

# **Oracle® Environmental Accounting and Reporting**

User's Guide

Release 12.2

**Part No. E48800-02**

November 2013

Oracle Environmental Accounting and Reporting User's Guide, Release 12.2

Part No. E48800-02

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# Contents

**Send Us Your Comments**

**Preface**

## **1 Overview of Environmental Accounting and Reporting**

Introduction to Oracle Environmental Accounting and Reporting.....	1-1
Greenhouse Gas Accounting and Reporting.....	1-2
Recording and Reporting Other Environmental Data.....	1-4
Technology Overview.....	1-4
Environmental Accounting and Reporting.....	1-5

## **2 Setting Up**

Oracle Environmental Accounting and Reporting Setup Overview.....	2-1
Setting Up in Other Applications.....	2-2
Setting Up in Oracle Environmental Accounting and Reporting.....	2-4
Setting Up Lookups.....	2-5
Defining Organization Hierarchy Lookup.....	2-7
Setting Up Formulas for Operating Units.....	2-8
Setting Up Units of Measure Classes.....	2-9
Setting Up Units of Measure.....	2-10
Setting Up Units of Measure Conversions.....	2-10
Setting Up Unit of Measure Classification.....	2-11
Setting Up Profile Options.....	2-11
Defining Key Flexfield Structures for Reporting.....	2-14
Defining Descriptive Flexfields for Reporting.....	2-15
Reporting Combinations.....	2-15

Setting Up Parameters.....	2-16
Setting Up Organizations.....	2-18
Defining Assets.....	2-23
Defining Sources.....	2-24
Defining Suppliers.....	2-30
Defining Items.....	2-31
Defining Key Performance Indicators.....	2-32
Setting Up Carbon Permit Management.....	2-38
Setting Up in Oracle Data Integrator.....	2-40
Setting Up in OBIEE.....	2-40
Defining an Organization Hierarchy.....	2-40
Defining a Hierarchy Type.....	2-41
Defining a Hierarchy.....	2-43
Creating a Hierarchy Version.....	2-44
Finding an Organization Hierarchy.....	2-45
Updating a Hierarchy Version.....	2-47
Viewing a Hierarchy Type.....	2-48
Updating a Hierarchy Type.....	2-49

### 3 Environmental Accounting

Environmental Accounting Overview.....	3-1
Environmental Accounting for Invoices.....	3-2
Viewing Emissions.....	3-6
Viewing the Environmental Ledger.....	3-9
Environmental Accounting Using Inventory Issue Transactions.....	3-10
Entering Transaction Batches Manually.....	3-11
Loading Source Usages Using the Oracle Web Applications Desktop Integrator.....	3-16
Creating Transactions Using an API.....	3-16
Performing Emissions and Energy Recalculations.....	3-21
Transferring Transactions to the Data Warehouse.....	3-22

### 4 Environmental Reporting

Environmental Reporting Overview.....	4-1
Understanding the Emissions Dashboard.....	4-1
Understanding the Energy Dashboard.....	4-6
Understanding the Metrics Dashboard.....	4-6
Understanding the Reporting Dashboard.....	4-7
Understanding the Summary Dashboard.....	4-13
Understanding the Test Dashboard.....	4-15
Understanding the Transactions Dashboard.....	4-18

Understanding the Usage Dashboard.....	4-20
Understanding the Water and Waste Dashboard.....	4-21
Formatting Graphs.....	4-22

## **A Windows and Navigation Paths**

Environmental Accounting and Reporting Windows and Navigation Paths.....	A-1
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## **Glossary**

## **Index**



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## **Oracle Environmental Accounting and Reporting User's Guide, Release 12.2**

### **Part No. E48800-02**

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# Preface

## Intended Audience

Welcome to Release 12.2 of the *Oracle Environmental Accounting and Reporting User's Guide*.

This guide contains the information needed to implement and use Oracle Environmental Accounting and Reporting.

See Related Information Sources on page x for more Oracle E-Business Suite product information.

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## Structure

- 1 Overview of Environmental Accounting and Reporting**
- 2 Setting Up**
- 3 Environmental Accounting**
- 4 Environmental Reporting**
- A Windows and Navigation Paths**

This appendix lists each window available for use in the Oracle Environmental Accounting and Reporting application as well as the associated navigator path for each

window.

