

SUSTAINABILITY REPORTING USING ORACLE SOLUTIONS

Embedded. Value-Driven. Measurable.

Increasingly organizations are looking to measure their sustainability-related impacts – economic, environmental, or social – and incorporate those metrics into their operations and reporting. Entities in both the public and private sector realize that optimizing sustainability performance is good for the bottom line as well as for society. Oracle believes that sustainability needs to be embedded within an organization and therefore its underlying IT systems in order to be truly effective. Sustainability is everyone's business. In this light, Oracle provides a number of solutions depending upon the Oracle software that is already in place. These solutions provide the ability to measure, manage and report on sustainability initiatives, ultimately driving organizations to be more sustainable whilst also generating value.

Introduction

Across the globe, companies are facing increasing pressure to improve the efficiency and reduce waste in their operations. This is increasingly associated with legislation regarding the impact of their operations on the environment. These pressures—both internal and external—drive a requirement to provide sustainability-related data that is comprehensive, auditable, and timely. Global mandatory as well as voluntary reporting schemes require companies to undergo extensive and expensive data audits to maintain a ledger of up-to-date emissions factors and to compare figures on an annual basis. Existing “ad hoc” approaches utilizing manual or niche solutions have a high operational cost and weak data security and audit-ability. The ideal solution is to embed environmental-related data acquisition and reporting into the mainstream of business operations and associated IT infrastructure. This is precisely what Oracle provides with a number of solutions depending on the Oracle software that is already in use, namely with Oracle Environmental Accounting and Reporting, the Sustainability Reporting Starter Kit for Oracle Hyperion Financial Management, and Oracle Business Intelligence Enterprise Edition.

Oracle Environmental Accounting and Reporting

[Oracle Environmental Accounting and Reporting](#) enables organizations to capture environmental data either electronically or manually; convert that to greenhouse gas emissions; comply with mandatory and voluntary greenhouse gas reporting schemes; and identify opportunities for CO₂ emissions and cost reductions. As an add-on module to Oracle E-Business Suite and JD Edwards EnterpriseOne Financials which seamlessly integrates with existing Accounts Payable business flows, Oracle

Environmental Accounting and Reporting delivers these pre-built capabilities without the duplication or double handling of transactions and data, which is intrinsic in other approaches.

Oracle Environmental Accounting and Reporting extends the invoice, purchasing and inventory processes to enable the capture of the necessary data, automatically matching this with the associated transactions. This can be augmented with additional data from smart meters, fleet management systems or from any other sources that capture the transactions, including spreadsheets. This approach presents users with a familiar and consistent experience while ensuring data security, accuracy, and consistency. The solution supports all of the flexible organizational structures native to the ERP application, including separate facilities, combined facilities, by legal structure, or by management structure. This allows an organization to view and report the data as needed. Similarly the data can also be associated with a particular asset to enable more detailed analysis of usage patterns. The solution handles the accounting of environmental and other sustainability metrics much as organizations manage their financial accounting, including a complete audit trail.

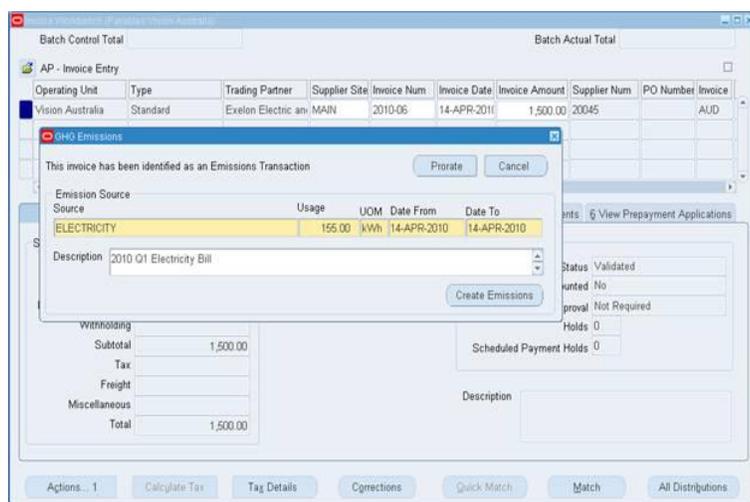


Figure 1. Data capture for emissions calculations during the processing of an invoice (Oracle E-Business Suite).

