A GLYNT GUIDE

Awesome Sustainability Data

Here's what it takes to produce the sustainability data that increases user confidence

GLYNT.AI

Introduction

Sustainability Data is a Must-Have

ESG reporting and climate disclosures have moved from “nice to have” to the “must have” status. And analysts, consultants and leading companies are all finding that visualizations of data are fairly easy. The biggest challenge is the data.

As one senior advisor in the ESG space put it: “If you’re a business leader and you’re wondering what steps to take, my advice is clear. Companies need to take action now to ensure they’re ready for the changes ahead....These should be followed by ***a relentless focus on data collection.***”

Sustainability Data is Not Easy

When the business team gets started on sustainability and ESG data, they must answer some very basic questions:

- Where is our sustainability data?
- What data do we actually need?
- Do our systems have that data?
- What’s our plan if the systems don’t have that data?

Welcome to the sustainability data challenge! Where data is spread across scattered and siloed systems; data produced for accounting purposes may not be a good fit for sustainability reporting; and its hard to craft backup plans for data without being an expert on sustainability.

Automated Connectors are a Technology, Not a Solution

Many ESG and sustainability platforms address the data challenge with “automated data connections.” GLYNT provides automated data connections too! But an automated connector does not solve the fundamental problem: What if the system doesn’t have the data you need? Incomplete data can lead to omissions and charges of greenwashing, or reliance on estimated data, which is penalized by various regulations and standards.

This guide is a walk through the type of data finance and sustainability teams need to confidently prepare sustainability baselines and reduction plans.

What is Awesome Sustainability Data?

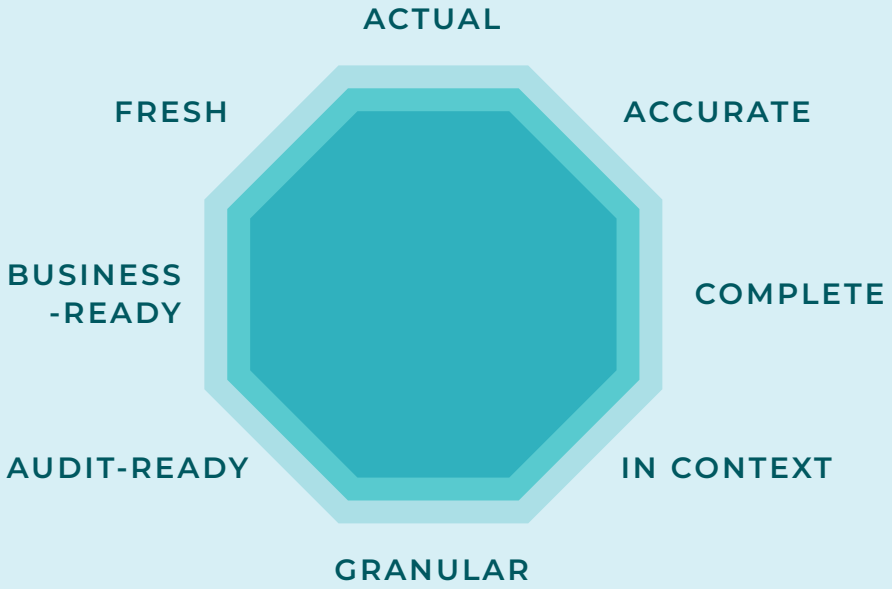
Gathering up sustainability data – including water, waste energy and emissions – is the first step in preparing disclosures to investors, regulators and customers. In 2023 we witnessed the harmonization of reporting requirements and standards around the globe. The quality of data needed is now clear.

Two particularly influential standards were issued by the IFRS, which laid out how to report non-financial data (e.g. sustainability data) in financial reports and by the IAASB, which laid out the framework and criteria for assurance reviews of sustainability data. Regulatory submissions to the EU, UK, Canada, Australia, Japan, Singapore and more locations are aligned to these requirements.

Awesome Sustainability Data – as defined by GLYNT – meets all the requirements and is ready to deliver operational efficiencies.

The graphic on the right shows the attributes of Awesome Sustainability Data. One attribute – Business-Ready – goes beyond what is required by regulations and standards. Our customers find that sustainability data can be integrated with other business data for identify additional savings opportunities.

