

# THE TRUE COST OF MISMANAGED ENERGY DATA

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PART 1  
UNDERSTANDING  
GAPS IN YOUR  
DATA



# Introduction

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Data. Like it or not, it's everywhere. It helps us build strategies, guides decisions, and provides the confidence we sometimes need to just take the plunge and go for it. But there are so many reasons why we don't use data: there's too much; we're unsure if it's correct; what it's telling us seems counterintuitive; and sometimes, it just doesn't occur to us to do so.

Before we talk about the impact of energy data on a business, take a moment to think about how energy usage is managed at home. A bill arrives every month or quarter. It's probably paid without a second thought, other than a tacit acknowledgment that it's always going up. All the while, the familiar patterns of usage continue unchecked; lights illuminate empty rooms, and electronic devices sit silently on standby.

What goes on in the home is most likely precisely what's happening in the workplace. And while it's hard to control domestic energy consumption, tracking business usage takes the problem to a whole new level. The answer lies in data. It's the key to unlocking vital insight into where money may be leaking from the bottom line. It can add enormous value to a business if used properly.<sup>1</sup>

When it comes to energy usage, understanding the data is a crucial business function. It gives energy costs and usage patterns a seat at the decision-making table. It helps a business to balance the doing with the cost of doing it.

In this eBook, we will discuss how to use energy data effectively. We'll call out the issues to be aware of and give best-practice tips that will unlock benefits along the way. We'll provide simple background information on reducing costs and list small, proactive steps to take on the journey to energy efficiency.

Throughout the book, we aim to demonstrate the power of energy data. We want to show that businesses shouldn't be asking whether they can afford to manage their energy data. They should be asking whether they can afford not to.



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# Why access to energy data is important?

All businesses need energy to operate and prosper. Unlocking the value hidden inside the data, showing exactly how—and where—it is used, allows them to select the right services, tools, and products to maximize efficiency and minimize costs.

Take products, for example. Whether it's the US, UK, or Australian market, there is a wide range of products for a business to consider. There are options to fix rates or even take market positions. Which is right, will depend on the level of usage, the rates on offer and even the weather.<sup>2</sup> If it is to make the right decision, then, a business needs data.

If we return briefly to the domestic usage analogy, access to simple data represents the trigger for behavioral change. Knowing whether a home is using more or less energy than at the same time the previous year is an insight. So too, is a comparison with other, similar households. While they don't provide sufficient information to take action, they pose a question. That question, in turn, prompts the need for answers and, if the data is there, it informs the decision to change.

From large manufacturing plants to small shop-front premises, every business must find a way to harness its data. In the post-COVID world, every customer is likely to tighten their belt in the face of the pandemic's economic realities. As a result, the companies that thrive will be the ones who find a way to keep their prices in the sweet spot by reducing costs. Managing data effectively is the key to making this happen. Transparency over usage, increased research, and the ability to shop around could just be the difference between survival and going out of business.<sup>3</sup>

Specifically, access to energy data enables an organization to:<sup>4</sup>

- Improve strategic energy management capabilities
- Build a case and gain support for the value of energy management
- Improve control and transparency of energy costs and budgets
- Compare usage and spend to previous years
- Improve operational efficiency

Facilitate demand response and energy purchasing There are many ways in which data can be put to use in an organization. It can have a considerable impact on problem-solving, performance management, and evaluation. The following four points were designed by the International Energy Agency to show the effect of data on policy design and delivery.<sup>5</sup> They could have been written for any business.

#### Understand the situation and desired outcomes.

Data helps the business to define its energy usage problems. Where opportunities exist, it can help identify and quantify them.