Oracle Environmental Accounting and Reporting provides the built-in mechanisms for calculating emissions and classifying them as scope 1, 2, or 3 using the Greenhouse Gas Protocol guidelines published by the World Resources Institute, the most widely adopted methodology for calculating greenhouse gas emissions.

Emission transformation factors are stored and can readily be updated over time with date effectiveness to manage the change of emissions factors and for recalculation purposes. When the transactions are entered the system automatically determines what additional data needs to be captured to perform the emissions calculations and associates the transaction with the appropriate default emission factor. If a more accurate emissions factor is available for a specific transaction the end user can override the default as needed.

KEY FEATURES

- Capture of energy usage and other environmental data directly in existing Oracle E-Business Suite and JD Edwards EnterpriseOne ERP transactions
- Asset-based tracking of fuel usage and other consumables as they are issued
- Capture and report data at both the facility and asset level
- Calculation of greenhouse gas emissions in accordance with the Greenhouse Gas Protocol
- Classification of scope 1, 2 and 3 emissions
- Store date effective emission factors for recalculation usage
- Easily change and update emission factors
- Automatically determine the correct transformation factors
- Data warehouse for data aggregation
- Pre-built analytics and dashboards
- Flexible reporting structures
- Ability to define key performance indicators

Increasingly organizations are looking to accurately communicate greenhouse gas emissions and other environmental impacts to constituents including regulators, customers, shareholders and employees. Regional regulatory mandates such as the Carbon Reduction Commitment (CRC) in the United Kingdom and Australia's National Greenhouse and Energy Reporting (NGER) Act require accurate and transparent greenhouse gas reporting. Information voluntarily disclosed to organizations such as the Carbon Disclosure Project (CDP) also needs to be provided with a high degree of confidence in order to protect an organization's credibility and brand. Practitioners are realizing that the manual spreadsheet-based processes lack the necessary efficiency, security, and reliability.

Pre-Built [Oracle Business Intelligence Enterprise Edition](#) (OBIEE) dashboards enable the dynamic generation of reports providing emissions summaries and trends at the touch of a button—including for the Carbon Disclosure Project. Users can drill down into additional levels of detail and they can also perform ad hoc analyses to investigate specific data trends and anomalies—rapidly identifying issues and opportunities alike.

Oracle Environmental Accounting and Reporting enables organizations to establish a baseline of its greenhouse gas emissions, energy usage, and other key environmental indicators and set reductions targets. Graphical indicators illustrate on a timely basis whether the organization is performing above, below, or in-line with the targets so that corrective actions can be taken as needed to successfully execute on sustainability initiatives. Not only does this provide operational sustainability metrics, the data also serves as the basis for forecasting and planning activities and help aligns sustainability initiatives with the core business goals and strategies of the organization.

KEY BENEFITS

- Reduced environmental data management and audit costs
- Compliance with regulatory mandates for GHG reporting
- Rapid production of environmental reports for internal and external use, including the Carbon Disclosure Project (CDP)
- Reductions in CO₂ and operational cost reductions
- Leverage existing IT investments
- Minimize organizational impact
- Maintain data integrity and security
- Consistent user experience
- Rapid time to value

PROOF POINT

95% reduction in staff resource requirements

50% reduction in reporting cycle times

\$1.2M in projected annual utility spend savings

ORACLE

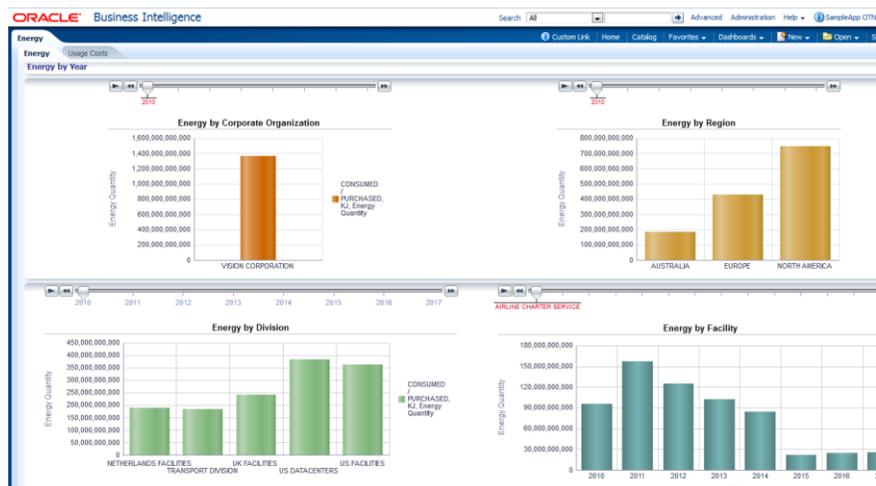


Figure 2. Pre-built business analytics dashboards providing data driven insight and identifying issues and opportunities.

