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# SYNERGY

BILKENT ENERGY POLICY RESEARCH CENTER NEWSLETTER

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BRENT OIL

55.66 \$/BL

GASOLINE

7.28 ₺/LT

USD/TRY

7.17

DIESEL

6.66 ₺/LT

EUR/TRY

8.66

FUEL OIL

4.41 ₺



EDITOR:

GÖKBERK BİLGİN

CONTACT: gokberk.bilgin@bilkent.edu.tr

# ABOUT US



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# What Texas' Blackouts Mean for Electricity Markets?

Bariş Sanlı



The latest Arctic cold pushing Texas power prices to record levels such as 9000\$/MWh is going to start a new discussion on capacity mechanisms, renewables, and pricing in wholesale electricity markets. We can not be sure how the whole discussion will evolve, but it will get deeper.

Two years ago, we were talking about Abqaiq attacks and their importance for oil markets. The most critical part of the Middle Eastern oil is hit from the heart. But Texas is just as important and critical for gas and oil production. The weather events in Texas can be felt around the world. Today oil prices increased, gas prices will also follow.

In such freezing temperatures, oil wells and productions are getting affected. The flows will be disrupted. That can further increase the stress on the energy system. Surely, the fossil production and transmission system is hit by Arctic cold. But not to the extent of electricity since there are storage

possibilities on the fossil side.

The cold weather in Texas will leave the region in a matter of days. But the discussions will remain. One of the most important of all is the freezing of wind turbines. The blades of wind turbines are covered with ice. This weight change can harm the blades and the overall operation. There are examples of wind turbines shutting down to protect their blades and equipment, but this concurred with the highest demand and coldest weather in Texas. 12000 MWs of wind turbines were shut by Sunday morning.

But the biggest news was the record high 9000\$/MWh electricity prices. Because electricity demand is expected to surpass possible generation. This is the crucial part of the whole discussion. Prices are record high, but consumers are not reacting. The wholesale part is giving a response. One wholesaler is offering 100\$ for its customers to stop buying electricity from them.

You can price anything at any price. Electricity is another one of these commodities. It is a public good. You can create the mechanism and price it accordingly. Electricity markets are social constructs, and there are many ways to invent electricity markets.

But that one wholesaler is giving a signal of what is possible and what is not. It can knock on the doors of consumers or call them to consume less. But it prefers to pay cash for customers to leave. Converting consumers to active participants of the electricity system is a tireless effort with zero results. Instead, paying handsome money to get rid of the consumer looks like a better option.

The second important discussion is regarding capacity mechanisms. Should we all pay an hourly amount for the whole year as insurance for such extreme events, or should we just pay the maximum amount when these events happen? The PJM market





prefers the former, Texas-ERCOT prefers the latter. It all boils down to market structure and perception of electricity prices.

If electricity prices are highly political items, then you design the market in the PJM way, or like Europe, high prices come and go. In Texas, however, the prices may persist for some time. The important point is the transmission of these costs to consumers.

There are other possibilities like matching Texas like mechanisms with hedging instruments to manage such events' financial impact. Therefore

extreme markets need solid hedging instruments to help their players manage their risks. Otherwise, high prices can be highly dangerous.

What did these high prices mean for the rest of the electricity markets? Capacity mechanisms are here to stay and flourish. But there is not a single winner of such schemes. The security of supply should be managed by both physical and financial contracts or mechanisms. The risk stemming from major events can not be managed by wholesalers alone. Consumers should be dragged into the game.

But it is harder to achieve. The only way forward is electronic control systems embedded in everyday appliances. EU is not pushing hard for forcing appliance makers to automate demand response. The US doesn't have it on the agenda. But we should think as a consumer as not the human agent but the electronic appliances to solve this problem. The automated transactions between the appliances and system operators without the consumer huff and puff are probably the only way forward.

# The Human Cost of the EU's Push for Renewables

Selin Kumbaracı 

The European Union's climate goals, especially the target of climate neutrality by 2050, necessitate a substantial increase in renewable energy. According to the European Commission, by 2050, electricity will constitute approximately 50% of the final energy demand in the EU, and 80% of this electricity will be coming from renewables.

In 2019, this figure stood at 34%, with wind and hydropower each accounting for 35% and solar for 13%, with the remainder made up by solid biofuels and other renewable sources, with solar power being the source that has had the most rapid growth. However, as the European Commission has said, the solar capacity of the EU needs to increase to five times its current amount by 2030 for the EU to be able to meet its interim climate target of reducing greenhouse gas emissions to 55% below 1990 levels by 2030, before reaching net zero emissions by 2050.