#### Develop and appraise options.

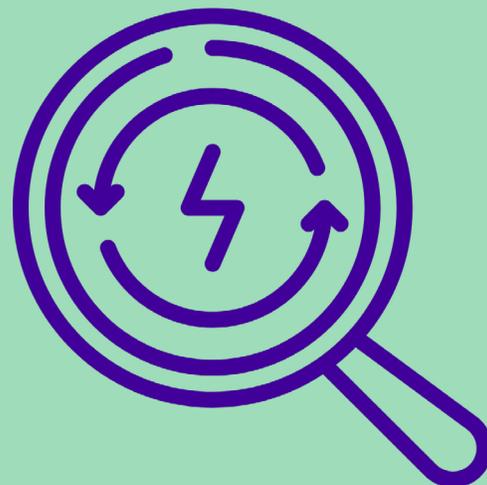
Data analysis helps to frame the picture. It will also show the information that's missing. In that event, it's worth trying to find it. The more complete the dataset is, the less risky any decision becomes. A full set of data also allows for modeling of costs and benefits—and, therefore, the development of an informed business case.

#### Prepare for delivery.

The ability to track data allows an organization to pilot a product or solution. It gives the ability to compare the results against what was expected to happen and benchmark how other firms perform.

#### Operate, evaluate and adapt.

Data forms the basis for performance monitoring. The information captured will indicate progress, track any return on investment—to prove, say, a business case—and provide evidence of the need to adapt, if necessary



# The real cost of data gaps

When data is missing, it can lead to a world of pain. Not only can it frustrate, but it can also hurt a firm's bottom line, sometimes without them even knowing it.

So far, we've referred back to household bills to illustrate a point. Let's do that one more time. When a monthly or quarterly bill arrives, it lacks context if there is nothing to compare it with. On its own, it is purely a statement of information. The natural assumption is that it is correct, but, in many cases—and certainly when it comes to energy usage—there's actually a reasonable chance it is not. There is simply no way to confirm it is correct without a further reference point.

And it's by no means a problem that only affects residential customers. In 2006, Whole Foods Market, Inc joined EPA's ENERGY STAR and Climate Leaders programs. It needed to establish its baseline energy usage, a greenhouse gas emissions inventory, and benchmark its performance against goals.<sup>6</sup> To do that effectively across 500 stores in North America, it needed two years of historical data for each site. Without it, the company could not compare and track the energy usage of each of its stores. In other words, it had no way to identify and target areas where money was leaking out of the business through excessive energy usage or low energy efficiency.

As if obtaining data on 500 sites wasn't tricky enough already, the task was made even more challenging. When Whole Foods contacted the utilities, they were often unable to provide the data. Though it operated many stores across the country, the company often had less than five stores in a particular utility's service territory. As a result, despite its size, the company was rarely assigned a dedicated account manager to help with data requests in these areas. Instead, Whole Foods had to engage with utilities' business services areas. They found that these departments could not provide consistent, reliable, historical data.

Even after two years of effort, Whole Foods still has only partial data and no easy way to capture and track ongoing usage. The business has since had to outsource utility metering and interval data monitoring, which has come at a significant cost. And it still hasn't provided them with the monthly utility bill data they sought, either. The knock-on effect is that Whole Foods does not have the information necessary to help identify energy efficiency upgrades and cost-saving opportunities.

They are not alone. Costco, one of their main competitors, experienced the same problem, one exacerbated when its requests for data from utility providers were fulfilled in ream after ream of paper.<sup>6</sup> The data was so incomplete that it just couldn't be used

to manage consumption effectively. Not receiving the information in a digital form made producing reports a nightmare. To develop any coherent trend involved a great deal of manual data entry, which was both time consuming and prone to errors.

Worse, it found that the data contained ‘corrections’—adjustments for errors in prior periods, that showed up in the current billing period. Again, working through these would have created a sizeable headache for any organization.

The lesson is that even when these large firms managed to obtain the data they requested, it was either incomplete, inaccurate, or provided to them as a paper copy. The high likelihood of gaps and errors meant any decisions made using the data were likely to be compromised.