Sustainability Reporting Starter Kit for Oracle Hyperion Financial Management

In today's more environmentally and socially aware culture, a global community of stakeholders and citizens now demands to know the impact an organization has on the environment and the regions in which it operates. The Global Reporting Initiative (GRI), an independent non-governmental organization that was previously part of the United Nations, provides an effective way to meet their demands. With thousands of organizations worldwide using it, the GRI's leading framework for sustainability reporting derives from the input of members representing businesses, accounting and investment firms, and environmental, human rights, research and labor organizations from around the world.

Many organizations who are using the GRI sustainability reporting framework to disclose their environmental and social initiatives use spreadsheets, email and manual processes to collect, consolidate and report this information. This approach can add time and effort to the process, is prone to errors and does not stand up to assurance by external auditors.

Forward-thinking organizations are now looking for enterprise-class software solutions that bring rigor and control to the collection, consolidation and reporting of sustainability metrics and that can align sustainability reporting with financial reporting.

The [Sustainability Reporting Starter Kit for Oracle Hyperion Financial Management](#) provides a more repeatable, accurate, auditable approach to collecting, consolidating and reporting environmental, social and economic metrics required for corporate sustainability reporting using methodologies such as the Global Reporting Initiative (GRI) framework. Leveraging the power of [Oracle Hyperion Financial Management](#), the Sustainability Reporting Starter Kit is a GRI-certified application that aligns sustainability reporting with financial reporting, ensures the accuracy and auditability of annual or quarterly sustainability reports and, collects and consolidates corporate sustainability reporting data from multiple systems and business units.

With a pre-built chart of accounts and task lists built around the GRI framework for sustainability reporting, the Sustainability Reporting Starter Kit for Oracle Hyperion Financial Management supports the integration of data directly from source systems, the loading of data from spreadsheets, or direct data entry via pre-built web data entry forms. Pre-built conversion calculation rules allow data to be entered in any measure and converted to any other measure in order to comply with the GRI reporting guidelines.

KEY FEATURES

- GRI-based chart of accounts
- Pre-built web data entry forms
- Direct integration with a variety of source systems
- Pre-built conversion rules
- Target-setting and scenarios
- Full audit trails, process management and security
- Flexible reporting, with pre-built report templates

The screenshot displays the Oracle Sustainability Reporting Starter Kit application interface. The main window shows a data entry summary for 2011 greenhouse gas emissions. The table below represents the data shown in the application.

		2011			
		Actual kg Scope 1	Actual kg Scope 2	Actual kg Scope 3	Actual kg Total
Direct and indirect greenhouse gas e...					
Primary energy purchased	CO2	33,593,242		3,618,827	37,412,069
	CH4 (CO2e)	3,956,465,432		3,956,465,432	
	N2O (CO2e)	73,086			73,086
Indirect energy produced	CO2	1,554,552		151,292	1,705,844
	CH4 (CO2e)	227,064,600			227,064,600
	N2O (CO2e)	8,925			8,925
Total direct GHG emissions		35,147,793		3,970,120	39,117,913
	CO2	4,183,530,032			4,183,530,032
	CH4 (CO2e)	74,021			74,021
Total GHG		4,218,751,846		3,970,120	4,222,721,966
Indirect energy purchased	CO2		54,030,000	7,250,000	61,280,000
	CH4 (CO2e)				
	N2O (CO2e)				
Total indirect GHG emissions			54,030,000	7,250,000	61,280,000
	CO2				
	CH4 (CO2e)				
	N2O (CO2e)				
Total direct/indirect GHG emissions		35,147,793		11,220,120	100,397,913
	CO2	4,183,530,032			4,183,530,032
	CH4 (CO2e)	74,021			74,021
	N2O (CO2e)				
Total GHG		4,218,751,846	54,030,000	11,220,120	4,284,001,966

Figure 3. Sustainability Reporting Starter Kit Application.

