The technological affordability and competitiveness of solar energy has brought discomfort to the energy market. The interests of capital and the lack of ownership of the state impede the socially optimal realization of these energy capacities. But there are democratic models that can circumvent these obstacles.

While most of us know almost nothing about the modern technological capabilities of solar energy, its cost, and do not have the initial capital to change the energy model of our own household, more knowledgeable, better organized private investors and large energy companies have made great strides in the fight for their interests. This is not unexpected, it is a typical form of class struggle, in which, as usual, the stronger side is well organized, while the weaker but more massive one is not even aware of being in war.

Solar energy has been conceived from the beginning in the form of solar panels that heat hot water boilers in places where transmission lines have not yet arrived. The problems of solar energy were considered to be low utilization of photocells, inability to store energy for evening use and high cost, and could be read about spent photocells as a major waste problem.

Meanwhile, photocell utilization has increased significantly, lithium-ion batteries have been designed to allow energy to be stored and used in days and nights without sun; the price of solar energy has dropped significantly and it is everywhere, even in northern countries, competitive with fossil energy prices.

Two types of sun energy

And before that, not only did solar energy not live up to expectations and opportunities, but paradoxically, in sun-rich countries like Spain or the US state of Nevada, it became so expensive that it was unprofitable. In Spain three years ago the so-called sun tax, while Elona Mask’s Solar City project was banished from Nevada.

The method is similar in both cases: the state has abolished solar subsidies to households and raised panel installation prices. In Spain, a sun tax was introduced extending the payback period of solar panels from 13 to 31 years, with a similar outcome in Nevada. The reasons for this are not environmental, social, technological or democratic, but economic, or profit, and political. Spain’s solar tax was abolished last year, bringing Spain’s policy into line with EU policies and energy targets for 2030.

Currently, there are two dominant methods of collecting solar energy: concentrated solar thermal power plants and photovoltaic cells, that is, island systems.

First ones use huge mirrors to collect and focus solar energy and convert it into heat through an engine, usually a steam turbine, to generate electricity at the end of the process.

Thermal energy is stored in molten salts, which allow solar thermal power plants to produce energy even after sunset, and energy can be transferred over long distances. The price of this energy is competitive with that of fossil sources, but still involves distribution from producers to consumers, which still makes it more expensive than island systems adapted to households.
Photovoltaic cells produce direct current electricity that fluctuates with the intensity of the sun. Before use, this energy must be converted to converters of appropriate voltage. Because of this difference, photovoltaic power plants, unlike concentrated solar, are not commercially viable for long-distance and commercial use.
Photovoltaic solar combined with storage batteries works better at household or neighborhood levels. And in this form of energy creation lies the so-called. The “revolution” of renewable energy, which should underpin the “transition” to a green economy.

The Renewable Energy Revolution

In Croatia, just over a year ago, Poslovni.hr published a complaint by private investors in solar energy entitled “Lower price destroyed investment”. It is an astonishingly uncritical text, with media targeting economic analysts and stockbrokers. According to the text, a group of about ten investors began to fight the so-called. “Discrimination against non-integrated solar energy” (small power plants) in relation to “integrated” solar plants located on homes and buildings.
Namely, the problem is due to the cheaper solar energy: the purchase price of electricity from large solar power plants has fallen in recent years from 1.1 kunas per kilowatt to 0.53 kunas, which corresponds to the global trend of cheaper solar energy. In a desperate attempt to socialize the risks of their investments, and hiding behind anonymity, they see responsibility in the stepmother state that has lowered subsidies, instead of market laws that, in other situations, work well for their interests.
In practical times, rather than ideological reasons, the state began to give greater subsidies to the so-called austerity measures, integrated systems. Judging by the examples from Spain and Nevada, the state is pushing solar on households until their numbers grow enough to threaten large energy companies.
It is a real problem which, as it is understood, ceases to be a question of the profession and becomes an important socio-political issue. In both cases, the installation of solar panels on homes became so efficient that large companies began to see a decline in classic electricity sales.
Also, due to the obligation to buy excess electricity that households received from

