Construction site of a gigafactory of the Chinese battery manufacturer CATL near the Hungarian city of Debrecen in 2024. President Viktor Orbán transformed Hungary into the world's fourth-largest battery nation in a matter of a few years.

IMAGE: GETTY IMAGES / ATTILA KISBENEDEK

HUNGARY'S BATTERY BET

TEXT: JANNIK JÜRGENS

Pálma Polyák researches how Viktor Orbán is transforming Hungary into one of the largest battery nations in the world. This transformation is a precarious game involving the environment, democracy, geopolitical dependency—and the EU. However, the researcher at the Max Planck Institute for the Study of Societies in Cologne says that Germany's actions are hardly any better.

On January 20, 2023, more than 200 people are crowding into a small hall in the Hungarian city of Debrecen. Cameras are pointed at men and women in dark suits who are sitting facing the local residents. They are responsible for the construction of a new battery factory, and today they want to explain to the townspeople that the environment will be protected during this process. But the session will not go as they hoped.

President Viktor Orbán has transformed Hungary into the fourth-largest battery nation in the world. He has been using generous incentives to attract South Korean and Chinese companies to the country since 2022. Hungary is already producing batteries with a capacity of 87 gigawatt hours (GWh) every year. Only China, the US, and Poland are ahead of the Eastern European country, which has approximately the same economic power as the Munich metropolitan area. The new factory of the Chinese company CATL near Debrecen is supposed to more than double Hungary's productive capacity. "Hungary is wagering everything on the battery industry," says Pálma Polyák, a scientific research assistant at the Max Planck Institute for the Study of Societies in Cologne. The 36-year-old has researched Hungarian economic politics for years and criticizes its extreme focus on the battery industry. If all of the planned factories are constructed, Hungary would produce six times as many batteries as the country itself needs. Polyák has done the calculations. Of course, if the energy revolution is going to succeed and transportation will need alternatives to gas, which is detrimental to the environment, the European automotive industry is going to need a lot of batteries. However, the question is whether it makes sense for most of them to be built in Hungary.

"I'm not criticizing Hungary's investment in the battery industry on a general level. It's the right thing to do," says Polyák. Nevertheless, she maintains that the extent of Hungary's investments is too extreme. The country lacks three essential prerequisites needed to develop the battery industry even further: qualified employees, sufficient water reserves, and green energy. In the civic hall at Debrecen, the battery project officials hardly have a chance to speak. The locals are booing them and keep chanting, "Traitors! Traitors!" At one point, an elderly woman snatches the microphone. She asks the officials a question: "Why don't you bring drinking water to my village before you build a factory that's going to consume more water than the entire city?" Debrecen is located on the Great Hungarian Plain, a steppe landscape that has repeatedly faced droughts in recent years. It can be assumed that climate change will only intensify the water shortage in the region. Nonetheless, the Hungarian state is subsidizing the thirsty Chinese factory with HUF 88 billion, the equivalent of EUR 217 million.

SUMMARY

Europe needs a stronger battery industry to become more independent from China. However, Hungary's rapid expansion under Orbán harbors environmental risks and even strengthens geopolitical dependencies.

The EU supports this expansion, even though Hungary is dependent on Russian gas and cooperation with China. Germany also relies on Chinese factories like CATL instead of fostering its own production.

Researcher Pálma Polyák maintains that only by making targeted investments in research can Europe achieve strategic autonomy without endangering the environment and democracy.

Where is the money coming from? "Autocracies like Hungary are very good at saving money in the public sector and then spending it on vanity projects," says Pálma Polyák. The researcher voices another criticism: Hungary systematically disregards environmental and labor law standards that apply to battery factories. And since Viktor Orbán has restructured Hungary into an autocracy, he can do that without being held politically accountable, according to Pálma Polyák.