THE EIGHT ATTRIBUTES OF AWESOME SUSTAINABILITY DATA



1 Actual Data

What is It?

Actual sustainability data can be tracked back to the original source, which is typically a business invoice or an IoT sensor. An ERP or AP systems can be treated as the original source, but often does not have the data needed. (See Complete Data)

What's the Challenge?

Two common problems lead to the use of estimates, e.g. non-actual data:

1) The data is not in the business system, so estimates are used. See the example on the right.
2) There is so much Primary Data, manual and ad hoc systems can't handle the volume, and estimates are used instead.

What's the Consequence?

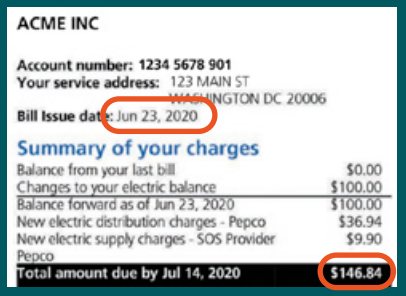
Supplier networks, regulators and readers of financial statements want to know how much estimated data is being used. A common metric is the Primary Data Share (PDS), which is the percent of emissions reported based on Primary Data. The lower the PDS score, the lower the confidence users have in the report.

How to Get It

Actual data is found on the original invoice. If actual data elements required are in the system database, great! But if not, you'll need to get the original PDF and reprocess it to capture the actual data needed for sustainability and ESG reporting.

EXAMPLE

SCOPE 2 DATA: ESTIMATES VS ACTUAL

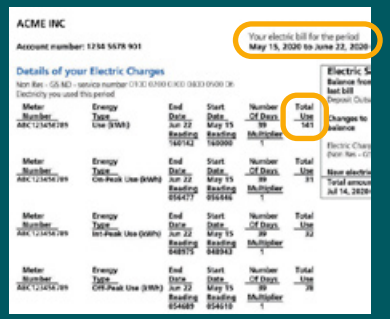

ACME INC

Account number: 1234 5678 901
Your service address: 123 MAIN ST
WASHINGTON DC 20006
Bill Issue date: Jun 23, 2020

Summary of your charges

Balance from your last bill	$0.00
Changes to your electric balance	$100.00
Balance forward as of Jun 23, 2020	$100.00
New electric distribution charges - Pepco	$36.94
New electric supply charges - SOS Provider Pepco	$9.90
Total amount due by Jul 14, 2020	$146.84

CAPTURED BY AP SYSTEMS


ACME INC

Your electric bill for the period May 15, 2020 to June 22, 2020

Details of your Electric Charges

ACTUAL USAGE DATA

Accounts payable (AP) systems typically capture just the data needed to pay the bill, such as the statement date, the current charges and the total amount due. For the sample utility bill shown here, current charges are not printed, this field must be created by adding up various line items. Most AP systems can't do this type of summation. The AP system will also miss the actual data needed, which is the kWh usage and the service period shown on another page of the bill.

For invoices with the issues shown here, many automated sustainability data systems will use the data in the system and will estimate usage (A frequent method is to divide Total Amount Due by an average energy cost). These estimates overestimate of energy use and emissions because they includes charges unrelated to current energy use, such as late fees and fixed monthly meter charges.

2 Accurate Data

What is It?

Data accuracy is the degree to which data correctly represents the real-world event it is intended to describe. For sustainability this includes activities, such as water or energy usage, and emissions from that activity.

What's the Challenge?

Sustainability data must be prepared from original sources. This requires correct data capture from PDFs or other file types, and correct data preparation – including data cleaning, normalization, harmonization and formatting. With so many steps, it is easy to make an error.

What's the Consequence?

Inaccurate data can be embarrassing. Imagine every month you report the correct amount for a data category, $4, and one month you make an error and report $5. When everyone digs into the "problem", they find the error.

