

SYNERGY

Bilkent Energy Policy Research Center Newsletter



Energy
Policy
Research
Center

Minnetle, Saygıyla...



Biden's Challenges in Energy and Climate Issues

Joe Biden has won the 2020 U.S. Presidential election and will become the 46th president of the United States in January. The incumbent president Donald Trump did not accept results and will take legal actions, yet the odds are very small that the result will be changed. Therefore, it is okay now to discuss what awaits Joe Biden in energy and climate issues.

During the Democratic primary debates, Joe Biden claimed that he is opposed oil production through fracking since it had harmful consequences for the environment. His first statement was that they would make sure it is eliminated. However, as the election time approached, the claims from the Democratic candidate began to change slightly. Instead of full elimination, he claimed that the Biden administration would not allow further fracking in the oil and gas sector.

According to the U.S. Energy and Employment Report 2019, there are 1,127,552 workers in the fuels sector, where 77% of them are in the oil and natural gas sectors, and the numbers are growing in each sector. When we add up the families and the people who provide these workers' services, it makes millions of

**CLEAN
ENERGY** *for*
BIDEN

people who earn their livings throughout the oil and natural gas businesses.

In his victory speech, Joe Biden stated that he would restore and protect the middle class's welfare. While doing that, his first challenge on the energy transition will be transferring these workers to renewable energy facilities. However, natural gas and oil sectors require strong know-how in any part of the operation, and lack of experience is the top difficulty on hirings. The companies in these sectors will be highly motivated to keep their workers, and renewable energy may require different expertise where the oil workers do not have.

The relaxation of environmental rules also helped to fund social services in some states such as New Mexico, where the oil companies financed state schools in the region. If Joe Biden restricts these companies to do further drillings, then the education funds will also be declined.

Therefore, the \$2 trillion energy transition plan must be designed very carefully so that the societies will have the least burden during the transition.

On the political side, the only concern for Joe Biden is the possible Republican majority senate trying to slow down the transition, yet the results are still undecided.



Meanwhile, the oil and natural gas companies and traders have already become the largest renewable energy investors in 2020. Their increasing role in renewable energy can affect the developments either way. While bigger investments can help renewable technologies advance faster, it can also allow oil companies to control the energy transition pace.

The investments will help renewable facilities be built in the United States, which will impact US-China relations as well. Despite the wind turbines and solar panels, not fossil fuel-based energy systems, they contain different elements from mines. These are called rare earth minerals. Dysprosium, neodymium, terbium, europium, and yttrium consists much of renewable energy hardware components. Currently, the largest reserves of such elements are located in China.

According to the U.S. Geological Survey report, China has 36% of the total discovered reserves on rare earth material, whereas the U.S. has 0,1%. The need to import these elements may open a new chapter in US-China relations.

In that area, while Biden has an opportunity to make a deal with Chinese counterparts. However, the ongoing issues on intellectual property accusations may continue to distort the relations even further. China has the largest investor in renewable energy, and Germany has severely accused it of stealing industrial secrets about renewable energy technologies. A similar situation can also develop between China and the United States. Of course, if the clean energy transition comes to Chinese exports of rare earth minerals, they may leverage it on their terms as well. Extraction of these minerals is ongoing in very unhealthy conditions, and even the United States or European countries discover these sources, extracting efficiency would not be as high as Chinese mines since they would not implement high regulations.

In this part, Biden will use the advantage of providing LNG to China. Despite being very strict on reducing fossil fuel usage through implementing laws, Biden did not state any arguments on restricting LNG exports. I believe there are two reasons for that. The first of them is that the companies invested billions of dollars in

restructuring their LNG facilities from importing to exporting, and the second reason is that having a say in the LNG market can be a profitable tool for U.S. diplomacy in various regions.

On the relations with Europeans, the situation looks brighter. Almost all leaders welcome Joe Biden happily. The restoration of the collaborations with the Europeans probably will begin with the U.S.'s rejoining on the Paris Climate act. The details on that matter are available in Selin Kumbaraci's article in this issue. What I would like to add is a statement from Bloomberg that the climate-friendly United States is expected to have more customers in Europe on the energy side, which I believe is true and increasing awareness on climate will increase new technologies such as electric cars to implement faster.

Overall, Joe Biden has taken one of the hardest jobs in the world with ambitious goals. There will be many challenges that will try to prevent the clean energy transition, yet his vision and determination will decide the outcome.

40\$/bbl Consensus



We are moving into a divergent world. On the US side, a 180-degree turn on energy policies is expected. In Europe, the lockdown is back. In Asia, growth is more or less back on track. So we see a three tier response to a very big crisis. But oil prices are still around the magnetic 40\$. Will it stay so?