The inhabitants of Debrecen are so furious on this day in January 2023 because they have heard about scandals involving another Hungarian battery factory. Ever since the Korean manufacturer Samsung has been producing batteries in Göd, bad news has been piling up. An NGO detected poisonous chemicals in the ground water when taking measurements. There is another detail that is almost more concerning than the actual measurements themselves: when the NGO wanted to check its measurements, the organization

"In the EU, Hungary is now considered Russia's Trojan Horse."

PÁLMA POLYÁK

IMAGE: FRANK VINKEN / MPG

Pálma Polyák, researcher at the Max Planck Institute for the Study of Societies in Cologne, has researched Hungarian economic policy for years and criticizes the country's focus on battery production.

discovered that the measurement well had been sealed up. It seemed as though the factory wanted to hide something. Hungary's focus on battery production reminds Pálma Polyák of the Soviet era. At the time, Hungary was supposed to become the country of iron and steel, even though it lacked raw materials.

After the collapse of the Soviet Union, the country experienced a rude awakening: some of the steel and iron mills closed, and thousands of jobs were lost. Polyák experienced the effects of this structural change first hand. The small village where she grew up bled dry. The people who used to produce metal plates became unemployed or moved away. More than a few took their lives because the situation seemed so hopeless. "There was considerable excess mortality at the time," says Polyák.

And there is another similarity to the Soviet era: the Hungarian state is trying to stifle all criticism of its battery strategy using drastic means. After the gathering in Debrecen turned into a fiasco for the officials, the government did away with mandatory public hearings by decree. It blocked referenda, rejected requests for information, and intimidated protesters. Polyák reports that opposition politicians have been sentenced to 48 hours of community service work after protests and that right-wing websites have defamed the factory's opponents.

Before Polyák began working as a scientific research assistant at the MPI, she worked in Brussels for four years. She managed the office of an EU representative and was active as a political consultant. Consequently, she is quite familiar with the power mechanisms of the European Union. And she was also quite surprised at how positively the EU Commission assessed Hungary's battery strategy. The former Vice President of the EU Commission, Maroš Šefčovič, designated Hungary as a "pioneer" and "champion" of decarbonization and strategic autonomy. Polyák asserts that both attributions are incorrect. Battery production in Hungary almost exclusively uses gas, so there can be no talk of sustainable production with renewable energy. Furthermore, the gas comes from Russia, which results in strategic dependence instead of strategic autonomy. "In the EU, Hungary is now considered Russia's Trojan Horse," Polyák says.

Chinese Influence

Aside from Russia, China has become Hungary's most important partner. The country is making enormous investments: Huawei operates the largest production facility outside of China in Hungary, and in December, the electric car manufacturer BYD announced the construction of its first plant in Europe, which it is planning to build in Szeged. Because Orbán does not want to jeopardize his good ties with China, Polyák also doubts that the battery factory could be placed under government control if China were to attack Taiwan, for example. Hungary and China have too much in common. "We have reached a point in the bilateral relationships where Hungary invites Chinese police officers to patrol the streets of Budapest," says Polyák. That happened when Chinese President Xi Jinping visited Budapest last year. Critics fear that the Chinese police used the deployment to spy on Chinese dissidents.

The entire situation could be summarized as follows: Hungary's economic strategy is making it increasingly dependent on authoritarian China, even though the EU wants to reduce this very dependency. For China, activity in Hungary is rewarding from more than just an economic perspective. It is already exercising considerable political influence. Hungary consistently blocks EU declarations that are critical of China, such as the declaration in 2021 concerning the disputed voting rights reform in Hong Kong, which markedly restricted the opposition's influence and weakened democracy in the