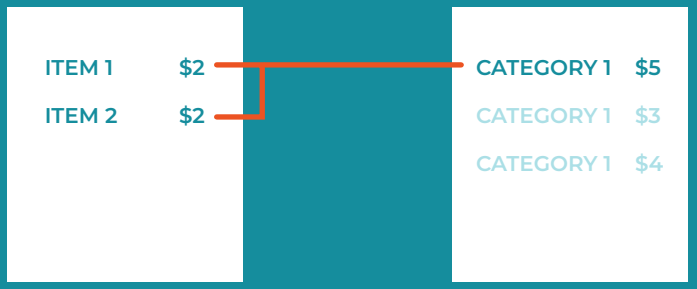
Sustainability data loses credibility internally and externally when it has errors. And with new reporting standards, the data scrutiny is at a new high level.

How to Get It

Accurate data comes from a system of data preparation that is tested and validated, and constantly monitored for data health. Within the system, there should be a sequence of tests, so that accuracy is maintained from start to finish.

EXAMPLE

A COMMON DATA ERROR IN AGGREGATION



This example shows a common error that arises in manual and ad hoc sustainability systems. In the original data two items are listed, each costing $2. In the data reported out, the items have been grouped into a single category and $5 is shown. The error arises from the aggregation of the data into a single category.

Accuracy is more than correct capture of the numbers from the original invoice. It also rests on the logic used to aggregate and harmonize data into the desired reporting format.

Sustainability assurance audits will examine data lineage, which is the path data takes from original source to final report, noting who touched the data and when. But accuracy also requires validated and documented logic for how data is aggregated and harmonized.

3 Complete Data

What is It?

In the world of sustainability, data is complete when all data sources for energy, water and waste usage from the assets under the entity's control are included in the data prepared and reported.

What's the Challenge?

Sustainability data preparation is a new task, and it is difficult to be sure that all the data sources are captured, and every period included on the first try. It takes a bit of iteration to arrive at complete data, for as the data starts to fill in, the team learns about what is really required and brings more data to the table.

What's the Consequence?

Incomplete data, even through inadvertent omission, can lead to charges of "greenwashing." After all, omitted data lowers the total emissions reported.

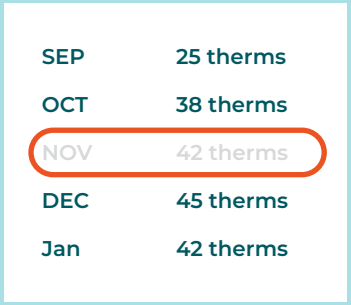
The sustainability assurance review checks for data completeness and the methods used to ensure this outcome.

How to Get It

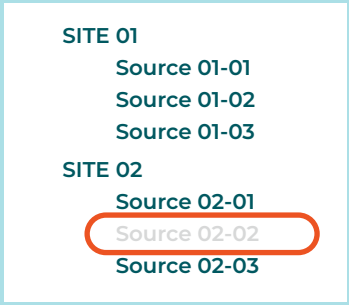
Complete data is the result of time and method. Allow your team enough time to fill in data gaps. Build a defensible, systematic method that demonstrates your efforts on identifying and including all appropriate sources of data.

EXAMPLE

COMMON TYPES OF MISSING DATA



MISSING MONTHS OF DATA



MISSING SOURCE OF DATA

It's hard to find missing data! Once a data source is included in the sustainability data preparation system, there may be gaps in the historical sequence of data. The gaps can arise from human error in the search for data, or in how the data was originally placed in the business system. There may be a good reason why September is different. Regardless, you'll need time to identify the gaps and chase down those missing invoices or files.

Another common type of missing data is the omission of an entire data source. For example, suppose two-thirds of all sites have a natural gas service. How does you know if Site 2 is missing natural gas data because it does not have service? Or did the search fail to find the natural gas data?

Verification and closure of missing data issues takes time. And build solid methods to maintain complete data once you've got it.

4 Data in Context

What is It?

When sustainability data is reported to regulators, or placed in corporate disclosure, it must be ready-for-use by the reader. In particular, the user must believe that the data is what it says it is, e.g. the data is in context.

What's the Challenge?

Sustainability data is new to nearly everybody and as it transferred from one system to another it easy to lose alignment and context. Terms that seem obvious, such as Energy Cost, can have quite different meaning.

What's the Consequence?

Without correct context, the user can make serious errors. For example, if units of measure are incorrect, the user could enter into an energy contract that is oversized to actual energy use. Or infer a downward trend from just a data error.

