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INCREASING POLITICAL RISKS OF ONSHORE WIND POWER

THE AFTERMATH OF TEXAS ENERGY CRISIS

INDIA'S SOLAR ENERGY BOOM QATAR AND GULF COUNTRIES AFTER THE EMBARGO

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# **ABOUT US**







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## The Aftermath of Texas Energy Crisis Barış Sanlı ն 💟

Texas energy crisis is over for now. But its repercussions will be felt for a long time. We do not know how these discussions will evolve. But like all crises, the waves of the disturbance will take some time to reach the shores. Most importantly, the consumer bills will be a major headache for policymakers.

There are poisonous things in life like MBA, Econ 101, or conspiracy theories. Once you grab or fall into that reality, the world is shaped around these materialities. Econ 101 is a dangerous animal. Supply and demand intersect, and there is the price. If not, there are caps. For some of us, electricity markets are just another market with different dynamics. However, there is a political economy of electricity markets, even in the most liberal markets.

In the Texas crisis, like in all crises, there are winners and losers. The economy as a science or an invention should provide us a fairer distribution of benefits and burdens than otherwise. So in a crisis, if a market design is punishing the poor more than the rich, should we accept that there is a problem in the design?

According to FT, Australian Macquarie is one of the winners of the high prices in Texas. As one of the biggest traders of gas and power in the US, the crisis boosted its profit by 300 million Australian dollars. Macquarie has also invested in Griddy Energy. The company sells electricity to Texan consumers with varying tariffs, including a floating rate tariff.

In the last couple of days, some Griddy Energy consumers have complained that their 100-150 \$/month bills have soared to 5000\$/month. It is nearly a 40-fold increase in consumer bills. From a liberal perspective, one may claim that the consumers should not be consuming recklessly in such a crisis environment. But is it fair to charge consumers with such high and income eroding 40-fold bills. What if the bills were just fivefold of their normal times?

Is this something that we should expect from a fair market design, that consumers should be protected at the time of crisis? That is a long discussion, but Texas will discuss it for some time.

One of the Texas electricity market designers, Bill Hogan, claimed that no market structure could withstand such stress with such extreme weather events. So he is approaching from an "extreme event" perspective. In extreme events, no market design can work. Then what is the most important part of the system that should be protected during these extreme events? We know that market will not survive.

Last week, there was an analysis about electric cars-EVs. It is claiming that EVs are more software than hardware. Therefore the mindset has to be different. That may be the reason why



traditional car manufacturers find it hard to deal with EVs. You may still think that automotive consumers are hungry for gas guzzlers. The whole company strategy may evolve around it. But in the real world, the desired vehicle is a different product than what your skills can achieve with honesty and hard work.

The Texas energy crisis is a similar example of this change. The world and electricity system are changing. Climate is changing. Our designs and systems for ever more electricity supply and demand should change. We may be the kings of the past glories, but the beast waiting for our works differently in the future. As it approaches, it does tear apart our systems, rules, regulations.

Therefore, the Texas debate is expected to evolve into several discussions. One is certainly capacity markets.

The rationale for capacity markets is simple, and it is insurance for the capacity deficit. For generators, this is basic. But who protects the consumers? What is their insurance? Isn't this whole market idea is designed to serve consumers? Therefore there should be new tools for consumers to insure them against high prices. A similar consumer product should match the capacity market for generators. Otherwise, Econ 101 or Econ 401 doesn't matter.

The second one is the security of supply based on renewables. Is it possible to provide security with renewables? We do not know. We know that every generation helps during these difficult times. But can the electricity from nature's forces counter nature itself? If not, can we tweak our systems to protect consumers during those times?

The third one is markets and systems in extreme weather events. The fourth one is the consumer bills. The fifth one is the interaction of electricity markets with gas. So there is no end to different discussions. As Keynes claims, " The difficulty lies not so much in developing new ideas as in escaping from old ones." The traditional car manufacturers are not in a deficit of wisdom or knowledge. They are exceptionally brilliant minds. But the world is changing. These minds are useless in the new realm.

The electricity system and market brilliant inventions, but the are world is different from solar, wind, and extreme weather. The change needs steps and institutions to settle. Redefining the security of supply, the economics of electricity markets, the political economy of electricity prices, and creating new mechanisms for consumer protection and benefits can be a better way. Otherwise, there is no guarantee that the crisis ends up with well-informed discussions with beneficial results. There is no guarantee that it will end well.