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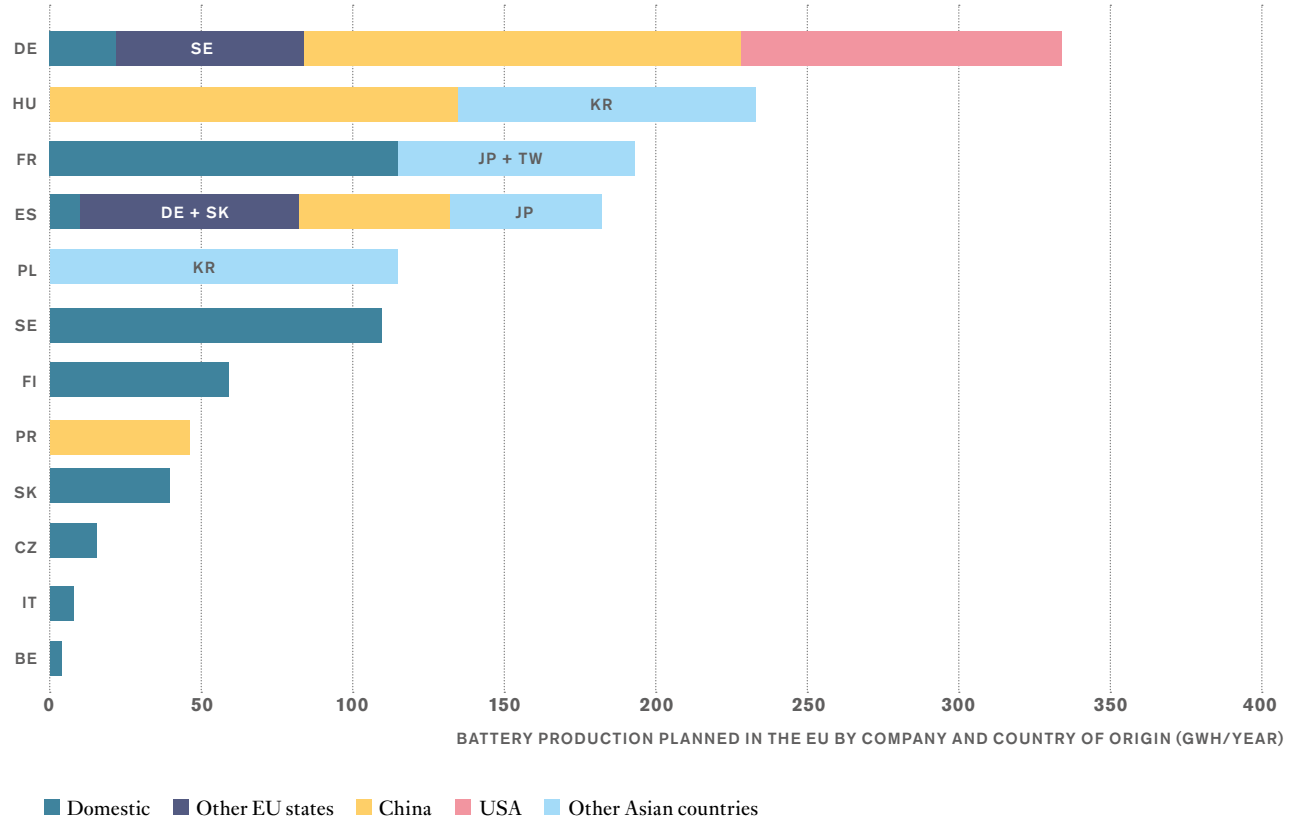

GRAPHIC: GCO BY PÁLMA POLYÁK / MPI FOR THE STUDY OF SOCIETIES

Battery production planned in the EU by company country of origin. It's a clear to see: Chinese gigafactories dominate in Germany and Hungary.

country. Polyák also criticizes the role the EU Commission has played in the massive expansion of battery production in Hungary. After all, without a policy decision made by the EU Commission, Hungary would never have been able to attract the Chinese battery industry. Only since 2022 has the EU allowed its member states to subsidize domestic companies. Before that, doing so was considered a prohibited intervention in the common market. The EU Commission put forward three arguments to justify the subsidies at the time: climate neutrality, strategic autonomy, and protection of the European automotive industry.