It takes just one contextual experience to shake confidence in all of the data presented.

How to Get It

The sustainability data preparation system must ingest the data dictionary of the next system, prepare the data accordingly, and then validate that the results are correct. This is a system-by-system test and is key to maintaining data in context.

EXAMPLE

COMMON CONTEXTUAL ERRORS

UNIT OF MEASURE DEFINITIONS

The graphic above shows two examples of contextual errors. On the left, the original system produces natural gas usage data in therms, but the system using the data expects natural gas data in CCF. (100 therms = 1 CCF). Units of measure errors are common everywhere, even in exploration on Mars! The key is to test for this error proactively and weed it out.

The panel on the right shows a more subtle contextual error, a mismatch in definitions. The original source includes all taxes, and the receiving system excludes taxes. It is very difficult for a user of the receiving system to know when a definitional error has been made. Do they really need to be an expert on data preparation?

This situation is the rationale for external assurance reviews, which focus on the method of data preparation including how data is prepared for varying systems, delivering data that has the expected context for users of that system.

Lack of data context is an easy error to make, and can significantly degrade data quality.

5 Granular Data

What is It?

Granular data is the fine-grained, detailed data on energy, water and waste usage that drives reduction plans. This data is found on energy invoices, utility bills, business invoices and from IoT sensor platforms.

What's the Challenge?

In the rush to get the first round of reporting done, many new sustainability efforts focus on historical baselines, forgetting that regulators, investors and customers are also looking for a credible reduction plan. The challenge is to meet the reporting deadlines, with a baseline AND a reduction plan. The latter requires granular data.

What's the Consequence?

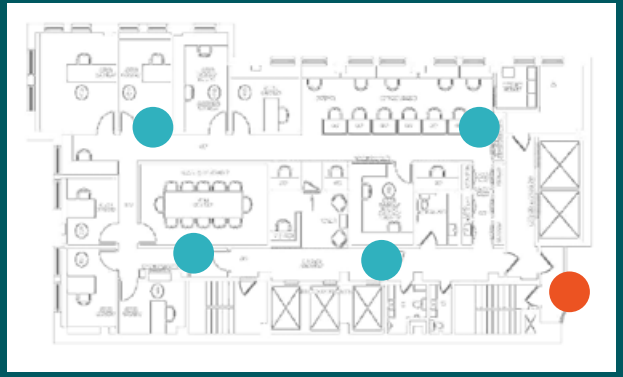
Typical sustainability systems capture one data point on usage per month per site at best. But without matching usage data to equipment, machinery and places, it is impossible to identify and evaluate the costs of reductions. Granular data is needed to build the business case.

How to Get It

The easiest and cheapest granular data is on energy, business and utility invoices. Use a system that reads all the data details. IoT sensors are a second way to capture and track granular data. Invoice and IoT data can be integrated and mapped at each site to the floor and equipment layout, providing a complete picture of usage and costs.

EXAMPLE

HOW GRANULAR DATA BUILDS THE BUSINESS CASE FOR REDUCTIONS



The graphic above shows a sample floor layout. The orange circle shows a site average calculation for energy usage, and the blue circles indicate meter-level detail on the utility bill, or the addition of IoT sensor data. The additional detail differentiates the energy usage at the four monitoring points.

When this granular usage data is matched to machinery in plant, or HVAC systems in a building, it creates the opportunity to examine energy reduction options by asset.

What is the cost of a change? How much energy will be saved? These two key questions can only be answered at the asset level, thus granular usage data is required. A reduction plan is formed by compiling each asset-level business case for reductions into a large portfolio, and then optimizing the order of implementation based on funding available, age of equipment and so on. Without granular data, money and time is wasted in reduction planning as one is really flying blind.

6 Audit-Ready Data

What is It?

Audit-ready data has been prepared using a method, and the method is the area of focus in an assurance review. So, the term audit-ready data actually refers to an auditable system.

What's the Challenge?

Current data preparation methods often rely on spreadsheets and ad hoc data transfers. These are difficult to audit as they lack monitoring and validation of chain of custody and data lineage. It's expensive and time-consuming to build these tests for data quality.

What's the Consequence?