No, lower in the Q4, higher in the 2021Q1 and Q2. This is the short answer. The long answer is, you know, complicated. Therefore it is better to keep track of 3 benchmark prices across the globe. In Europe, TTF futures are losing steam in the front end. This front end will be heavily influenced by weather patterns. Henry Hub prices are more or less stuck at the current levels. Coal prices are unusually dipping below their seasonal levels.

This will further accelerate coal to gas switching in the US. If states implement carbon prices, this will be amplified. US coal losing ground will have implications for the Asian world. This may also dampen the gas demand growth(not demand bu demand growth) in the short and medium-

term. In Europe, gas switching is inevitable. But there is one glitch about whether more renewables be harder to manage.

Will China increase the speed of energy transition? Or which energy transition we should say. Regional governments may strive to keep employment. The change in China is slow, and state policies -as always- will be important. But PipeChina's progress is an interesting topic. But progress never guarantees results. The main item to watch on that front is whether the shale revolution/ or "golden gas age" will have a Chinese version.

US presidential election results will impact this energy world. But how? That is the question. Most of the efforts are on the transition team or related developments. The presidents may have an agenda, but they are not all that powerful figures to shape these agendas. Generally, historical developments shape presidential terms. How the presidents respond to these developments is their legacy.

As we see a replay of "All of the

above Deal"s, we have to be careful about their successes. The original "New Deal" was always hailed as a success. But there are other ideas such as the 2nd world war was another stimulus that may be comparable to New Deal. This may be a sideshow. But progress in renewables may not come from "Deal"s but from another aspect. I can't define this, but it will surely emerge from the need for growth.

The biggest hurdle is our lack of understanding of innovation. Not the necessity of it, but how to achieve the targeted innovation with commercialization targets. Efficiency is the buzzword for every crisis. Innovation is like a sibling of efficiency. But whether these two will save the lower-middle-income group from deep unemployment is doubtful. They are necessary.

By 2020Q2, the 40\$/bbl consensus will be long gone, and we will be discussing much higher prices. But the new norm created by the Covid19 has not been settled yet. It sowed the seeds of new instability. The end of 40\$/bbl consensus.

Bariş Sanlı

BRENT OIL

43.30 \$/BL

GASOLINE

6.81 ₺/LT

USD/TRY

8.05

DIESEL

6.34 ₺/LT

EUR/TRY

9.56

FUEL OIL

3.97 ₺

United States Officially Withdraws from the Paris Agreement ⁴

On November 4th, 2020, the United States officially withdrew from the Paris Climate Agreement. The Paris Agreement, agreed upon in the 21st Conference of Parties in 2015 and ratified in 2016, has the overarching goal of boosting the international response to climate change by limiting global temperature rise to “well below 2 degrees Celsius above pre-industrial levels” and pursuing efforts to limit it even more to 1.5 °C.

This withdrawal does not exactly come as a surprise, given that President Trump had declared the US would leave the Paris Agreement back in 2017. However, it was not possible to do so immediately. This three-year delay is a result of the Paris Agreement rules, where if any country wishes to leave the deal, they cannot do so until three years after the deal became international law: November 4th, 2016. As such, Trump could only send a formal notification to the United Nations on November 4th, 2019—after which came the mandatory 12-month notice period, ending last week on November 4th.

This makes the United States the only country, to date, to have withdrawn from the Paris Agreement. However, this does not remove the US entirely from UN climate negotiations. While it will not remain an active member of climate meetings concerning the Paris Agreement, it will still be able to attend these meetings as an observer.

Furthermore, given that the Paris Agreement is only one segment of the United Nations Framework Convention on Climate Change (UNFCCC), the US will continue to be a member of the UNFCCC. However, how this will work in practice is still up in the air. From the very beginning, Trump had made it quite clear that he would roll back environmental and climate regulations. This latest development with the Paris Agreement is, thus, part of a broader pattern. However, it still constitutes a serious problem for international measures to combat climate change. Before discussing the implications of the US withdrawal on global efforts concerning climate change mitigation, it is worth mentioning its effect on the role and image of the US. With this being the second time the US has backed out of a climate deal that it played a significant role in negotiating—the first being the Kyoto Protocol that it did not even end up ratifying—it may be difficult for the US to rejoin international discussions on climate matters with much credibility. One former State Department official involved in the Paris Agreement’s negotiations characterized the withdrawal as a “train wreck of US diplomacy.”

