CASE STUDY

Energy Company Transforms Renewable Energy Market in Brazil

Founded in early 2017, Echoenergia is a company that implements and operates projects for the efficient generation of electricity from renewable sources with minimal impact on the environment.

Today, the company generates more than 700MW across its eight wind farms, has two administrative offices, employs around 100 people, and runs a high-tech Operations Center in São Paulo. Its operational activities are conducted in the states of Pernambuco, Ceará, Rio Grande do Norte, and Bahia, serving the National Electric System through sales agreements won at auctions promoted by the Brazilian Electricity Regulatory Agency (ANEEL), or through direct participation in the free energy market.

Implementing Cybersecurity Solutions Drives Growth

Echoenergia's relationship with Fortinet started at the company's inception when FortiGate solutions were deployed in the first two wind farms acquired in May 2017. In just over a year, the company's facilities have quadrupled, and they now own and operate eight wind farms that generate more than 700MW of power. The technological solutions provided by Fortinet were crucial for supporting this rapid growth, enabling Echoenergia to meet the high availability standards of the industry while ensuring the safe use of their innovative energy solutions.

The energy sector is highly regulated and has stringent requirements, including the IT infrastructure's ability to provide high availability of communications, redundancy, and security, among other factors, all of which were achieved more intelligently and efficiently with Fortinet cybersecurity solutions.

> *"Fortinet's advanced solutions have increased the availability, security, and reliability of Echoenergia's technological environment, and consequently, have helped boost the company's growth while strengthening its presence."*
>
> – *Andre Spina, IT Manager, Echoenergia*

Details

Customer: Echoenergia

Industry: Power and Utilities

Location: São Paulo, Brazil

The integrated resources of the Fortinet Security Fabric—such as FortiSwitch, FortiGate, FortiAP, FortiAuthenticator, and FortiToken—were selected because they fulfill industry requirements, offer intelligent and fast management, and have strong information security resources, all of which are vital in the energy sector today. The company also has high ramp-up capacity, so the speed of implementation, technical flexibility, and the total cost of ownership (TOC) involved were crucial aspects that favored the decision to go with Fortinet. Danresa, Fortinet's Platinum Partner in Brazil, was responsible for the deployment of these solutions.

"Our experience has been very positive, which is why we have expanded the implementation of solutions to all locations and adopted full connectivity, and not just with firewalls, as we had initially aimed for," says Spina. "All of these factors have helped increase Echoenergia's credibility in the wind energy sector, consequently driving the company's growth and strengthening its presence."

Benefits of Choosing Fortinet

The energy sector requires communication availability of 99.98%, and failures above the acceptable limit may incur fines from regulatory bodies, such as the National Operator of the Electrical System (ONS) and ANEEL. Cybersecurity is an imperative issue today due to countries across the world experiencing numerous exploits, including attempts to infiltrate into energy sector systems, raising a real and serious concern for the industry.

Fortinet integrated solutions help meet these industry requirements, especially in overcoming geographical challenges of having equipment items spread across different states, and sometimes in remote regions more than 300 kilometers away from the state capital. The solutions' durability, high availability, and intelligent management enable a safe operating environment, with multiple layers of redundancy at all stages, all while maintaining a TCO within expected levels for this segment.

Next Step: Cloud-based Security

The relationship between Fortinet and Echoenergia will continue to expand. For example, a project to strengthen cloud-based security is already under development, involving future implementation for the Amazon AWS environment. This project has been jointly analyzed by Danresa, Fortinet, and Echoenergia, and the resulting deployment will standardize the security solution in the AWS cloud environment and in the physical networks to the same Fortinet standard. This will increase the synergy between cloud and on-premises environments, allowing a 100% standardized environment with Fortinet solutions deployed on all fronts (headquarters, wind farms, and AWS).

"It's important to evaluate the whole scenario, seeking the solution that best fits the company's reality, not only from the technical point of view of one component but also by considering a strategy that encompasses other aspects, such as cost, high availability, service, deployment curve, and maintenance, etc.," emphasizes Spina. "What may be an excellent solution for a specific industry or something widely known in the market is not always the best fit for another sector. That's why it's important to analyze all variables in order to gain potential on all fronts without giving up value in other areas. Even better, Fortinet not only offers these solutions but also customizes them according to the customer's needs."

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Business Impact

- End-to-end technical standardization
- Integrated and intelligent management for internal and external network administration
- High-level information security
- Integration by breaking down geographical barriers and operational environment maintenance through multiple layers of redundancy at all stages
- Ability to meet the energy sector's requirements, ensuring 99.98% communication availability

Solutions

- FortiSwitch
- FortiGate
- FortiAP
- FortiAuthenticator
- FortiToken

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