Everyone wants a "clean" (no qualifications) sustainability assurance review, and without a method of data preparation that is ready for scrutiny, the data output will be unreliable, leading to qualifications on the assurance review.

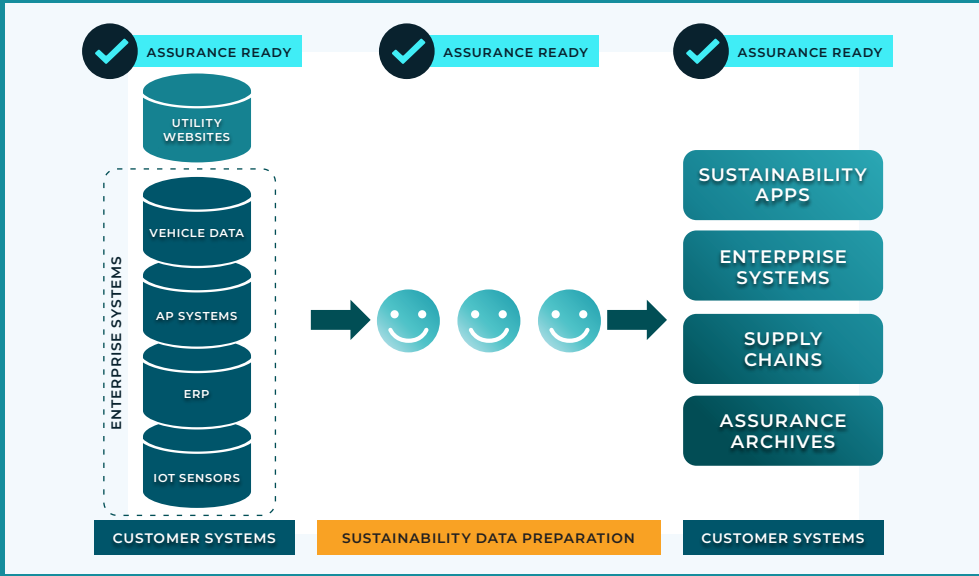
Data users will find the data unreliable for the same reason: it is not consistently prepared.

How to Get It

The only way to get audit-ready data is to use an audit-ready data preparation system. You can build one yourself or use a certified data preparation service.

EXAMPLE

END-TO-END COMPLIANCE



The graphic above shows the state of affairs if the sustainability data preparation is audit or assurance ready. The Primary Data for sustainability is pulled from the enterprise systems on the left through automated connectors, or the customer pushes the Primary Data to an SFTP server.

The Primary Data is processed, and structured, ready for use in sustainability applications, enterprise systems and so on. At the start and the end of this data flow, the data is housed in an enterprise system that is already Assurance-Ready. The question is about the middle section: End-to-end compliance, e.g. audit-ready data, is only achieved if the system of data preparation is audit-ready. Businesses can build their own compliant system or use a pre-built system such as GLYNT.

7 Business-Ready Data

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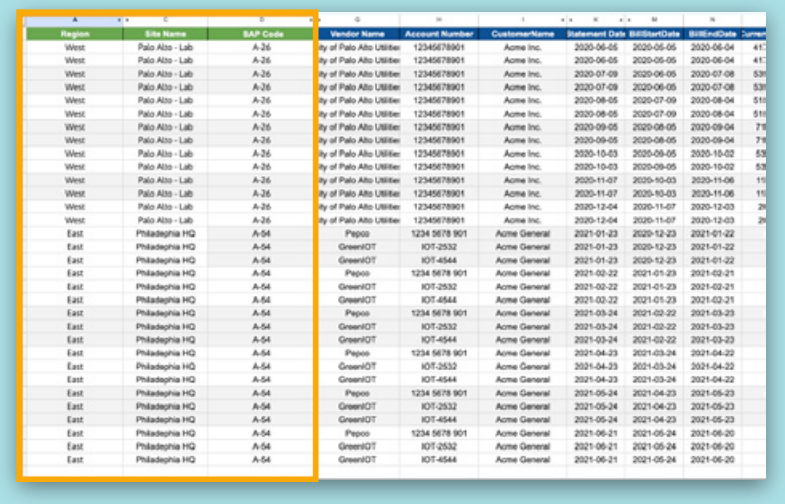
EXAMPLE