In terms of the broader impacts of the withdrawal, in the absence of the United States, the EU, with its Green Deal, and China, with its pledge to become carbon neutral by 2060, have taken the lead when it comes to global climate action. Overall, pledges of net-zero emissions have been made by over 60 countries globally. Though this, in and of itself, is a positive development, the gap left by the US is still an issue.



With the absence of the US, China becomes more of a heavyweight among those who are party to the Paris Agreement, and those issues that had not been finalized could now be settled in a way that is more in line with China’s interests. This could particularly have negative consequences for the deal’s effectiveness if, for instance, China can oppose the tracking and reporting of national progress toward achieving climate goals.

Of course, the withdrawal of the US is not only detrimental in these more political ways. As the second-largest polluter in the world, its absence is a significant obstacle in the way of keeping global warming below 2 °C, much less 1.5 °C. Nonetheless, the concrete impacts of the US leaving the deal do not end with the US itself. This move also gives those countries that are reliant on fossil fuels, such as Australia, Brazil, Russia, Kuwait, and Saudi Arabia, a cover not to take action on climate change or to undermine the Agreement actively.

Moreover, on top of those countries that already were not willing to take significant action, the US withdrawal might also lead to a number of other countries lowering their efforts to carry out their existing commitments. This is especially true if Trump is re-elected.

However, Joe Biden has already stated that he would rejoin the Agreement in his first days in office if he were to win. The process to become a party again is relatively short: the US could do so 30 days after it has formally communicated to the UN that it wishes to rejoin. Biden could initiate this process through an executive order accepting the Paris Agreement. Nevertheless, the United States would still have to submit an official emissions-reduction plan—a nationally determined contribution (NDC)—for 2030. What this will look like is not definitively known, but one can get a sense of how ambitious it might be from Biden’s Plan for Climate Change and Environmental Justice, where he has pledged to invest \$2 trillion to fight climate change and create carbon-free electricity by 2035, as well as to reach net-zero emissions “no later than 2050.”

Whether or not the US ends up rejoining the Paris Agreement, though, it will not be able to resume the position it was in back in 2015 when the deal had just been negotiated. The United States will have to work to rebuild the trust it has lost when it comes to climate action. Indeed, as stated by POLITICO Europe’s Karl Mathiesen, “The world will take them back, but things won’t be the same.”

Selin Kumbaraci

Big Oil Companies are Entering the Electricity Markets

French oil and gas giant Total was the first of the big oil companies to enter the power industry ambitiously and today is leading the wave of oil investments in that market. The company's management estimates that electricity will be the energy source of the 21st century and is investing heavily in the area. Thus, in recent years, Total has bought the large French producer of electricity from renewable sources Eren, the well-known French manufacturer of batteries and accumulators Saft, the Belgian electricity and gas supplier Lampiris and the French energy company Direct Énergie. It is a billion-dollar investment, and just over 1.7 billion was paid for the takeover of Direct Énergie alone. Dollars.

And one of the world's largest oil and gas companies, the British-Dutch Shell, has made several strategic decisions to win a significant share of the electricity market. This includes reducing the share of oil in Shell's fossil fuel production from the current 50% to 25% and increasing the share of gas to 75%. Regarding the entry into the production and sale of electricity, Shell plans to establish this production only on renewable sources.

The company has built power plants in North America alone to have more than 10 GW, of which 1/3 is for renewables. Shell also invested in WPP Gemini in the Netherlands while entering the U.S. power market through MP2 Energy, while purchasing electricity produced from solar energy to charge electric cars and batteries. The U.K. bought First Utility, a gas distributor and energy service provider, which will now continue to supply 700,000 households with renewable energy under the name Shell Energy. Besides, customers will be offered 'clean' energy and a discount on the fast charging of electric cars and broadband internet and other solutions for smart homes. So Shell plans to become the largest



energy company in the world by the mid-1930s.

Total and Shell are not the only major oil and gas producers entering the electricity market and changing it. Until 2017, the Danish energy company Ørsted was known as DONG Energy, but it sold its oil and gas exploration and production business and invested heavily in offshore wind farms. British oil giant B.P. has bought renewable energy company Lightsource Renewable Energy, renamed it Lightsource BP, and announced a 200 MW solar power plant in Australia last October. It will be the largest single power plant the company will fund in its history, sending a clear signal of ambitious plans to expand into the electricity market.

So why are all the big oil companies choosing to delve into the electrical energy business? Due to strong technical developments in recent years, there has been a decline in electricity costs from renewable sources and batteries, and innovations in power grid management are breaking down standard power supply models. Households and businesses can now access their resources such as solar power plants on the roofs of family houses, residential and commercial buildings, and battery energy storage and use solutions to respond to changes in energy consumption.