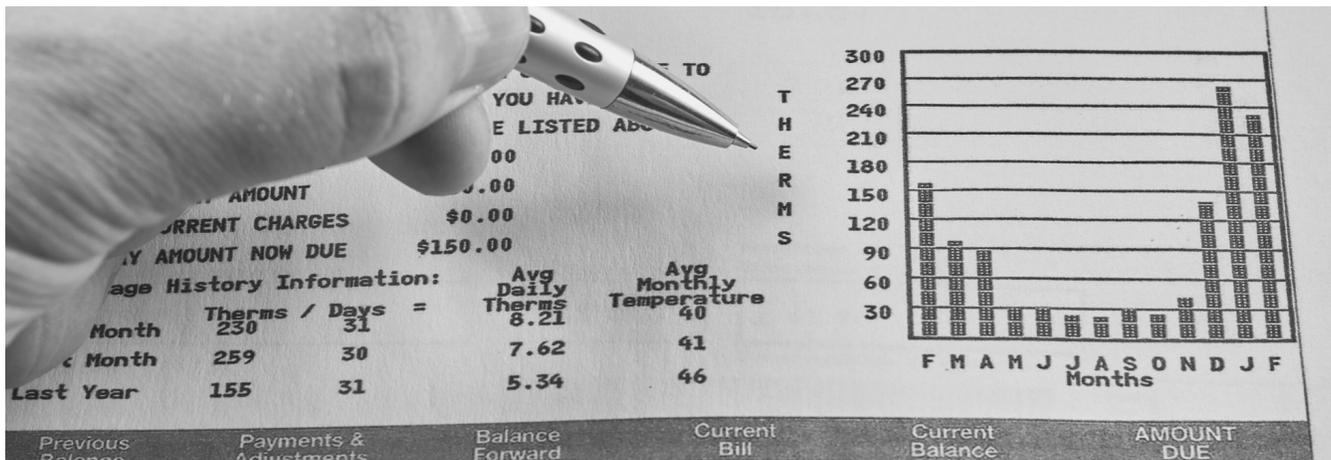
Later in this eBook, we’ll talk about the actions that can be taken to clean data if there’s a suggestion it contains errors. After all, any business considering using data to make confident, fact-based decisions needs to trust it. If not, there’s a high risk of them making a costly mistake.

Without clean data to base assumptions on, there is also every chance the business won’t secure the best possible outcomes in price negotiations.<sup>7</sup> Tools like our Robotic Process Automation (RPA) technology reduce errors and identify gaps in data.

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# The price of paper bills

Businesses are not just transitioning away from paper in an effort to save the planet. Taking paper out of the process can reduce the cost of record management by 25%.<sup>8</sup> Those costs are tied up in filing—or misfiling—and copying documents. They also include the cost of storage, which often goes unnoticed. There’s an obvious cost associated with buying a filing cabinet, but the space it occupies costs a business money too. Reports suggest that could be up to \$1,500 per year, per cabinet.<sup>9</sup>

Of course, paper records also come with other disadvantages. In today’s world, there’s an immediate need for information. Employees are dispersed across a wide area—they are possibly even in a different country—and a paper record is a real barrier to dissemination of information. Any business that wants to share written information with other people has to find a way to share it.

There are also significant risks associated with keeping manual records. In 2015, an employee of a document shredding company was accused of sharing bank records with thieves.<sup>10</sup> In this case, they were records that the bank had assumed were destroyed.