### Increasing Political Risks of Onshore Wind Power Selin Kumbaracı

In the energy transition away from fossil fuels, wind power is set to play an increasingly important role. This is particularly the case for northern European countries such as Sweden. However, public opinion seems to slowly be turning away from onshore wind power, especially when the situation becomes one wherein wind power is situated in opposition to the natural environment and landscape.

This is exactly what is happening in the village of Malung, in Sweden. While the plan to build 30 wind turbines on the nearby hill of Ripfjället has been approved by the local municipal council, the majority of residents are against the plan. According to a referendum held in Malung last year, only 44.6% of the village are in favor, with 52.1% opposing the plans.

Those who are in opposition broadly argue that the Ripfjället project would harm the natural environment and wildlife, in addition to potentially hurting local businesses if the wind turbines end up deterring tourists who come to see the natural sites—or as the 'No to Wind Power on Ripfjället' organization puts it, "Visitors to our area want to see nature, not noisy industrial sites."

In other words, as the head of 'No to Wind Power on Ripfjället', Arne Söderbäck, has stated, "I am not against wind power, but this is not the place to develop it, (...) Build the turbines near the cities where the power is needed." While the village of Malung is against this project specifically, it reflects a similar—if not as intense—trend that is taking place throughout Sweden, more broadly speaking. According to a survey conducted by Gothenburg University, the percentage of Swedes who want more wind farms has decreased by 15% in the past decade, going from 80% to 65%.

Given Sweden's especially ambitious plan to move away from fossil fuels, where the entirety of its electricity will come from renewable sources by 2040, general faltering public support and specific local opposition pose a problem. One proposal of how to deal with it comes from the Swedish Environment Minister, Per Bolund, who has suggested that the veto power of municipalities against wind farms be weakened in order to speed up the planning process of such projects, saying, "Of course people should be able to have their say when it comes to what is built where they live (...) But we must ensure that conditions are good to expand renewable electricity production in Sweden."

Indeed, situations where the municipality has initially pointed out an area as being suitable for wind power only to veto the plan last minute can cost the companies involved a great deal of money, particularly on application documents. According to one expert, in a project with 15 wind turbines, such costs can amount to 10 million Swedish kronor (almost 1 million euros).



However, Bolund's plan has its political dangers, potentially turning voters in areas like Malung against the current Swedish government—composed of Social Democrats and the Green Party—a year before national elections. The opposition, made up of the Moderates and Sweden Democrats, is beginning to question more and more the benefits of onshore wind farms. As Maria Stenergard of the Moderate Party has stated, "Renewables are important, but so is the natural environment."

Sweden is not alone in facing such problems relating to the political risks of onshore wind power. Indeed, there have been protests in Germany and Norway against such onshore projects. Further south, in Turkey, there have also been objections against having wind farms built in areas such as the Mount Ida region, or Kaz Dağları as it is called in Turkish, due to the impact it would have on the natural environment and wildlife.

Across the Atlantic, wind power has come under attack for a different reason in the United States. Following the major power outages that have taken place in Texas throughout the past week, the state's increasing use of wind power in electricity generation has been attacked—especially by conservative figures—as being the main cause of the blackouts, arguing that this incident demonstrates the unreliability of wind power. While the factual basis of this argument is not entirely sound, given the failures in other types of generation—including fossil fuels like coal and natural gas—public opinion may nonetheless be swayed against wind power.

On the other hand, it is worth mentioning that there are still examples of this debate taking place in the opposite direction, with local areas pushing for wind farms due to the potential economic benefits. One such case could be seen in the French village of Denting, where the locals are debating whether or not it is appropriate to build a wind farm on the site of a former Nazi camp where thousands of Soviet prisoners-of-war died.

While those against the wind farm argue it would be indecent and could risk disturbing the bodies still buried in the area, those in favor say that it is important to look toward the future, as well as highlighting the green energy that the project would produce for the village. The economic benefits are especially important for the municipality, given that the project could potentially bring in 42,000 euros in revenue.