While the EU has long been a leader in the wind industry, with European companies still spearheading the manufacturing of turbines, nearly every solar panel that is sold in the EU originates from the Chinese region of Xinjiang. This place of origin is not only problematic in terms of its implications for the potential geopolitical power China may be able to hold as reliance on solar power increases, as it is projected to do so. It also is a significant issue due to the "re-education" campaign led by the Chinese state against the predominantly Muslim population of Xinjiang, with the concerns specifically over forced labor camps for Muslim minorities in China, such as the Uighurs.

Though the United States has already put into place sanctions against goods originating from the Xinjiang province, such as cotton, the EU has been hesitant to follow its lead. Indeed, the European Commission has mostly

shied away from implementing trade measures against China, despite the European Parliament calling for it to place trade bans on companies in any industry if they are involved in human rights abuses, like those argued to be taking place in Xinjiang.

While the solar panels themselves are mostly not produced in Xinjiang itself, the province plays a disproportionately large role in producing polysilicon, which is then used to produce photovoltaic cells. As the head of solar analysis at BloombergNEF has said, "Nearly every silicon-based solar module — at least 95 percent of the market — is likely to have some Xinjiang silicon." In the past year, according to another analyst, polysilicon from Xinjiang constituted approximately 45% of the world's supply of solar-grade polysilicon.

Despite there being a very high chance of a single solar panel having at least





some material from Xinjiang, it is difficult to trace which ones are tied to the forced labour camps due to how the polysilicon produced in Xinjiang is taken to factories where it is mixed with polysilicon produced in other regions. As Milan Nitzschke, the president of an EU solar businesses group, EU ProSun has argued, “Everybody knows what’s going on in China, and when facilities are based there you have to accept that there’s a high possibility that forced labour will be used.”

Several different solutions have been proposed to address this issue, with one being to continue to allow in parts containing polysilicon from China with the condition that polysilicon from Xinjiang not be added to the mixture blended in factories. However, the critics of the approach argue that this would simply lead to Xinjiang polysilicon being used in the Chinese market while the EU and the US get the non-Xinjiang polysilicon, not improving

the situation of those in the forced labour camps.

Others have been pushing for simply producing such solar components in the EU itself, essentially repatriating the industry. Perhaps not very shockingly, European manufacturers have been at the forefront of this argument, saying tariffs should be used if needed. As Nitzschke has stated, “We can’t have a level playing field if there’s ethical leakage, and you could prevent it by applying tariffs to products that don’t meet our standards,” in arguing that imported goods should be held to the same standards as their counterparts produced within the EU when it comes to human rights and forced labour. Other industry groups, such as Solar Power Europe, do not agree with implementing such tariffs, saying that it will be harm, not help, the growth of solar power in the EU.

The European Commission is in the process of crafting a new instrument to deal with violations of labour as well as climate laws—due diligence legislation—but many maintain that this is insufficient. This due diligence legislation would hold EU companies accountable for violations committed by their suppliers. However, its critics, such as some Members of the European Parliament, are pushing for the Commission to put into place tougher measures in circumstances as serious as the one in Xinjiang. They argue that an import ban should be implemented on products that have links to “severe human rights violations.”

As an MEP from the Greens, Anna Cavazzini, has put it, “Expanding the use of renewables is of utmost importance in order to stop the climate crisis. But it cannot come at the cost of human rights.”



# 7 Takeaways From Publishing 50 Issues of Synergy

Gökberk Bilgin 

Recently, we published the 50th issue of our magazine. During our adventure that we started in September 2019, as the editor of Synergy, I gained some experience both in the energy world and in publishing. I want to share them with you in this article.

## 1) Interdisciplinary studies offer more inclusive solutions for energy policies.

Interdisciplinary and multidisciplinary are concepts that are often considered synonymous but have different meanings. In multidisciplinary studies, people from various fields contribute to the project by working only in the area that concerns them, by dividing the work into a joint project. On the other hand, in interdisciplinary studies, experts from different fields interact with each other and realize their projects with the human capital they have created. Energy policies are inherently a multi-layered field that requires people operating in different fields to work together. For the studies in this field to have an impact, people who work on the technical and social sciences side of the business need to work together and have a basic knowledge of each other's issues.