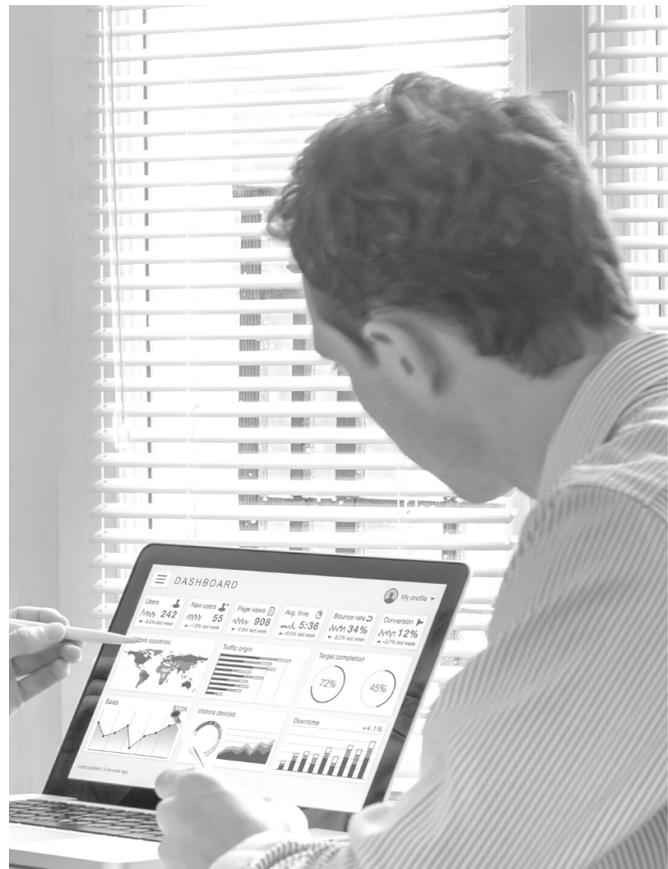
The problems with paper are not just felt by office-based businesses. In 2013, a South African game reserve found that recording information on the illegal poaching of rhinos—just over a thousand were killed that year—by hand, made it difficult to map out where poaching was occurring.<sup>11</sup> By the time the data had been transferred into the database, the poachers had simply moved on.

The issues associated with paper-based systems are neatly captured in the following list:<sup>12</sup>

1. Inconsistency: in the way manually captured data is keyed into databases, and also in the way files are stored.
2. Staffing costs: those pieces of paper don't move around on their own! They need to be filed, scanned, shared. And that costs money.
3. Fragility: any paper-based system is only as good as its weakest link. If just one person is unsure what to do with a document, the whole process can fall over.
4. Limited access: no matter how good a filing system is, there are limits to who can access it. Whether it's location, time or status that restrict the ability to view files, the impact will be felt somewhere. Usually, it's at the sharp-end of the business, when customers are demanding immediate information.
5. Report production: Whether the reports themselves are produced manually, or the data is keyed into a system, it still takes time. And time means money.
6. Lack of security: bank records and thieves are not a great match.
7. Data entry: the fact is, if a business wants to do anything with information stored on paper, at some point it needs to key the data into a system. That exposes them to errors and increased costs.

It should come as no surprise that 47% of Accounts Payable (AP) leaders say they want to eliminate paper and reduce manual tasks.<sup>13</sup> The four biggest pain points are manual data entry, the need to move paper from one individual to another, lost or missing invoices and dealing with paper invoices.<sup>14</sup>

It's not just the tangible costs a business should consider when it comes to moving away from paper-based systems. There's the opportunity cost to take into account. Specifically, the potential for analytics. This is something that really resonates with today's Accounts Payable leaders. In a recent survey, improved reporting and data analytics was their biggest priority. Why? Because the ability to perform predictive analysis that intelligent automation will bring, allows the development of scenarios that will inform the decisions they make to manage and spend cash.<sup>15</sup>



# Poor data quality

Data is not worth much at all if it is inconsistent, incorrect or hard to access. Collecting, standardizing and sharing clean data relies on a rigorous and committed collection process or making an investment in the right technology.

Repetitive tasks like data entry, status updates and report production place a significant burden on businesses. A recent study claims employees spend as much as 22% of their time working on repetitive tasks, many of which could be automated.<sup>15</sup>

The fact is, human involvement in the data entry process makes errors more likely. In 2010, a single keystroke error led to a stock market crash that wiped a trillion dollars off the value of US shares.<sup>16</sup> An algorithm issued more 'sell' orders in two hours than the entire volume of 'buy' orders issued by every other participant in the market. The result? Within minutes, the S&P dropped by a whopping 6%.

More recently, the UK Government miscounted approximately 16,000 COVID-19 cases when a spreadsheet that was created to ingest daily figures, apparently reached its limit.<sup>17</sup> There were no checks in place and, ultimately, the process failed. This unconventional set-up was holding up a GBP 10 billion Test and Trace initiative. And all of it could have been avoided by investing a little more into sophisticated automation, one that didn't rely on humans to spot problems.