## **Glossary**

## **Related Information Sources**

- Oracle E-Business Suite Maintenance Guide
- Oracle E-Business Suite Flexfields Guide
- Oracle E-Business Suite Multiple Organizations Implementation Guide
- Oracle HRMS Implementation Guide
- Oracle Account Payables User's Guide
- Oracle Assets User's Guide
- Oracle Projects Implementation Guide
- Oracle Inventory User's Guide
- Oracle Daily Business Intelligence Implementation Guide

## **Integration Repository**

The Oracle Integration Repository is a compilation of information about the service endpoints exposed by the Oracle E-Business Suite of applications. It provides a complete catalog of Oracle E-Business Suite's business service interfaces. The tool lets users easily discover and deploy the appropriate business service interface for integration with any system, application, or business partner.

The Oracle Integration Repository is shipped as part of the E-Business Suite. As your instance is patched, the repository is automatically updated with content appropriate for the precise revisions of interfaces in your environment.

You can navigate to the Oracle Integration Repository through Oracle E-Business Suite Integrated SOA Gateway.

## **Do Not Use Database Tools to Modify Oracle E-Business Suite Data**

Oracle **STRONGLY RECOMMENDS** that you never use SQL\*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle E-Business Suite data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL\*Plus to modify Oracle E-Business Suite data, you risk destroying the integrity of

your data and you lose the ability to audit changes to your data.

Because Oracle E-Business Suite tables are interrelated, any change you make using an Oracle E-Business Suite form can update many tables at once. But when you modify Oracle E-Business Suite data using anything other than Oracle E-Business Suite, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle E-Business Suite.

When you use Oracle E-Business Suite to modify your data, Oracle E-Business Suite automatically checks that your changes are valid. Oracle E-Business Suite also keeps track of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL\*Plus and other database tools do not keep a record of changes.



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# Overview of Environmental Accounting and Reporting

## Introduction to Oracle Environmental Accounting and Reporting

Oracle Environmental Accounting and Reporting enables organizations to track their greenhouse gas (GHG) emissions and other environmental data against reduction targets, and facilitates environmental reporting for both voluntary and legislated emissions reporting schemes.

Oracle Environmental Accounting and Reporting (EAR) enables organizations to record environmental data such as energy consumed or energy generated at facilities or locations within the enterprise, and automatically calculate corresponding greenhouse gas (GHG) emissions resulting from the use of emission sources. This helps companies monitor emissions against pre-established targets or thresholds, identify opportunities for cost and emission reduction, and also help comply with globally compliant mandatory or voluntary reporting needs.

Oracle Environmental Accounting and Reporting is an add-on module to Oracle E-Business Suite and provides multiple modes to capture environmental data, a GHG emissions accounting engine, and pre-built dashboards and reports to:

- Record, account, track, and report activities that impact the environment.
- Participate in voluntary GHG monitoring and disclosure programs such as Carbon Disclosure Project.
- Identify opportunities to improve energy efficiencies and reduce GHG emissions.
- Recognize and undertake early voluntary actions for reducing greenhouse gas emissions.
- Fulfill mandatory GHG reporting requirements enforced by global and local legislations.

- Enhance shareholders confidence as an environmentally conscious organization.

Some of the key features of Oracle EAR that allow you to achieve the above are:

- Store date effective energy and emission factors for location specific GHG accounting.
- Maintain an emissions audit data trail in the Environmental Ledger for a time based analysis, reporting, and statutory auditing requirements.
- Classify GHG emissions data as Scope 1, 2, or 3 and by standard industry codes. Refer to the Setting Up chapter for more information on Scopes.
- Configure organization hierarchy to meet specific analysis and reporting needs of the enterprise.
- Record environmental data through several flexible means – through ERP transactions, manual batches or import using WebADI templates.
- Report emissions data using Oracle Business Intelligence dashboards.
- Define KPIs for tracking an enterprise's sustainability performance.

## Greenhouse Gas Accounting and Reporting

The Oracle Environmental Accounting and Reporting application enables you to account, audit, and report greenhouse gas (GHG) emissions. The following sections provide a brief description of the greenhouse gas effect, regulations for GHG accounting and reporting, and the GHG Protocol.