With such technical changes, today's consumers' expectations are also changing, and the transition to a low-carbon and circular economy is becoming faster. At the same time, energy

transition worldwide, in large and small markets, is gaining in importance, driven by tighter regulation and increasing pressure from consumers and the media.

Traditional oil and gas companies recognize the need for adjustment and see electricity supply and distribution as an attractive and reasonable investment. Thus, they no longer see decarbonization as an idea for the distant future but as a concrete opportunity for new market positioning and earnings. Experts from the International Energy Agency (IEA) estimate that by 2040, the growth rate of global oil consumption compared to 2017 will be 15%, while at the same time, the rate of electricity consumption will be 62%, which shows that this part of the energy will have by far the fastest growth in the coming decades.

Entering the electricity market allows large oil companies to reduce their overall emissions by using renewable sources. At the same time, they are still firmly holding hands-on fossil fuels, which will play an important role in the world for many years to come.

The transition to a circular economy - a closed economic circle in which nothing is thrown away, value is created, and value creation maximized as part of a continuous cycle - also forces large international oil companies to rethink business models. Value chains can help them evade possible regulatory pressure sanctions and make their business more resilient to potential shocks.

The rate of return on capital has traditionally been lower in electricity than in oil and gas, and analysts question whether traditional oil companies will make the same profit from their new 'clean' energy business as previous 'dirtier' businesses. But Shell and other new entrants to the electricity market, such as Britain's Centrica, see their future in providing energy services, from smart meters to batteries, which could ultimately bring them a higher rate of return on capital. Thus, Shell brings together everything in its portfolio, from storing energy in batteries and charging electric vehicles to producing fuel and renewable sources, to provide what it hopes will be a better offer for customers.

So far, the big oilmen have had an uncontrolled entry into the power industry because they have enough financial resources and relevant expertise, such as building production facilities offshore and on the high seas. Besides, large oil and gas companies generally have more efficient innovation processes and higher rates of digitization of work processes than traditional power companies. These advantages allow them to quickly and profitably adapt to the demands of a changing market. In contrast, according to the PwC Global Power & Utilities Survey, in 2018, 82% of power company directors said they were not yet ready for market transformation. This creates favorable conditions for 'newcomers' to enter the supply and distribution of electricity through the big door.

On the other hand, traditional power companies warn that oilmen in their field could face



quite big challenges because doing business in electricity supply and distribution is not quite as simple as it seems. They work with a huge number of individual customers to whom they have to regularly issue accurately calculated invoices and take care of household and network installations and respond quickly to any call regarding technical problems, often in a large geographical area, which can be very demanding.

However, oilmen seem to have recognized the problem and are solving it now by buying power companies with experience in such business. But large international oil and gas companies are not the only ones to recognize the benefits of the electricity market's potential. Thus, in the future, they will have to compete with new players from other areas of the economy who also have extensive experience in supply and distribution, but also with other service providers who want to combine energy solutions with existing products.

It is expected that already this year, companies from various areas of the economy will enter into new partnerships and together explore the opportunities and benefits of large strategic investments. The story of the market of communal and (electric) energy services

is still developing, and some possible and soon dramatic complications are not excluded. This year will be extremely important in a period of rapid transformation for each market and the entire world economy. It is obvious that business models need to change and that companies need to adapt to this to ensure continued success in the future. In any case, as companies explore potential paths to strong positions in a redefined market, their investments are proving more important than ever.

As a result, it can be expected that in as little as five years, leading energy companies will look very different from what they looked like before and will look different from other companies they now see as their competitors. Companies from all areas of the economy, including energy, must now shape the response to global transformation and take advantage of the positive opportunities in neighboring markets. Because it can be expected that simultaneously with the entry and strengthening of large oil companies' share in the power industry, traditional models of these services will lose in importance, and some new models will appear that will be able to take advantage of rapid market transformation.

Mihael Gubas

Follow us on social media!

@bilkenteprc



SYNERGY

Publisher: Bilkent Energy Policy Research Center

Editor: Gökberk Bilgin

Contact: eeeps@bilkent.edu.tr

Synergy is a weekly online newsletter published by volunteers on bilkenteprc.com. It welcomes feedback from readers. Please submit your letters to eeeps@bilkent.edu.tr. The Editorial Board will review the letters and print them as space permits. The contents of this newsletter are the author's sole responsibility. They do not necessarily represent the views of the Bilkent Energy Policy Research Center or any of its Members.