by fossil fuels. The increase of renewables, which is around 5% of current energy production (mainly hydroelectric power and biomass), is almost exclusively focused on electricity, even though electricity only represents 18% of global energy use. The other 82% is used mainly for heating, transport, industry and agriculture, among other activities. In total contradiction to what is now needed, global energy demand grew 2.1% in 2017 while CO2 emissions rose 1.4% amidst growing and more desperate calls for drastic CO2 reductions from the scientific community5-4.

To be realistic about our energy crunch, we must first exit the denial consensus. Due to ecological constraints, our present growth-driven and expansive economy based on cheap fossil fuels cannot be maintained. We are living the beginning of the end of a historical anomaly of sustained economic growth based on access to abundant, easily accessible fuels and other raw materials. But it is precisely this economic growth that has facilitated the growth of liberal democratic societies and the consolidation of individual freedoms and human rights. The structural lack of sustained global economic growth, coupled with climate change, resource scarcity and ethnic conflicts are stressing our democratic liberal societies. These situations are increasingly exploited by extreme right-wing authoritarian and populist movements.

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Nevertheless, we can still try to mitigate or prevent this crisis. We need to consciously slow down and re-orient our economies toward re-localization of production and the regeneration of communities and nature. If we start now, the down-scaling of our economies can be done in a relatively organized and fair way, with relative social acceptance. Major political, economic and cultural shifts towards sufficiency, self-contention, sharing, social equality and redistribution of wealth need to take place to avoid violent societal collapse. If we maintain our present expansive course we might very well be condemned to an abrupt and chaotic economic stagnation that protects the privileges of the most powerful and locks out the majority of the population by means of violence and repression.

Most political leaders have placed all their money on one very improbable bet: the world economy will continue to grow indefinitely thanks to some miraculous technological inventions that have yet to be invented. This flies in the face of overwhelming scientific evidence of humanity’s tremendous overshoot of the Earth’s carrying capacity. Our leaders cannot act responsibly because they cannot escape their world view of never-ending global competition, extraction and economic growth that is impossible on a finite planet. They are ideological prisoners of a diabolical pact: in exchange for a few generations of intense economic growth with relative social well-being and democratic freedom, we shall all be forced to accept some form of autocracy in the context of environmental demise and scarcity.

The energy transition to confront climate change is not mainly about increasing renewable energy production but about quickly reducing CO2 and other greenhouse gases: it is not principally about doing good things but drastically and urgently reducing the bad. More renewables does not necessarily mean less use of oil or gas nor less ecological destruction of our life support ecosystem. More electric cars does not mean less oil consumption by conventional cars, more organic food production does not mean less use of pesticides by intensive agriculture, more recycling and re-use does not mean less resource extraction. A “circular economy” that does not reduce the total volume of resource extraction can create an illusion of sustainability as explained by the “Jevons paradox”6. To make a difference, renewables must substitute fossil fuels quickly and to the greatest degree possible, while overall energy and resource consumption must be reduced drastically. This is a monumental task that most politicians would say is totally unrealistic. But today’s political realism has little to do with the needs of our future social-ecological well-being.

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Any positive energy transition also needs to take into account in its cycle of life and value chain the preservation of biodiversity, fertile soil, rivers, forests, oceans and aquifers. The production and use of energy in industrial, agricultural and urban extractive activities contributes heavily to the destruction of our basic life support systems. It would be a horribly pyrrhic victory to finally achieve plentiful, cheap renewable energy while our systems of life-support of water, soil and biodiversity are fatally depleted and over-used in the very process of constructing an energy transition.

Relative decoupling of economic growth from CO2 emissions is also a false path. Today there is no decoupling of economic growth from environmental destruction in absolute terms10 and even the relative disassociation of economic growth from the growth of CO2 emissions is usually a statistical manipulation that does not count the emissions produced or accumulated in their imported materials, products and services from every corner of the Earth7.

## The EU and the Tragedy of the Energy Anti-Commons

Climate change and many other ecological problems caused by the use of fossil fuels are an example of the tragedy of the commons, because the essential common resources of air, water, soil and biodiversity are under-regulated, over-used, over-extracted and over-exploited. These problems are also paradoxically an example of a tragedy of the anti-commons, because they are caused by unbridled and intensive enclosure, extraction and privatization of common resources. The influence of enormous energy companies on the EU and its member states through corporate regulatory capture, revolving-door corruption and strong lobbying strategies prevent stronger regulation of our climate-energy commons and protect the private rights of companies with dominant positions over key energy infrastructures and services. Today there are still legal barriers to the blooming and dominance of community-based or municipal renewable energy.

While large, centralized energy companies are starting to invest more and more in renewable sources, they are often not best suited for alleviating our social-ecological dilemma, primarily because they have little incentive to reduce overall energy consumption or to prioritize the social engagement of local communities in their commercial operations. The more energy they sell and the more energy is consumed, the more profits they make. The more centralized and rigid their physical and governance infrastructures are, the more vulnerable and less resilient they are to crises.