"If the goal were to become climate neutral as quickly as possible, the batteries could also be imported from China, Japan and South Korea," says Polyák. That is because Asia has two competitive advantages: both energy and labor costs are lower there than in Europe. Polyák asserts that the EU Commission's argument that it is not possible to be certain whether Asian batteries fulfill the EU's environmental standards does not hold water. The scandals in Göd made it clear that Hungarian batteries do not fulfill these standards, either. Based on that, the researcher concludes that the EU is primarily concerned with protecting the European automotive industry. It directly employs approximately 3 million people, 1 million of whom are employed by German companies. Polyák says protecting this industrial basis is a valid incentive. But doing so must not jeopardize the environment.

German Dependence is Growing

In a piece that has not been published yet, Polyák compares the Hungarian battery strategy with Germany's strategy. The researcher says that she was very surprised by the results, because the two countries' strategies are not very different. Where battery production is concerned, Germany will also largely depend on a

Chinese factory that CATL is building in Thuringia. "However, Germany definitely has the financial means and national stakeholders needed to launch its own battery production," says Polyák. "They could be both large companies and startups that develop certain battery production technologies. The primary goal is to support research and development in the long term." And Germany is missing an enormous opportunity to do so.

German car manufacturers recently announced that planned battery factories would be smaller than originally envisaged. Volkswagen reduced the capacity of its battery factory in Salzgitter from 40 gigawatt hours to 20. The construction of a battery factory in Kaiserslautern, which Mercedes-Benz wanted to finance with the French Stellantis Group and other parties, was completely stopped. BMW canceled orders with Northvolt—not only for economic reasons, but also because the batteries had quality issues. Polyák also sees parallels between Germany and Hungary where the water supply is concerned. Just like Debrecen in Hungary, Grünheide in Brandenburg, where Tesla has built a gigafactory, has already suffered droughts. Objections from local politicians and climate activists, she explains, were dismissed.

"I believe that subsidies for research and development in Europe are what is most important now."

PÁLMA POLYÁK

Polyák considers France and the countries Sweden, Finland, and Norway to be good examples—despite recent setbacks. French companies have kept their battery plans in place, even though the costs for factories are increasing. "This strategic thinking is also due to the fact that the state traditionally has a stronger influence on corporate decisions in France," says Polyák. This is possible through state investments, as is the case with Renault.

Sweden's battery strategy was developed using an inclusive process involving stakeholders from the industrial sector, municipalities, and science. Currently, gigafactories in Sweden produce 60 gigawatt hours of capacity every year. In 2025, two more factories will produce an additional 100 gigawatt hours. Despite the crisis at Northvolt, Sweden's battery manufacturer that cannot deliver the quantities it promised and was forced to file for bankruptcy protection in the US, Polyák sees great potential in the Nordic countries. Their geographical location alone is an advantage. "The colder climate reduces the cooling requirements for production, which leads to lower water consumption," says Polyák. Then there is the fact that Sweden, Finland, and Norway are pursuing a common strategy. An announcement that almost got drowned out by the reporting on the Northvolt crisis stated: the state-run Finnish Materials Group recently got the green light for battery production amounting to a capacity of 60 gigawatt hours.

The Race to Catch up with Innovations

When Polyák is asked how the EU could improve its battery strategy, the researcher mentions the three goals the EU set: climate neutrality, strategic autonomy, and protection of the European automotive industry. "It is not possible to achieve these three goals at the same time. They simply contradict each other too much," says Polyák. Progress made in one area leads to setbacks in another. That is why the EU needs to agree on a single goal.

Polyák maintains that one key problem in the European battery strategy is who controls fields like research, development, and design, which create considerable added value. While foreign investments are creating jobs, the actual added value often remains in the companies' country of origin. The researcher explains that without its own strong stakeholders, Europe is now becoming a production location, while essential technologies and patents are being developed elsewhere. According to Polyák, a new kind of dependency will threaten Europe in the long term. Expanding its own innovation structures, she says, is more important than pure production capacities. "I believe that subsidies for research and development in Europe are what is most important now," concludes Polyák. The only way to catch up with Chinese companies is if Europe develops innovations and its own technologies. But doing so requires patience, and Europe must not withdraw its investments at the first setback, the researcher asserts.

www.mpg.de/podcasts/energie-der-zukunft (in German)