Many energy studies in social sciences cause problems not to be addressed correctly because they do not have

sufficient knowledge of technical issues. Similarly, people who have technical knowledge in the field of energy commodities act on the assumptions created by their own perceptions on social issues, which again leads to incomplete analysis. For this reason, we need to create and support platforms that will bring academics and professionals who want to work in the field of energy together. At Bilkent Energy Policy Research Center, we are trying to expand our activities in this field.

## 2) No type of energy is as good, bad, or innocent as it seems.

While fossil resources and nuclear energy have started to deteriorate with the recent climate change debates, renewable energy resources are reflected in the media as the solution to all problems. Unfortunately, this situation is not as precise and straightforward as shown.

For this reason, although we also mentioned the requirements of renewable energy in some of our publications, we did not hesitate to publish our views on their possible risks. We criticized the use of nuclear energy in countries with sharp statements on climate change, as well as our articles explaining that nuclear power plants can be built with the right technological

infrastructure.

We have become one of the rare publications that can combine the unfavorable conditions created by the mines used in the production of renewable energy vehicles and the risks of water use in shale oil production. I think that thanks to this approach, we can make as objective publications as possible and act in accordance with the questioning nature of science.

## 3) The more prolonged the international climate targets are made, the more difficult it is to realize.

Today, many road maps are prepared for 2030, 2050, and beyond. Although many countries have committed to abiding by these goals, we see that these plans of developed economies are lagging behind in terms of their current location. The main reason for this is actually nothing more than basic human psychology. We value today more than tomorrow in our lives. Our habit of postponing behaviors such as healthy eating, sports, and giving up harmful habits that would put us in a better position if we did is universal. That's exactly why meeting our long-term climate goals is difficult. Leaders in countries governed by democracy deviate from climate policies in order to maximize this period by calculating



that their rule will last around 5-10 years on average. Instead of investments that will create additional costs on economies, short-term but environmentally harmful policies may be preferred. As a result, it is not clear to what extent they will be held responsible for the failure to keep the promises made 30 years later, and the previous promises may be forgotten by the new goals set further.

For this reason, it would be a better approach to create short-term policies that will make our future more livable by bringing additional costs to the present and to impose penalties on responsible people in case of failure to make promises.

Otherwise, it seems that policies made will not go beyond populist moves.

#### **4) Turkey has a very promising human-capital in its energy sector.**

Thanks to my recent studies at Bilkent EPRC, I have had the opportunity to meet many valuable experts and benefit from their ideas. The lectures in our master's program at Bilkent University and our invited speakers successfully play essential roles in the academy and business world. We are blessed that we can learn by asking the questions we have in mind in many areas, from the oil and natural gas sector to hydrogen studies,

from renewable energy to finance. We hope to be useful in the future, together with many of my colleagues who have grown up with their experience and guidance.

#### **5) Most of the international crisis are somewhat related with energy issues.**

After following the energy news regularly, I have started to see energy-related links behind the world's major diplomatic crises. For example, when I look at it today, the oil sector restrictions in countries such as Venezuela and Iran, where the USA has imposed sanctions,, create remarkable impacts on world politics.



On the other hand, we see that access to energy resources is at the heart of the crisis between China's expansionist stance on the South China Sea and other countries. Among the issues that countries cannot agree on the most in the European Union are energy policies choices. Of course, I cannot say that there are energy problems behind all crises, but it cannot be denied that the increasing number of actors, multinational companies and different technologies create additional conflicts over the use of resources.

#### **6) Energy policies play more role in our lives than we think**

As soon as we reached more people with Synergy, people from different fields started contributing to our magazine. In this way, I have seen that energy policies actually affect

our lives much more than we thought. Over the past fifty issues, we have had the opportunity to publish articles on how energy actors impact fashion, motorsports, agriculture and human psychology. Our vision has expanded with the content we offer to our readers.

#### **7) Sustainable work goes together with a good team.**

The most important rule that anyone who wants to publish a weekly publication should understand is that your excitement when you start work will disappear in a very short time. At this point, the articles' continuity and quality can only be achieved with a good team. While a lot of articles can be received in some weeks, sometimes we can publish very few articles due to the density. Having people you can

trust in such difficult times provides you with the support you need to move forward. For example, our teacher Barış Sanlı contributes to our publication by writing articles almost every week despite his busy business life and shows us as an example that this work can also be done during busy times.

The excitement that disappeared in the early days is replaced by our increasing number of readers and the pleasure of being able to continue a business together, and you see, 50 numbers have passed.

In summary, this process was instructive and rewarding for my personal development, despite all its difficulties. I would like to thank all our readers for their support.





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