Up to 15% of the bills a company receives contain errors. That's based on our experience during the processing of more than 440,000 bills per year on behalf of our clients. Solutions like our own Utility Bill Management are designed to save businesses as much time and stress as possible in trying to process, validate and pay those bills. And because it's SaaS, it doesn't come with a huge capital outlay. Securely hosted on the Amazon Web Services (AWS) cloud, it is quick to deploy and requires minimal IT integration. So quick, that a business can be up and running in a matter of weeks.

Automation and data management software bring substantial time savings, require less human involvement, and give any business the confidence that the data is correct. The result is they deliver significant cost savings. Sure, it can cost time and money to set up energy data automation in the first place, but not so much that it should be considered a barrier to implementation. What's more, once it is up and running, the experts who used to spend such a large proportion of their time entering data, will be free to tackle work they are qualified to do; work that, in itself, will help the business identify further ways to save money.

# No historical data for benchmarking

The ability for any business to compare current performance with previous periods is essential. Without it, they are unable to keep track of progress. If there's not enough transparency over what lies behind the numbers, then they become just that; numbers.

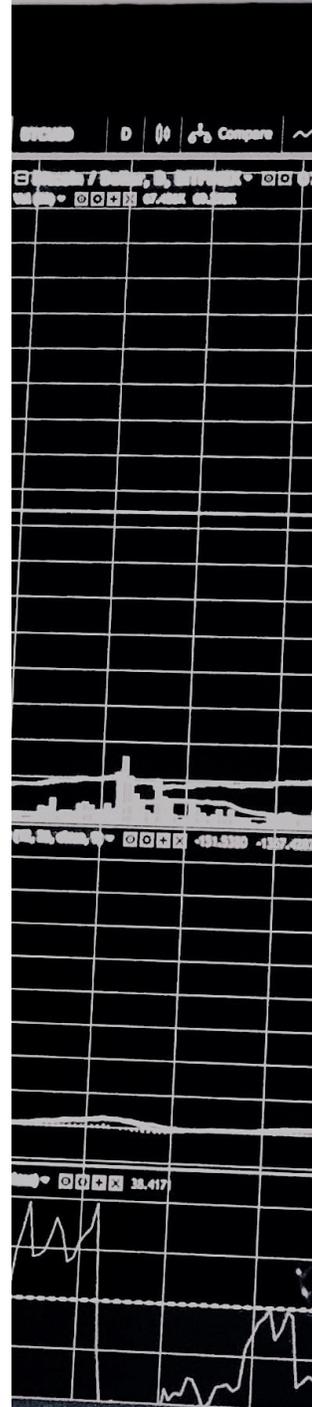
In the case study we discussed earlier, Whole Foods and Costco needed historical data so they could establish benchmarks and set goals for energy reductions. But a combination of factors meant they were unable to.

When historical data is not available, a business is not only unable to compare performance, but also cannot make accurate forecasts. Without being able to contextualize data, it is impossible to say, with relative confidence, how much money the firm needs to budget for its energy spend in the next financial year. With so many corporate goals tied to financial performance, going into a new year without much more than a guess on which to forecast energy costs, is not a position to be envied.

Energy benchmarking enables an organization to:<sup>18</sup>

1. Compare performance: the usage of similar sites; performance against established norms, or even peers.
2. Provide the foundation: the implementation of any energy strategy needs to follow a path. Benchmarking provides the markers that ensure the organization is heading in the right direction.
3. Manage buildings effectively: to put it simply, without benchmarking and data, any effort to reduce a building's running costs are little more than a live experiment.
4. Enable energy accounting: with data comes transparency. Understanding what the numbers mean helps to identify opportunities for making energy savings.

Once historical data is available in multiple forms and locations, it may take some time to take stock and develop an up-to-date asset inventory. But the effort is worth it. Once it is done, the business will have more visibility over energy usage than it has ever had before, and it will unlock the ability to make informed decisions. To stay relevant, the data needs to be continuously updated—using the same measurements. Implementing an automated system means never having to worry whether the data is up to date or not.



