



EDP Renewables Unifies their ESG Workstreams and Streamlines Business Processes

Achieving a ROI of 10x initial investment.

Profile.

The story of EDP Renewables (EDPR) in the US began in 2007 when Horizon Wind Energy was acquired by Lisbon-based Energias de Portugal (EDP). Over the past decade, EDP has embraced the growing demand for clean energy and invested heavily in its renewables business. In that time, EDPR evolved to become one of the largest renewable energy generators in the world.

Background and Appian journey.

EDPR's first Appian solution was COBRA, a case management system that aimed to improve the technical issue resolution process. "With turbines and substations, we were having a tough time documenting what the issue was, who was in the lead, and the next steps for things to be resolved," explained Brian Hayes, Executive Vice President of Asset Operations at EDP Renewables. The system was released in 2011 and enables EDPR's Performance Management team to document new issues and track them to resolution through a structured process that involves key stakeholders from other business areas.

From there, the organization began to organically incorporate Appian into other business processes. Today, more than 150 Appian applications are bringing together EDPR operations teams, engineers, asset management specialists, project developers, project managers, construction teams, and many other back-office functions to work together more efficiently with a set of shared truths.

"Creating a unilateral system that connects these multiple departments and breaks down those silos for us has positively impacted compliance, our stakeholders, and helped us become very data rich," said Prashant Krishnan, Director of Health, Safety, and Quality at EDP Renewables.

Hayes further explains, "It's been a very empowering tool, which aligns well with our culture because it allows basically any individual within the company to implement ideas of how to make getting work done easier."

Appian, powered by AWS, enables EDPR to rapidly build applications customized to their highly specialized, complex business and adapt their solutions to constantly changing requirements—no coding expertise necessary. Over 95% of their application development has been done in-house by a small, business-adjacent team dedicated to process improvement and automation.



Industry:
Renewable energy

Size:
Enterprise

Headquarters:
Madrid, Spain
Houston, Texas

Highlights:

- Unified data siloed across multiple systems
- Improved Environmental, health, and safety (EHS) incident reporting and response case closure rates
- Higher reporting accuracy for ESG functions

The challenges.

EDPR has experienced rapid growth as demand for renewable energy has risen. And fast business growth means the company must manage increased collaboration across a greater number of people, processes, and projects, all while maintaining safe and compliant operations. ESG is one of the many areas in which EDPR has seen increased demand for internal process improvements.

Here are just a few examples of ESG-related challenges EDPR faces:

1. Tailoring solutions to multiple different ESG program workstreams and addressing different data types.
2. Implementing rapid changes to process and business rules.
3. Maintaining a constant chain of custody to ensure accountability.
4. Accurately and consistently tracking, reporting, and auditing a spectrum of data, including contractor working hours, social investments, environmental events, waste streams with various units of measurement, and more.

EDPR's parent company, EDP, has ESG objectives that are based on the UN Sustainable Development Goals and the UN Global Company Initiative. Meeting these goals requires collecting data on a wide range of topics, including emissions, electricity consumption, recycling, infrastructure investments, biodiversity, restored acres, and CO2 compensation. The company must also maintain information regarding spills, community complaints, and the ESG performance of third-party partners and the overall supply chain.

In addition to supporting the ESG goals of its parent company, EDPR also has aggressive growth targets to meet, including a dramatic increase in the number of renewable energy plants constructed each year.

A solution that can adapt, scale, and support new requirements has become a necessity for EDPR to foster growth without hindering production and future expansion.

The solution.

Data unification for sustainability and waste reporting.

EDPR is collecting data on local levels across multiple locations to then format and report it in units and categories required by their parent company in Europe. The company uses the Appian platform to streamline and strengthen the accuracy of these processes.

One of the primary challenges in this process is that waste data comes in a variety of formats, from spreadsheets to scanned copies of paper receipts. There was a need to provide a way to collect this data from each site in terms that



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John Stretton
Senior Manager of Process Improvement and Automation,
EDP Renewables

make sense to local teams, but to provide the capability to report on the data according to the needs of the parent company.

EDPR's Sustainability and Waste Reporting solution provides a streamlined interface for data to be entered, categorized, and validated. System managers are able to configure settings that determine how local data from sites across North America should be transformed into the categories and units required by the parent company in Europe. After the data is collected from the sites, the Appian solution allows the data to be "automatically extracted and dropped into the correct category, which really saves a lot of time," said Lin Shi, Manager of Strategic Initiatives at EDP Renewables.

Environmental health and safety management system.

Before Appian, environmental, health, and safety (EHS) incident reporting and response would too often get bottlenecked with one person.

To address their reporting and response bottlenecks related to EHS incidents, EDPR used Appian to build a system called EnHanS that provides case management capabilities. Case managers can send tasks to stakeholders who need to take action to drive the case to resolution. "The minute we did that, we started seeing a massive improvement in our case closure rates and were closing them for the right reason," said Krishnan.

EnHanS meets the needs of multiple stakeholders and stays up to date with their evolving roles, responsibilities, and requirements. EDPR is also able to add new fields, make customizations, and deploy changes quickly.

"EnHanS connects these multiple departments to solve the problem. Most complex problems require multiple systems to act together. EnHanS helps break those silos for us," said Krishnan.

For each of the past eight years, EDPR has received ISO 14001 certification for its EHS incident management system with zero non-conformities—no small feat for a company in such a complex industry.

Tracking social investments.

EDPR hosts an active giving program where they seek to make an impact in the communities in which they work. As the company continues to grow, the number of opportunities to contribute also continue to increase.

With Appian, EDPR created an application to help manage that workload through streamlining the social investment process. Each donation request consists of several steps to ensure proper alignment with EDPR's social investment strategy.



“ESG is important work that takes an increasing amount of effort,” said Stephan Blasilli, Director of Lean, Business Process Excellence, and Sustainability at EDP Renewables. “We want to make sure that we can do it in the most accurate and efficient way possible.”

The results.

EDPR’s relationship with Appian paralleled and facilitated this growth. With the Appian Platform, powered by AWS, EDPR has successfully unified data siloed across multiple systems, developed more than 150 applications, and streamlined accurate reporting for ESG functions and many other areas of the business.

When it comes to the Sustainability and Waste Reporting tool, streamlining reporting processes “has saved our Site Operations teams a lot of time on data entry and [saved] our European colleagues a lot of time in validating all the numbers reported by each site,” said Shi. “Now, you just need to click a button to automatically generate a report with the right formatting and other requirements.”

“The Sustainability and Waste Reporting tool alone is worth somewhere between 50%–75% of an FTE in terms of effort saved. That’s just one out of the 150+ tools that we have in our environment,” said Stretton.

These applications are used by more than 80% of the company across all areas of business, from Asset Operations to Construction to Project Development.

In the fast-paced, competitive renewable energy marketplace, low-code has accelerated EDPR’s design and prototyping for internal process improvements. “We’re able to help end users visualize their processes and work through iterations much more quickly,” said Stretton. “Between time savings and mishap avoidance, EDP Renewables has realized an ROI of about ten times our initial Appian investment.”

Considering that almost all development work is done in-house at EDPR, “flexibility has been king,” said Stretton. “For example, leveraging reusable components that we can deploy across the environment makes it easy for us to move quickly and take larger steps with each iteration. The power of the Appian platform and our team’s proximity to the business are the major reasons why we have been able to achieve as much as we have with such a small team.”



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