### Greenhouse Gas Effect and Global Warming

The Earth reflects the infrared radiation that it receives from the sun. Certain gases called the greenhouse gases in the higher layers of the Earth's atmosphere absorb some of the reflected radiation and radiate it back to the Earth's lower atmospheric layers and help keep the planet at a temperature that is suitable for life. This process by which some thermal radiation is absorbed and re-radiated by atmospheric gases back to a planet to keep it warm is called the greenhouse gas effect. Carbon dioxide, water vapor, methane, and ozone are the major greenhouse gases.

The concentration of the green house gases is increasing due to increased industrialization and burning of fossil fuels. This increases the thermal radiation absorption by these gases, thereby increasing the Earth's temperature or resulting in global warming.

## **Global Requirement for Greenhouse Gas Accounting and Reporting**

Increasing awareness of the environmental dangers of global warming has encouraged both developed and developing nations to agree upon accounting and reporting greenhouse gases.

The Kyoto Protocol developed under the United Nations Framework Convention on Climate Change (UNFCCC) aims at fighting global warming caused due to increasing atmospheric concentrations of the following greenhouse gases: carbon dioxide, methane, nitrous oxide, sulphur hexa fluoride and two groups of gases, hydrofluorocarbons and perfluorocarbons.

## **Regulations for GHG Emissions Accounting and Reporting**

Many countries now have their own legislations that mandate greenhouse gas emissions accounting and reporting. For example, in the United States of America, the U.S. Environmental Protection Agency (EPA) published a rule mandating greenhouse gases (GHG) reporting from large GHG emissions sources, also referred to as 40 CFR part 98.

In California, the Assembly Bill 32: Global Warming Solutions Act was introduced by the California State Law to fight climate change by establishing a comprehensive program to reduce greenhouse gas emissions from all sources throughout the state. This bill requires that the California Air Resources Board (CARB) develops regulations and mechanisms to reduce California's greenhouse gas emissions to 1990 levels by 2020.

In Australia, the National Greenhouse and Energy Reporting Act 2007 (the NGER Act) introduced a national framework for the reporting and declaration of information about GHG emissions, GHG projects, and energy use and production of corporations.

The United Kingdom introduced the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme that aims at improving energy efficiency and cutting emissions in large public and private sector organizations. The scheme is designed to tackle CO<sub>2</sub> emissions not already covered by Climate Change Agreements (CCAs) and the EU Emissions Trading Scheme.

## **Voluntary Emissions Reporting**

Today, many environmentally and socially aware organizations are voluntarily participating in emissions disclosure projects. For example, many organizations across the globe are participating in the Carbon Disclosure Project (CDP) that was introduced in the United Kingdom. Through CDP, major economies measure and disclose their greenhouse gas emissions, climate change strategies, and water usage.

## **GHG Protocol – Global Standard for GHG Accounting and Reporting**

An increasing number of industries and organizations are now adopting environmental emissions accounting and reporting tools and applications based on the Greenhouse

Gas Protocol to understand their emissions profiles and potential GHG liabilities. The Greenhouse Gas Protocol (GHG Protocol) was convened by the World Resources Institute and the World Business Council for Sustainable Development and is used as an international accounting tool to measure, account, and manage greenhouse gas emissions. The GHG Protocol also serves as an accounting framework for all GHG standards and programs globally.

Oracle Environmental Accounting and Reporting is based on the standards prescribed by the GHG Protocol. EAR lets you maintain location specific energy factors to determine the energy content in gigajoules (GJ) and GHG emissions in kilograms (Kgs) of CO2 equivalents based on the usage of environmental sources that cause GHG emissions. This information is stored in the Environmental Ledger and is used for reporting through pre-built Oracle Business Intelligence Dashboards and Reports.

**Note:** Although the Environmental Ledger stores the GHG emissions in kilograms (Kgs), EAR enables you to choose a desired unit of measure (such as a ton) for reporting and viewing GHG emissions in the pre-built Oracle Business Intelligence Dashboards. Refer to the description of the GHG: Emission UOM Class profile option for more information about using a unit of measure other than kilograms. See: Setting Up Profile Options, page 2-11.