Overall, the debate around onshore wind power seems to be heating up, with the politics surrounding it consequently getting riskier as well. It remains to be seen how much it will actually affect the governments in power. The Swedish general election next year could perhaps grant a more definitive idea of how these dynamics surrounding wind power play out.

### India's Solar Energy Boom Can Arıhan

India has a rapidly growing economy sustained by its increasing population. However, this nation of 1.3 billion people is faced with a challenging problem in providing electricity to all of the citizens, who mostly live in rural areas. Actually, in 2018 already 95 percent of the Indian population had access to electricity following an incredible development in this sector. According to World Bank data, only 48 percent of the population had access to electricity in 1994. This remarkable success is achieved with the help of the electricity generated in coal plants. Now the time has come for India to transform its electricity sector and prioritize solar energy.

BBC reports that in 2019, 72 percent of India's electricity was generated in coal plants. This alarming figure must change if India wishes to become a green economy and limit greenhouse gas emissions. The best option to provide a reliable source of electricity for millions of Indian households and limit the negative impact on the environment seems to be building many solar panels to generate clean energy.

India is currently doing just that. The Indian government is transforming the country's electricity sector in an unprecedented manner. As noted in IEA "India Energy Outlook 2021", India has the ambitious goal of generating 31.4 percent of electricity consumption in 2040 by solar panels. Bearing in mind that solar energy contributed only 4 percent of the total electricity production in 2019, such a goal is highly ambitious. Nonetheless, it is not impossible amid the tremendous efforts of the Indian government.

Invest India notes that India's solar power capacity grew eleven-fold from 2014 to 2019 and reached 28 GW. This success could only be realized thanks to the massive projects of the Indian government. A new solar project of the government, for instance, is the new contract signed with Adani Green Energy. According to Power Technology, this contract of September 2020 was worth USD 6 billion and is the "world's largest solar award." Following this massive contract, Adani Green Energy will construct solar power plants with a capacity of 8 GW until 2025. Many similar projects are also under construction to realize India's ambitious goals in transforming the energy sector and boosting solar power capacity.

Besides these major projects, new techniques are also being used to increase the solar power's share in Indian electricity generation. Although India is geographically large (about nine times Germany's size), the density is also quite high due to the immense population. Therefore, it is sometimes difficult to find enough places to install solar panels. A very creative solution is being applied to solve this problem of limited space. In eight Indian states, "solar canals" are used to both generate



electricity and make use of idle space. Solar canals are solar power panels installed above the canals, which carry water to residential areas or for agricultural use. BBC mentions another benefit of these solar canals is the prevention of evaporation of water in these canals. Water, a vital commodity for Indians, normally evaporates quite fast because of the high temperatures. However, when a solar panel covers the canals from above, the loss of water to evaporation is prevented.

Another important benefit of replacing coal plants with solar panels is that when solar panels generate electricity, it is much easier to carry the energy to households with local grids. The transmission of electricity can sometimes be problematic, especially in developing countries. The costs of building and operating giant national grids may require immense financial resources. India is already among the world's ten largest economies. However, it still must set aside a significant portion of its budget to financially support the poorest part of the population, which are in dire need. Hence, if money is saved using local grids rather than a huge national grid, the Indians will benefit immediately. Unlike coal plants, solar panels require less investment, and they can be installed everywhere. The solar panels can also be placed very close to residential areas (even at the top of the buildings), thus reducing the needed grid length even further. Therefore, as

the number of solar panels increases, more local grids can be utilized, and that way, significant cost reductions can be achieved.

In summary, the amount of electricity generated by solar power in India is certainly set to rise. This change in the outlook of the Indian electricity market will yield both economic and environmental benefits. However, the current coal-intense structure of the market is already very damaging for the environment. The Indian government shall act swiftly and prevent these negative environmental effects by installing solar panels at an even faster pace.

### Qatar and Gulf Countries After the Embargo

### Atahan Tümer 🛛 🤖

The Gulf Crisis that started in 2017 and continues today is very important to understand the region. The accusations of some Gulf countries, including Saudi Arabia and Egypt, supporting terrorism and providing financial resources against Qatar caused the region's crisis. Saudi Arabia accused Qatar of supporting ISIS and Al Nusra. Saudi Arabia and Egypt also charged Qatar with giving financial and political support to the Muslim Brotherhood. We must not forget that these countries consider the Muslim Brotherhood a terrorist organization. Bahrain, one of the countries that cut diplomatic relations other than these countries, claimed Qatar gave financial support to Iran-backed groups. We must not forget that this crisis is not a crisis that emerged in one day. Of course, the increasing tension, which is also influenced by the balance of power, resulted in a crisis at one point. In such an environment, 5 Arab countries decided to cut off diplomatic relations with Qatar in 2017.