ADDING BUSINESS DATA TO SUSTAINABILITY DATA



Region	Site Name	SAP Code	Vendor Name	Account Number	CustomerName	Statement Date	BillStartDate	BillEndDate
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-06-05	2020-05-05	2020-06-04
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-06-05	2020-05-05	2020-06-04
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-07-09	2020-06-05	2020-07-08
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-07-09	2020-06-05	2020-07-08
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-08-05	2020-07-09	2020-08-04
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-08-05	2020-07-09	2020-08-04
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-09-05	2020-08-05	2020-09-04
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-09-05	2020-08-05	2020-09-04
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-10-03	2020-09-05	2020-10-02
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-10-03	2020-09-05	2020-10-02
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-11-07	2020-10-03	2020-11-06
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-11-07	2020-10-03	2020-11-06
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-12-04	2020-11-07	2020-12-03
West	Palo Alto - Lab	A-26	ity of Palo Alto Utilities	12345678901	Acme Inc.	2020-12-04	2020-11-07	2020-12-03
East	Philadephia HQ	A-54	Pepco	1234 5678 901	Acme General	2021-01-23	2020-12-23	2021-01-22
East	Philadephia HQ	A-54	GreenIOT	IOT-2532	Acme General	2021-01-23	2020-12-23	2021-01-22
East	Philadephia HQ	A-54	GreenIOT	IOT-4544	Acme General	2021-01-23	2020-12-23	2021-01-22
East	Philadephia HQ	A-54	Pepco	1234 5678 901	Acme General	2021-02-22	2021-01-23	2021-02-21
East	Philadephia HQ	A-54	GreenIOT	IOT-2532	Acme General	2021-02-22	2021-01-23	2021-02-21
East	Philadephia HQ	A-54	GreenIOT	IOT-4544	Acme General	2021-02-22	2021-01-23	2021-02-21
East	Philadephia HQ	A-54	Pepco	1234 5678 901	Acme General	2021-03-24	2021-02-22	2021-03-23
East	Philadephia HQ	A-54	GreenIOT	IOT-2532	Acme General	2021-03-24	2021-02-22	2021-03-23
East	Philadephia HQ	A-54	GreenIOT	IOT-4544	Acme General	2021-03-24	2021-02-22	2021-03-23
East	Philadephia HQ	A-54	Pepco	1234 5678 901	Acme General	2021-04-23	2021-03-24	2021-04-22
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East	Philadephia HQ	A-54	GreenIOT	IOT-4544	Acme General	2021-04-23	2021-03-24	2021-04-22
East	Philadephia HQ	A-54	Pepco	1234 5678 901	Acme General	2021-05-24	2021-04-23	2021-05-23
East	Philadephia HQ	A-54	GreenIOT	IOT-2532	Acme General	2021-05-24	2021-04-23	2021-05-23
East	Philadephia HQ	A-54	GreenIOT	IOT-4544	Acme General	2021-05-24	2021-04-23	2021-05-23
East	Philadephia HQ	A-54	Pepco	1234 5678 901	Acme General	2021-06-21	2021-05-24	2021-06-20
East	Philadephia HQ	A-54	GreenIOT	IOT-2532	Acme General	2021-06-21	2021-05-24	2021-06-20
East	Philadephia HQ	A-54	GreenIOT	IOT-4544	Acme General	2021-06-21	2021-05-24	2021-06-20

The graphic above is a snippet of GLYNT sustainability data with customer-added data. In this example, the customer added the sales region, the site name of each facility, and the SAP code for each facility. Adding site names enables integration into other facilities data, for energy and water management. Adding the SAP codes enables integration of sustainability data back into the SAP ERP platform.

This type of business-wide integration can be powerful. One GLYNT customer was able to improve cashflow management using the detailed service period dates from GLYNT, as these were more accurate indicator of tenant move in than were the lease records.

Another customer was able to improve the quality of their SAP Master Data, using the highly accurate vendor and service address data from GLYNT. A third customer found that they had many late fees, previously undetected.

8 Fresh Data

What is It?

Sustainability data updated as it arrives. For energy, water and waste invoices, expect updates once per month. For IoT sensors, the data can be updated as quickly as desired.