renewable sources, large energy companies found themselves in a situation where they had to buy electricity from their former customers. In the European Union, consumers producing excess solar energy are referred to as 'proxies'. They have become a serious threat to the revenues of major energy companies.
The calculation is as follows: simpler and more frequent installation of solar panels in households, followed by increasingly high-quality and less expensive batteries for storing that energy, as well as energy and decentralized networking at the neighborhood level, in the end, in sun-rich countries, makes HEP, EPS, E.On, RWE, etc. models almost redundant. Of course not completely, not in all countries, but this type of company is certainly threatened by the loss of social importance that they have had so far, with which comes the decline in profits. In sun-rich countries, these companies could be reduced to just service providers for local network maintenance.
In countries where these companies have not yet been privatized, their many workers have a solid status, and from their profits, apart from what spills over into public budgets, something always digs into the culture. The loss of the importance of these companies to the state is therefore a serious problem, so one can understand, though not justify, the logic that opposes solar panels on the roofs of houses.

Utility management of energy companies

At the same time, there are increasing numbers of cases, even in sunny countries, where citizens have come together and advocated for the privatization of privatized energy companies, set up cooperatives to manage micro-energy networks, or started removing entire neighborhoods from the national grid because they are producing enough.
When it comes to advocating for quarterly decentralized energy models, the first argument against this is technological limitations. But this is an outdated argument, as affordability has allowed for increased installation of solar panels on homes. The second argument is usually the volatility of this energy, but this is also being resolved with better quality batteries – because it is possible to collect so much solar energy already that it can be used for the next three days.
After accepting the political argument that decentralized models can work, it is the turn of the ordinary liberal prejudice – that the people are bad masters, and that direct democracy, which seems to work best with decentralized energy networks, cannot function at all. This objection also neglects technological possibilities, in this case the internet.
It is precisely this problem that the co-operatives of Som Energie, an energy cooperative for connecting local groups in Spain, have encountered. The energy market in Spain is made up

of oligopolies, controlled by 80% of two companies: Endesa and Iberdrol. In that country, 26 million households consume about 30 percent of total energy production. Nevertheless, in 2015, Spain changed its RES approach and switched from subsidizing to taxing solar energy, making it extremely costly.
The price of classic electricity for households in Spain has increased by 80 percent in the last 10 years, which is why Spaniards in the EU today have the highest monthly bills (80 euros on average). At the same time, the price of photovoltaic cells and other equipment has dropped by 70 percent since 2008.

Som Energia and the digital plenum

In this atmosphere, seven years ago, Som Energia was created and was founded by professors and students of the University of Girona in Catalonia, with the aim of promoting climate protection and a successful energy transition, with the help of a sustainable business model. Five years later, this cooperative had 35,000 members, including consumers.
The second pillar of its policy is investments in green power plants. They have set up five solar parks, a large biogas power plant, and are building the first citizen-owned Spanish wind turbine. In all of this, they have invested more than € 7.5 million so far. The co-op receives new members, with a founding stake of just € 100.
In addition to the stated goals, the cooperative is also considered as a factor of social resistance, opposing nuclear projects and shale gas extraction. The large number of decentralized local groups that make up Som Energia make it difficult to conduct elections, so they have used the internet as a solution. Once a year, a general assembly and elections are organized with the help of the Internet.
The aforementioned sun tax prevented this cooperative from introducing social prices, which in Spain were regulated by state subsidies, which Som Energia failed to achieve. The state even prevents the transition to a green economy, because when a poor consumer moves to Som Energy, he permanently loses the right to the social price of electricity. Som Energia has decided to tackle this problem by financing social prices itself out of profits.
The Spanish sun tax is a great example of what energy policies a state is resorting to to prevent the decentralization of energy networks. More importantly, it is an egregious example of how policies are implemented on the ground, contrary to proclaimed principles, such as the Paris Agreement.
There is also a huge discrepancy between the (non) implementation of solar energy policies between what the public shows that it wants and can and the state interests of large

companies, to the detriment of citizens.
This key should also read the example of rebellious anonymous Croatian investors, whose designation is legitimized by the state itself by not performing all its social functions. The state could also read from the numerous rebellions of citizens across Europe the potential benefits of public debate and informing the public about opportunities for social development. The systematic undemocracy of state energy policy is often misconstrued as a professional rather than a political issue. Her reluctance to fulfill her primary function for several generations can lead to sunrise and sunset views.
Source: Climate and energy transition of the Balkans