Saudi Arabia, Egypt, Bahrain, United Arab Emirates, and Yemen terminated their ties with Qatar. The political and economic embargo imposed on Qatar has caused problems in many areas. Qatar, which has enormous energy reserves and is of great importance compared to the area it covers, has experienced significant economic issues. For example, Qatar Airways had great difficulties due to the closure of the airspace of countries that cut diplomatic relations to Qatar. Travel times have been prolonged, and this caused the passengers not to choose them, causing economic damage to the company. At this point in Qatar and Turkey's rapprochement, countries have increased the commercial partnership between them. Qatar has been a lot of investment in Turkey and started to gain ground in different sectors during this process; both governments have established excellent partnerships. Turkey has likewise had the opportunity to invest in Qatar, and Turkey invested in industries such as the food sector that Qatar suffered due to the embargo. Qatar also as rapprochement with Turkey, establishing relations with the United States, lived crisis was intended to circumvent the slightest damage.

These countries, which play very critical roles in energy production and produce large quantities, are also crucial for the world energy markets. The embargo left in the past months is good news for these countries, the region, and the world energy markets. Qatar, which currently meets most countries' energy needs in the region, is the embargo's biggest winner. In this case, it seems likely that Qatar, which has made a significant gain both economically and strategically, will enter a rapid economic recovery period. Due to the embargo's lifting, Qatar's extra costs in its energy exports will be eliminated, contributing to their economy. There will be cooperation among the countries in the region



in many fields such as trade, finance, security, industry, and agriculture but especially in energy. At this point, it seems possible that attention will turn to the Strait of Hormuz. The reason behind this is the energy traffic in the Strait of Hormuz, including the Gulf countries.

We must not forget that the countries applying the embargo have also been badly affected by this embargo. The loss of the market and political problems they were experiencing caused significant damage to these countries. It has been painfully revealed that the high tension in the region has not benefited any country. Almost every country suffered economically and strategically. At this point, most countries, especially Saudi Arabia and the United Arab Emirates, will increase cooperation with Qatar. Although the tension does not entirely disappear, economic activities that will start may cause the re-establishment of ties between them. We must not forget that the embargo lifting will cause all countries' growth in the region. The security of the energy trade in the region stands before us as a completely different problem. The involvement of even countries outside the region makes the situation more complicated. Adding Iran to the equation to understand the Gulf countries will help anyone analyze the region and open the doors to understanding the region. This will make more sense if we take into account that Iran is explicitly excluded from the Gulf Cooperation Council. Another reason may be that alliances in the region develop around Iran, and perhaps the most important actor is Iran. Especially after the nuclear energy deal, the rapprochement of countries uncomfortable with the agreement also has an effect. At this point, possible policies of the Biden era have the chance to both raise and lower the tension in the region. What kind of future awaits the region is a complete mystery.

### Romania's New Solar Energy Effort Mihael Gubas in

Romania's first energy cooperative, simply called "Energy Cooperative", is the first cooperative in Romania to produce 100% green energy to supply its members, shareholders, and other customers. This cooperative was launched in October 2019 to transform the energy market in that country. A year later, the cooperative announced Bucharest-based but German-owned Apuron Energy, a company founded in 2012. Apuron operates a solar power plant in Mavrodin, Romania, and has up to 150 customers in Bucharest - mostly small and medium-sized enterprises - which it supplies with 40 GWh per year. The cooperative is buying a Romanian subsidiary of a German company for 410,000 euros. The capital for the company's cooperative purchase is collected, among other things, from the members who undertook to cover part of the costs of taking over Apuron. In the first week of launching the solar takeover initiative, they gathered 150 members who have so far covered about 20 percent (they have pledged to collect 16 percent in the first week of the action) of the total cost. The fundraiser will last for two months, and each interested buyer can participate in the project by joining the cooperative and a minimum investment of 103 euros, or 500 lei, to buy Apuron. Larger investments in the cooperative can be presented in the form of a five-year loan to the cooperative.