Climate technologies that can play an important role in energy transition are often not shared as quickly with countries in the Global South as they could be. This is partly due to intellectual property protections and a resistance to sharing know-how. In this conflict, the EU fights to enclose climate technology knowledge, which should be a common good, within United Nations forums (for example, the Paris Climate Talks in 2015), giving priority to European private industrial interests as opposed to calls from the Global South for more affordable access to climate-friendly technologies.

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In general, despite some recent positive legal change, the EU’s energy strategy has been oriented primarily toward big energy companies promoting large gas pipelines, giant energy infrastructures, and modest CO2 reductions (still light years away from fulfilling global climate needs). Despite the fact that more and more Europeans are producing their energy locally or at home, most proposed European market regulations and budgets have not prioritized community-controlled or self-produced renewable energy, they have not offered sufficient financial support for community energy and they have not sufficiently defended the right to re-sell electricity among prosumers (at once producers of energy and consumers). EU policies have not sufficiently supported community-based feed-in tariffs or micro-grid infrastructures to support local renewables. Little has been done to eliminate massive direct or indirect subsidies to large gas, coal and nuclear projects.

There is a surprising over-confidence that the same centralized energy model that got us into this mess is also going to get us out of it. Instead it should be evident that without major social change in the relations of power between large energy companies and the common good, there will be no paradigm shifting energy change in favour of equality, democracy and a radical reduction of emissions. A much larger part of the EU energy budget should be earmarked for community renewable projects and compatible infrastructures, with broad citizen participation. This would help optimize resilient and more flexible energy supply costs through more efficient, short, and visible distribution loops while promoting flexible local energy autonomy. With this approach the EU would “commonify” a decentralised energy system as opposed to the current principal strategy of commodifying a centralised one.

The commons approach points at a number of problems and principles concerning renewables and the fight against climate change. In order to mitigate and adapt to climate disorder we need to focus on social and political strategies that prioritize solidarity, sufficiency and limits. The natural commons is both the source and the sink of our energy model. No one can claim ownership of the sun, the wind, the sea or the air. While it belongs to no one, we need to strongly and democratically regulate its use in a socially equitable matter with the aim of maintaining a sufficient level of sustenance of human and natural life.

For a successful and rapid transition of our catastrophic energy model, we need strong political promotion of non-profit, decentralised, citizen-owned distributed energy systems that prioritise both consumer and climate profits over extractive private profits based on more consumption.

In the context of global climate collapse, much greater energy sobriety is a prerequisite of energy justice. Considering the finite carrying capacity of our climate commons, there is no sustainable way of alleviating energy poverty of people globally without at the same time alleviating energy obesity in wealthier countries of the North. When energy is governed as a common resource that is pooled by a community that governs semi-autonomous infrastructures, resilient sufficiency coupled with efficiency can take priority over expansion, growth and profits. Local stakeholders usually have very different interests from corporate shareholders. Large, centralised and privatized energy technology is often not appropriate for the real needs, the human scale of democratic control of a visible, circular and resilient local economy. In contrast, commons-based renewable energy is usually dimensioned to satisfy basic social needs that respect bioregional limits, boundaries and universal sharing.

Appropriate energy technology and knowledge developed with public money also needs to revert back into the regeneration of the energy commons by local communities (and with the Global South) through open source technology transfer or socially responsible licensing instead of being patented and privatised by private companies. Personal data on energy consumption and habits also need to be governed as a commons by local communities and municipalities without data commercialization or marketing by digital platforms.

For a successful and rapid transition of our catastrophic energy model, we need strong political promotion of non-profit, decentralised, citizen-owned distributed energy systems that prioritise both consumer and climate profits over extractive private profits based on more consumption. This means lower energy demand, greater social acceptance of new renewable installations and a new cultural paradigm that breaks with big centralized market lock-ins we have today, wherein most citizens cannot even imagine receiving energy other than from large multinational corporations.

This means turning public investments upside-down with a major shift toward localization. Instead of investing in giant centralised interconnecting power lines, the priority should be aiding the installation of community micro-grids where prosumers, producers and consumers are allowed to share, sell and buy community-based electricity production. This paradigm shift favours demand management, much greater citizen consciousness of saving energy and the building of flexible resilience. This must happen in the face of future social-ecological chaos and impending climate breakdown by investing in pooled district heating, renewable energy storage and increased local autonomy8.

We need the application of an EU energy subsidiarity principle on all levels of EU policy. This would mean that EU financing would be conditioned to support fluctuating renewable energy installations as close to the energy consumers as socio-economically possible. Large interconnecting power lines should only be built after implementing local and regional intelligent energy systems for fluctuating renewable energy. Majority citizen/municipal ownership of all new energy facilities should be supported by EU, national and local funding and legislation.

The EU’s new “Clean Energy Package” approved in spring 2019 now recognizes citizen energy communities as an essential part of the energy transition. Now it is crucial that the rights of individual citizens or citizens collectives are actively supported institutionally on all government levels for producing, supplying and consuming renewable energy without any discriminatory treatment in favor of large private energy companies9.

The renewable energy commons is part of a larger strategy that at once regenerates communities and the living world through democratic governance, local control and common good values. The global multiplication of these energy commoning initiatives can play a key role in building the resilience, know-how and cooperation we desperately need to face the enormous social-ecological challenges of the coming years.