Leveraging the built-in capabilities of Oracle Hyperion Financial Management, customers can take advantage of process management, security and complete audit trails to ensure confidence and accuracy in the collection and consolidation of sustainability reporting metrics. The application also supports target setting and scenario analysis for the tracking and comparison of actual results versus goals and targets that are set for sustainability initiatives. The solution also offers flexible reporting capabilities with customizable, sample reports through Oracle Hyperion Financial Reporting, Microsoft Office-based reporting through Oracle Hyperion Smart View for Office and the option to create dashboards via Oracle Business Intelligence Enterprise Edition.

With the Sustainability Reporting Starter Kit for Oracle Hyperion Financial Management, customers can align financial and sustainability reporting within a single system and process. Fundamentally, this is a shift to integrated reporting where environmental data consolidation is aligned with financial consolidation for external reporting. It enables customers to leverage their existing investments and skill sets in Oracle Hyperion Financial Management and extend its capabilities to a new domain of information.

The Sustainability Reporting Starter Kit for Oracle Hyperion Financial Management allows organizations to replace spreadsheets, email and manual processes with a more efficient and accurate system for collecting and consolidating sustainability reporting metrics. It helps ensure compliance with mandatory sustainability reporting requirements and goes beyond that to improve communications with key stakeholders such as employees, customers, partners, suppliers and the community. Brand image is also enhanced through improved sustainability reporting transparency with organizations such as the Global Reporting Initiative, Dow Jones Sustainability Index, Carbon Disclosure Project and others.

KEY BENEFITS

- More efficient consolidation of corporate sustainability reporting data
- Improved communication and relations with key stakeholders such as customers, employees, partners and suppliers
- Improved brand image through increased sustainability reporting transparency
- Regulatory compliance with sustainability reporting requirements
- Rapid deployment with pre-built functionality
- Leverage of existing investments in Oracle Hyperion Financial Management

PROOF POINT

Estimated net, group-wide cost savings of US\$310,000 and 311 full-time equivalent days over a five-year period

Estimated annual efficiency improvement of 6% in the first year, and 20% in the second year and beyond



Oracle's Hyperion Performance Management Applications support a broad range of strategic and financial performance management processes to enable management excellence. Part of Oracle's enterprise performance management system, these applications can be quickly deployed out of the box, extended with Oracle's business intelligence product family and tailored to meet your organization's specific needs.

Oracle Business Intelligence Enterprise Edition

[Oracle Business Intelligence Enterprise Edition](#) (OBIEE) is a comprehensive business intelligence platform that delivers a full range of capabilities—including interactive dashboards, ad hoc queries, notifications and alerts, enterprise and financial reporting, scorecard and strategy management, business process invocation, search and collaboration, mobile, integrated systems management and more. OBIEE provides complete, relevant insight to everyone in an organization and that, in turn, results in better decisions, informed actions, and more efficient business processes.

For organizations not using Oracle E-Business Suite, JD Edwards EnterpriseOne, or Hyperion Financial Management, the Oracle Business Intelligence solution offers a flexible platform to collect, report, and analyze data as part of an enterprise-wide platform. OBIEE provides complete, relevant insight to employees at all levels of the organization, not just analysts. Information is optimized for the user's role by leveraging the unified BI foundation that drives intelligence-driven business processes and workflows. Business users can access information in the most intuitive manner—as a dashboard, through ad hoc analysis, via formatted reports, with integrations to web-based or Office applications, or as mobile analytics embedded in alerts.

KEY FEATURES

- Intelligence across multiple enterprise sources, including Oracle and non-Oracle data
- Unified single end-user interface for analytics against relational, OLAP, and flat file data sources
- Integrated scorecard and strategy management
- Rich, interactive dashboards with guided analytics
- Proactive detection, alerts, and multi-step analytic workflow
- Advanced enterprise reporting and publishing