We advise any business that does not have historical data in any form, to start recording and digitizing it immediately. Top of the list should be requesting the data from utility providers, bearing in mind the experience of Whole Foods and Costco. If they send a .csv file, that's perfect. Even if it is a stack of invoices, the data is worth it. The latter may mean it takes up to a year to develop a complete data set, but once the business is able to benchmark and track performance, the opportunities for cost reduction will be significant.

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# Lack of data transparency

Moving away from paper turns an Accounts Payable process from a cost into an asset. Earlier in this eBook, we talked about the costs associated with manual processing: staffing costs to enter, file and find paper invoices; storage costs which represent the cost of numerous filing cabinets lined up along a wall and eating up—sometimes prime—real estate; and the cost of errors. Moving to an automated process not only eliminates those costs, it provides transparency over the information a business holds, which makes it an asset.

Think of it this way. In a manual process, the Accounts Payable team receives an invoice. More often than not, that invoice needs to be approved by the relevant operating area, which means it either needs to be scanned, copied or—dare we say it—sent hard copy. All that takes time, too long, according to 51% of Accounts Payable managers<sup>19</sup> and there's a good chance the Accounts Payable team will need to field calls or emails from vendors to find out where their payment is. Once paid, the invoice is then filed. Its work is done.

But if another area of the business wants information—for example, an energy manager wanting to track the usage amounts—they need to request access, someone needs to go and find the invoice and then send it through. Apart from being labor intensive, this smacks of missed opportunity. A quarter of AP leaders lament the lack of visibility into invoice and payment data and 20% say addressing it is one of their priorities.<sup>19</sup>

Aside from reducing costs, visibility over invoices—and the information they contain—

in one single portal delivers so many benefits:<sup>19</sup>

1. **Tracking:** members of the Accounts Payable team, suppliers, finance teams and employees can track the status of invoices and expense claims, thus removing the need to make contact.
2. **Decision-making:** visibility over the data allows executives to refine their forecasting and budgeting process.
3. **Insights:** Being able to see what has and hasn't been paid, provides finance teams with greater control over cash flow and also enables decisions on whether accruals are required at month, quarter, or year end.
4. **Security:** with information stored electronically, it is easier for the business to identify potential fraud or compliance issues.

There's also the challenge of producing a compelling business case, something that is impossible without good, clean data. Having accurate and accessible data that can be pulled from a centralized source could be the difference between making the case for an investment, or missing out.

When it comes the energy market, customers who have access to numerous data sets, research, analysis and other capabilities online—and at their immediate disposal—hold all the power. The more informed these customers become, the more pressure they can place on their suppliers to reduce costs.

# Data metrics drive energy efficiency and savings

For a business to take advantage of the benefits analytics will bring, it needs to know how to get the most value out of its data. There's certainly a strong argument to do so: management guru, Peter Drucker, said "What gets measured gets managed",<sup>20</sup> and "If you can't measure it, you can't improve it".<sup>21</sup>

And bear in mind that analytics is no longer something only big companies use to get ahead. In fact, in 2018, almost 60% of companies—ranging from 250 to 20,000 employees—said they were already working with big data and 71% were preparing to accelerate their investment.<sup>22</sup>

There are three main reasons why companies are pursuing the path of analytics. According to a survey from Deloitte, almost half say it helps them make better decisions; one in six says it enables key strategic initiatives; and one in ten says it helps to improve relationships with customers and business partners.<sup>23</sup>

As Drucker pointed out, keeping track of relevant metrics is vital to running and improving the business. It is the key to finding cost savings. The trends, benchmarks and forecasts all enable decision making. And that's what drives efficiency. Having an energy data automation system in place means the tools are always at hand to make informed decisions, in real-time.



It's worth noting that Drucker qualified the quotes above by saying, "Working on the right things is what makes knowledge work effective".<sup>24</sup>—so the important message is to pursue analytics for the right reasons. If they are not relevant, consistent or calibrated, data and metrics aren't worth a dime to any business.