What's the Challenge?

Automated systems are a must-have for monthly updates. Ad hoc systems just crumple under the brisk pace. A business that plans to provide frequent updates should plan on investing in their sustainability systems or to use an automated provider.

What's the Consequence?

GLYNT provides investor-grade sustainability data because investors have been setting the pace on requirements for actual, accurate, audit-ready data. More than one GLYNT customer has seen a capital raise stalled due to stale, coarse sustainability data.

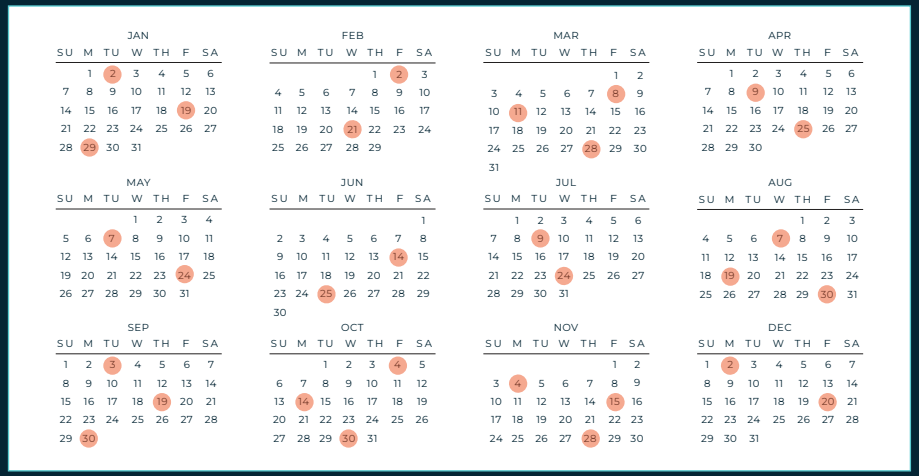
For internal credibility – would finance be proud of report that is 10 months stale? – and external credibility, plan on updating your sustainability data as it comes in.

How to Get It

Use automated data connectors! This is what the technology was built for! But also plan to automate all data quality systems, e.g. those that deliver the other attributes of Awesome Data. No point in having an automated connector unless your data meets all the other requirements too.

EXAMPLE

THE MANY REPORTING DATES OF 2024



In the era of voluntary disclosures, calculating sustainability metrics once per year was sufficient. And no one cared if it took 5 months to prepare the data.

Fast forward to our new era, with harmonized reporting standards, assurance reviews, and keen interest by investors, customers and employees on sustainability progress updates. In our new era, expect customer requests for your latest data and reports several times a month.

No one wants to be told in May that the calculations for the prior year are still underway. No one wants to be told in November the latest data is from the previous year.

Fresh data throughout the year builds confidence in your sustainability narrative and demonstrates your sustainability data management skills.

Conclusion

While it is fun to think of Awesome Sustainability Data as frosting on the cake – a delicious extra – but each of the eight attributes of Awesome Sustainability Data are a must-have. Sustainability and finance teams run the risk of errors and liabilities in their disclosures to regulators, investors and customers unless each of the attributes are in place. And just saying, “we have an automated connector” is not enough. Automation is a technology. Awesome Sustainability Data comes from rigor, method and validation.

With global harmonization of sustainability standards, including assurance reviews, we’re entering a new era. Sustainability data must be produced as rigorously as financial data. It’s going into financial statements, regulatory filings and reduction plans.

Data is GLYNT’s only product. We’re serious about it and we understand the data challenges facing finance and sustainability teams. Learn more about GLYNT’s Awesome Data.

Ready to Talk with GLYNT

Please contact us at info@glynt.ai. We’d love to hear your data story.

GLYNT.AI | The Sustainability Data Companyh

GLYNT is The Sustainability Data Company, producing investor-grade data for businesses around the world. Our audit-ready sustainability data enables accurate reporting, operational efficiencies and access to financial capital. With a purpose-built machine learning system, GLYNT is the automated solution for all types of water, waste, energy and emissions data. Speed work, lower costs, and power ESG, carbon accounting and other business systems with accurate, actual data from GLYNT. Learn more at glynt.ai