

## Energizing the Future: Hydrogen in the Age of Trumpism

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Dear members, it's been a few days since our last article, but it seems like a century has passed. The United States, which motivated the rest of the world with incentives for the production of renewable energy and in particular led the green hydrogen challenge, is no longer in the Paris Agreement. An agreement that sees the participation of 196 countries committed to the creation of a sustainable development economy. Among other things, in the USA the growth of renewables is very strong, considering the cost per Kwh lower than the cost obtained from fossil fuels. In particular, solar and wind are growing at a faster rate than those in Europe. We are still under 10% of the total, but growing strongly. And given the absolute numbers, we are talking about several dozen GW installed every year in the USA. We are talking about double the production of Germany, for example (but only a third compared to China, which has always been pointed out as the main polluter).



Emissions are also constantly falling, now a quarter of 1970 emissions, so why leave an agreement that is already being complied with in some way? Could it perhaps seem like withdrawing from a race that is being lost, before this becomes clear? (China, at the current rate, will have 94% of its energy needs covered by renewable energy in 2060....) I remember that it is not just a challenge to the green kilowatt, it is a technological challenge, so not only is green energy good, but it also costs less and shifts environmental pressure onto the production of some components rather than the atmosphere and therefore the greenhouse effect of fossil fuels. Of course, it is all very interesting, what we need to understand is that the mechanism that leads renewable energy to be the future is based on one of the pillars of our time: they cost less. But there is another important aspect of American politics that can push our renewables market, and with them green hydrogen: the US wants to sell the surplus of fossil fuels to Europe, replacing Russia. Clearly this is much more expensive, but it seems that Europe is willing to accept this cost considering it temporary. In fact, the European energy policy, which includes carbon neutrality for 2050, has very stringent close targets, such as the ban on emissions in transport from 2035, which require low energy prices compared to high fuel prices. Which is what is happening... For now I would say to stop here with the considerations on the new energy policies between the US and the EU, since the American administration certainly promises us at least one scoop a month, so we will certainly have something to write about!

Let us return to Europe, which has a much greater influence on what happens in Kazakhstan.

We left our German friends last month (or rather, at Christmas) with the dilemma of excess energy (in summer) and deficit (in winter) due to the absence of constant load power plants, nuclear, coal, etc. And so, we wondered how we could solve the problem of bringing energy to Europe from the peripheries, the North Sea and Norway for wind and hydroelectric, Spain for solar, Eastern Europe for wind and solar. And from Kazakhstan, of course.

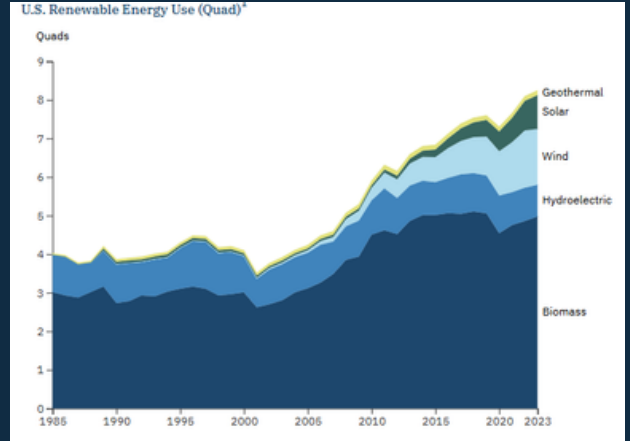
We had briefly touched on the topic of energy storage, but here I would like to remind you what we are talking about: bringing GWh of energy from any region to central Europe has unsustainable costs and efficiency. This is why we cannot think of putting a huge wind farm in the North Sea and then running a cable across Europe. Nothing would reach us in southern Europe, and the costs would be astronomical.

But our friend H2 comes to our rescue: in fact, the only way for Europe to be independent from fossil fuels is to replace gas in pipelines with hydrogen. The infrastructure is already there, both

from Africa (Algeria first and foremost) and from Eastern Europe. We need to adapt the famous 3 corridors, which as you know are already being financed (for Italy, 6 billion Euros already allocated to connect Milan with Tarvisio and then to Germany, financed in half by Italy and Germany). At this point, the strategy is done: we hold out for a few years by paying Trump the bill, we definitively detach ourselves from Russian gas, since the sanctions will continue who knows for how many centuries, and in fact we make Europe independent from an energy point of view probably already in 2040.

It's exciting, we're talking about a breakneck race to modernize a network for 500 million people, create partnerships with all the neighboring countries, and it doesn't end here, next month we'll talk about products derived from green hydrogen, Ammonia and Methanol above all.

See you next month!



2	United States	109,088 GWh	285.8 GW
3	Brazil	69,043 GWh	66.6 GW
4	Germany	65,876 GWh	151.2 GW
5	Spain	41,915 GWh	59.7 GW
6	UK	30,894 GWh	45.9 GW
7	Canada	27,329 GWh	22.8 GW
8	India	24,420 GWh	117.5 GW
9	Japan	20,159 GWh	92.3 GW
10	Sweden	19,451 GWh	19.7 GW
11	Italy	18,832 GWh	42.1 GW
12	Turkey	16,123 GWh	23.0 GW
13	Norway	11,895 GWh	5.7 GW