In the age of 'Big Data', companies must find a way to keep up with the opportunities it presents; owning and using more data to drive efficiencies is critical, and gives a business the agility to move into the future. Let's face it, the amount of data companies have to work with is only going to increase.



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Being able to harness the historical data opens the door to significant cost savings.

As each year passes, there are another 12 months of historical data to inform forecasting and budgeting. And as companies grow and add more sites, the volume of data increases accordingly. Being able to harness the information opens the door to significant cost savings. One of our own clients, an iconic energy generator and retailer in Australia, found exactly that. We deployed a branded portal system into their billing operations team that, as well as reducing the number of ad hoc requests and improving user experience, helped deliver a 3%-5% cost saving across their entire commercial and industrial client portfolio. All through cost-saving analytics and insights from automated workflows.<sup>25</sup>

# Energy savings from better energy management

Energy intelligence empowers organizations to increase efficiency and make cost savings. It all starts with awareness, after which it's about actively seeking ways to learn and improve.

Businesses that invest in energy efficiency can cut utility costs by 10%-30% while contributing to a cleaner environment, without sacrificing quality, style, or comfort.<sup>26</sup> Using our expertise in the sector, we've outlined five ways for businesses to save on energy spend. All are distinctly achievable:

1. Upgrading to LED lamps. By switching to LED, a business can save up to 80% in energy usage and costs. In doing so, a firm located in the United States may also be eligible for a utility company rebate.
2. Investing in other energy-efficient equipment. Switching to Energy Star™ certified appliances could reduce emissions and energy costs. Any time the business needs to invest, it represents an opportunity to consider energy efficiency.
3. Conducting an energy audit. It's essential to find opportunities to reduce energy use and spend. Conducting regular energy audits is not only a sensible practice—and something we will be delving into later in this eBook—it is an opportunity to take stock of the way the business uses energy.
4. Regular maintenance. Just as a trip to the dentist for a check-up is a good idea to catch any cavities before they become painful and difficult to remedy, so a building's HVAC equipment needs regular maintenance. Letting old or faulty equipment run into the ground will be costly in the long run. Regular maintenance of HVAC appliances can save anywhere between 5% and 40% in running costs.<sup>27</sup>
5. Understanding energy bills. Tools like our Utility Bill Management (UBM) Platform help businesses to save thousands a year on overcharges, incorrect rates and billing errors.<sup>28</sup>

In most businesses, it's likely the current process for managing energy spend is either too complex or, perhaps, non-existent. Through energy management automation and utility bill management, we can provide complete control over the energy spend life-cycle. Our platform captures and validates invoices, automates the accounts payable function, offers opportunities to reduce costs, and provides real-time energy and financial information at the touch of a button.

It is this information that gives executives the ability to connect day-to-day tactical operations with strategic business goals. The vast amount of energy data collected allows business leaders to extract value and use it to make effective decisions.

In short, migrating to an energy management system will enable real-time visibility into the company's energy usage. The result? Significant cost savings.



# Understanding usage trends

In Formula 1 racing, it's easy to get carried away by the cars and the drivers but, in a sport where every millisecond counts, data is king. Every lap, more than 2GB of data is transmitted back to the pit, and more than 3TB over the course of the race.<sup>29</sup> All of it points to trends in speed, temperature, tire wear and even the driver's decision making. Together, those datasets provide insights that no human eye could ever pick up.<sup>29</sup> The decisions that follow can make, or break, reputations.

Though the information is not required quite as urgently in businesses, the trends—particularly in energy usage—are equally important to inform decision making. Trends such as seasonal, site-by site, project or location-specific usage should form part of the business' key data metrics. Having that energy data available to review, and being able to define and monitor the most critical sites and processes, provide the confidence that the decisions being made are correct.

The trends provide comparisons. In F1, those comparisons are needed turn by turn and lap by lap. If the car isn't hitting the same top speed on the straight, it's important to know whether it's down to driver error, or something mechanical. In business, the comparisons are against previous consumption, or similar sites.