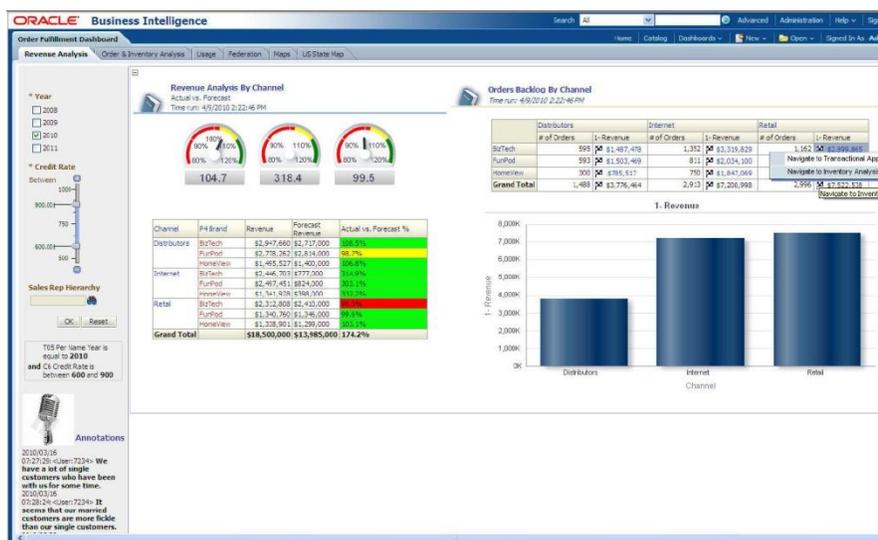


Figure 4. Oracle Business Intelligence interactive dashboards present up-to-date data in easy-to-understand visual formats.

The interactive dashboards provide fully interactive collections of analytic content with a variety of visualizations. The rich, interactive user interface makes the presentation

of data intuitive, relevant, and easy to understand. Users are provided with information filtered and personalized for their identity, function, or role based on predefined security rules. As a result, users are guided to make informed and effective decisions that enhance the performance of the entire organization.

OBIEE's powerful, near-real-time, multi-step alert engine can trigger workflows based on business events and notify stakeholders via their preferred medium and channel. This means users can receive a text message on their cell phone, a PDF attachment via email, or a report saved as a Microsoft Excel spreadsheet saved to their shared corporate file system. OBIEE also provides the ability to invoke business processes from within the business intelligence dashboards and reports. This is enabled by the integration of business process management technologies within the business intelligence platform. Invoked actions may include initiating a business process, a web service, a java method or simply calling other BI content.

Scorecard and Strategy Management extends OBIEE with capabilities to let you communicate strategic goals across the organization and monitor their progress over time. Scorecard and Strategy Management provides capabilities to establish specific goals, define how to measure their success, and communicate that information down the entire organization. Armed with this insight, employees can understand their impact on achieving success and align their actions accordingly. As they use Scorecard to measure the outcome of their actions, they can quickly make adjustments as needed to successfully achieve the goals that have been set for the organization.

In addition to providing full BI functionality, OBIEE is based on a proven architecture that delivers next generation BI capabilities. The platform supports a full complement of access, analysis, and information delivery options. Unlike other BI tools, all components are integrated on a single, common architecture to provide a seamless and intuitive user experience. With OBIEE, business decision-makers at all levels are provided with the data they need to manage and fine-tune enterprise performance.

Summary

Measuring performance and setting targets is a critical component for organizations to become more productive, more profitable, and more sustainable. Monitoring key metrics such as energy, waste, water, greenhouse gas emissions, as well as other sustainability metrics leads to continuous improvement opportunities that drive increased operational efficiency and ultimately cost savings. The ideal way to achieve this is to embed environmental-related data acquisition and reporting into the mainstream of business operations and associated IT infrastructure. Depending on the existing investments that have been made in Oracle, organizations can leverage existing data and business processes by using a number of different solutions including Oracle Environmental Accounting and Reporting, Hyperion Financial Management Sustainability Reporting Starter Kit, and Oracle Business Intelligence Enterprise Edition.

These offerings provide the ability to measure and manage sustainability initiatives, embed sustainability considerations into core business processes, and ultimately drive organizations to be more sustainable while also contributing to the bottom line.

KEY BENEFITS

- Simplified BI tools infrastructure
- Integrated BI foundation with IT architecture
- Consistent view of information and single-source accountability

PROOF POINT

Recovered US\$468,000 in electricity billing errors in a single financial year

Reduced carbon liability by US\$279,000 through better data handling flexibility and improved carbon tax reporting efficiency

Increased transparency of the auditing process by enabling auditors to easily track and verify emissions numbers from dashboards, reducing costs and eliminating risk of heavy fines



Centennial Coal

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