Since this energy cooperative plans to expand its business in the field of solar energy, the business plan showed that the simplest solution for positioning on the renewable energy market is to buy an existing plant - which is cheaper than building a completely new power plant from scratch. Investors will be entitled to an interest rate of 3.7 percent the first year and 5.2 percent over the next five years, and the tax on this will be 10 percent. The Energy Cooperative's long-term strategy is to build new green power plants, and people seem to be beginning to believe in their plans. Thus, even before the start of the campaign, in the first year of its existence, they gathered 300 members. This is the right time in Romania to increase the importance of energy cooperatives as legal frameworks have been changed to allow citizens to supply energy from green cooperatives.

#### The argument of the voltage difference

The first Romanian Energy Cooperative was founded by 15 people with experience in business, energy, and activist NGOs. Decisions in the cooperative are made on the principle of one member, one vote, regardless of the invested capital, and it is managed by the Board of Directors, which consists of founding members. This cooperative is an ideal example of examining possible forms of democratization of the energy system that renewable energy sources provide at relatively low prices. In several existing models, the latter is the most desirable. However, it does not have the "revolutionary" potential of the preferred model of building solar panels on buildings and exchanging electricity thus produced at the district level. There is not much information in public about the models of building renewable energy plants, nor is the level of public education anywhere in Europe satisfactory for democratic social structures. The most interesting aspect of solar power plants is that their potential revolutionary stems from pre-existing rules that apply worldwide. Namely, since at the beginning of the use of solar panels several decades ago, there was no technology for storing electricity obtained from the sun, it was necessary to return the locally produced



surplus electricity to the national distribution network. But it also produced distribution constraints that prevented electricity from traveling long distances due to the difference in mains voltages from solar and conventional electricity.

The problem of voltage difference has long been the most common argument against solar energy. He landed in the most inconspicuous places, otherwise better known for clouds and precipitation than for large amounts of the sun - in the UK, the Netherlands, Belgium, Denmark, and Germany - where energy cooperatives first began to develop. The problem was solved by distributing the solar electricity produced in one neighborhood on the roofs of individual houses within one neighborhood, which partially solved the problem of voltage differences. Such models have further advanced with the advent of battery technology for storing solar power.

It was then that the solar roof model became dangerous for capital, so in the last ten years, we have been able to see its oppression in Berlin, Spain (in a very radical implementation of unjustified taxation of solar roofs), but also in California, Nevada and Florida. Namely, if all households (where possible) had solar panels on their roofs, their need to buy electricity from large distribution companies would be minimized, and without the excess energy being distributed throughout the neighborhood (rather than being stored). But because of the old rules that all surplus electricity from RES must be sold to large distribution companies, companies would now be forced to pay households that produce electricity for them. If we imagine the widest possible development of the potential of this model, we come to the hypothetical conclusion that large distribution companies would become mere transmitters of energy that they no longer produce themselves but buy from citizens to whom they sold electricity until then. Their costs thus double (because they have to maintain the network), and revenues decrease many times over.

This is then about the unimaginable financial losses of large



companies and turning the whole system upside down. Since politics coupled with energy lobbies did not allow this, another model was found that does not turn the system upside down, does not jeopardize the profits of large companies, and at the same time allows citizens a fraction of the rewards they can get from solar power generation. That second model is precisely energy cooperatives. Instead of solar panels on the roofs of houses, they - just like all other large public and private energy companies are now building solar power plants to mass produce electricity from the sun. This model initially has significantly more expensive investment needs due to the need to change the mains voltage for long-distance travel, resulting in large energy losses, but it does not jeopardize profits. And he throws the crumbs of earnings to the middle class, which had the initial capital, no matter how small, to become an investor in the energy cooperative. And so capital has once again brought us thirsty across the water, hiding from us the revolutionary potentials of the cheapest form of household switching to renewable energy. The European Green Plan will certainly fund solariums for citizens, but a great campaign to inform the public about its importance is not expected. More likely, more media space will be given to building centralized solar parks that will be heralded as revolutionary, even though they are the furthest they can be. Their environmental aspect in the context of the waste they will produce has not been mentioned in European policies.



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