Once validated data and reporting is in place, most businesses find that 80% of their energy usage comes from lighting, cooling and ventilation.<sup>30</sup> In the event that a smaller site is consuming more energy than a larger one, the cost savings lie in understanding why.

# Conclusion

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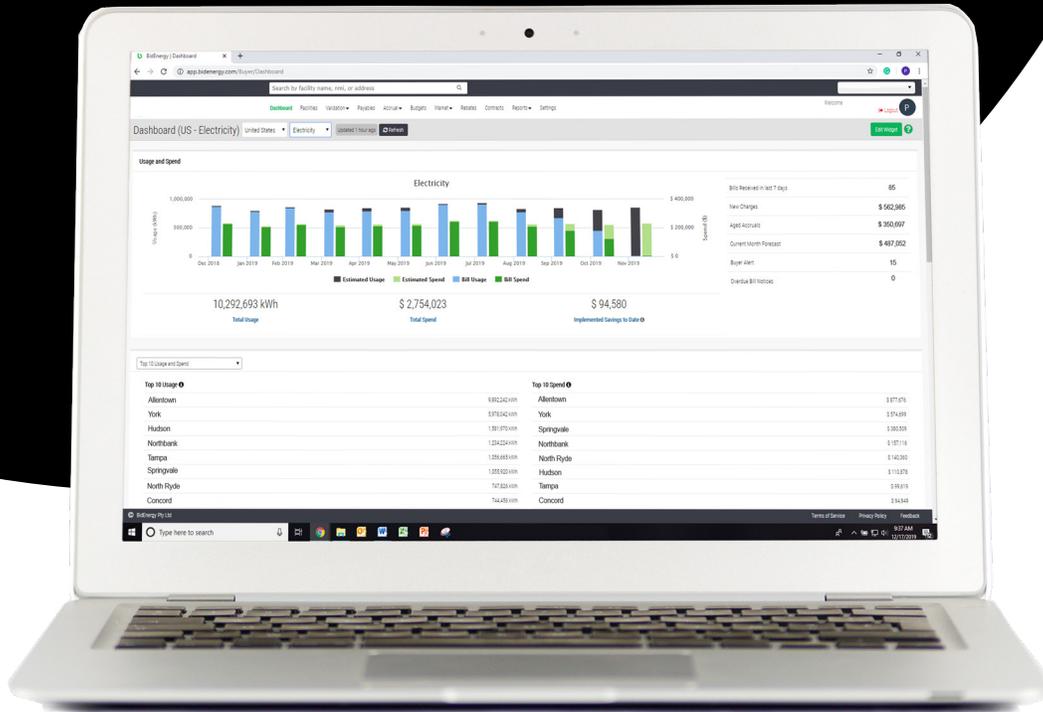
In the introduction, we tried to illustrate the difficulties in making decisions in the absence of data. In the rest of this eBook, we talked about the importance of timely and accurate data. Throughout, we've tried to provide examples and statistics to help readers relate to the way a business uses energy.

In business, there are many issues and risks when dealing with disorganized, manual data processes, which result in data gaps, siloed distribution, inaccessibility, and an inability to act responsibly and confidently using the information to hand. Mismanagement of energy data can result in catastrophic outcomes for an organization.

For one more time, think back to managing energy usage at home. Imagine having instant access to a simple system that could organize, validate and pay energy bills. One that gave total visibility over the payment cycle and showed exactly how much energy appliances were using. That kind of knowledge would empower the household to make better decisions.

In the same way, it is imperative for an organization to understand its energy data. To do so, it makes sense to take the plunge and embrace energy management automation and utility bill management.

# The Best UBM Platform with the Best-in-Class Technology



The Bill Identity (Bid) UBM platform automates and digitally transforms the process of managing utility bills for commercial and industrial organizations. Powered by robotic process automation (RPA), the platform provides functionality to support facility data management, procurement, utility bill management and finance functions, including payments accruals and reporting.

[Watch our demo](#)

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