## Recording and Reporting Other Environmental Data

Oracle Environmental Accounting and Reporting (EAR) can also be configured to capture and analyze environmental data that is useful to an organization for tracking multiple environmental aspects. A few examples of these types of environmental or sustainability data are:

- Printer Cartridges Recycled: Track the number of recycled printer cartridges over a year.
- Water Pumped: Track the liters of water being pumped through a manufacturing plant.
- Tree Planting: Account the number of trees planted in a given time period.

Oracle Environmental Accounting and Reporting (EAR), lets you compete in the global market and facilitates transforming your organization into an environmentally responsible organization.

## Technology Overview

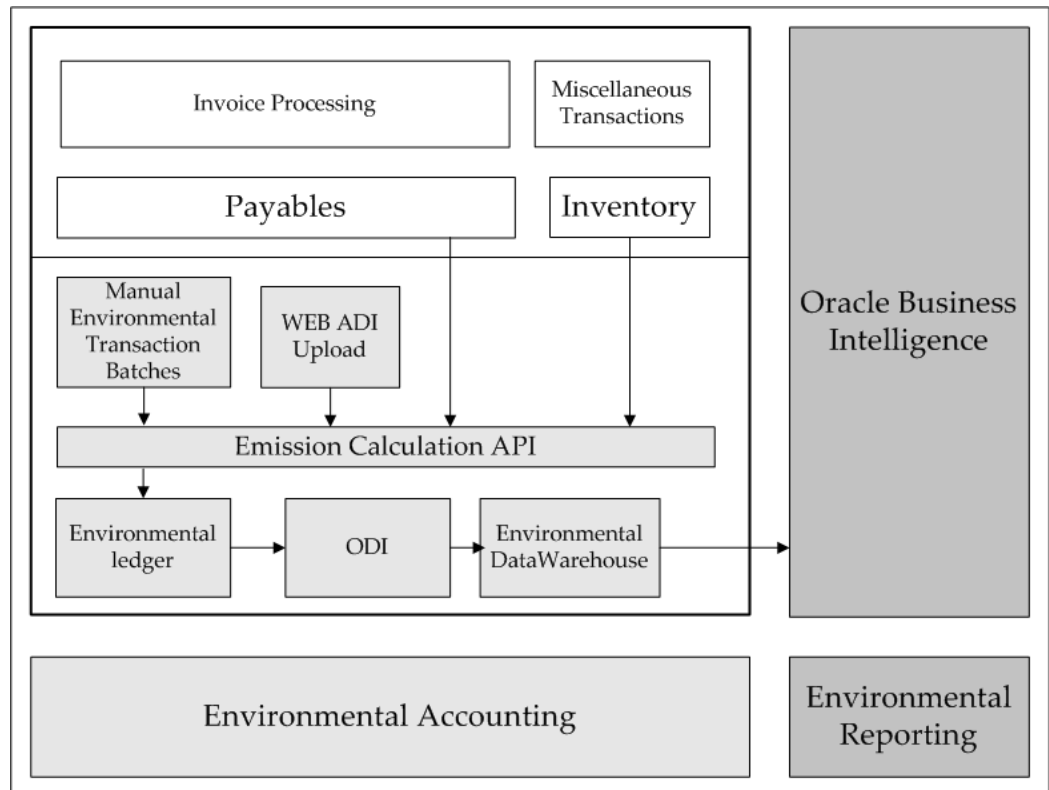
Oracle Environmental Accounting and Reporting uses the following Oracle technologies:



- Oracle Business Intelligence Enterprise Edition (OBIEE).
- Oracle E-Business Suite (EBS) Technology Stack.
- Oracle Data Integrator (ODI).

## Environmental Accounting and Reporting

The following diagram provides an overview of the Oracle Environmental Accounting and Reporting application's architecture:



Environmental Accounting and Reporting (EAR) integrates with Oracle Payables and Oracle Inventory and enables you to perform environmental accounting for various transactions. EAR integrates with Oracle Payables to capture data while processing Invoices with or without Purchase Order match, related to the supply and use of products and services that have environmental impact. You can also enter this information for invoices after they are received and processed through the Payables Open Interface. EAR integrates with Oracle Inventory to record data related to the issue of Items to Assets that result in environmental emissions. You can also record environmental transactions manually in the Environmental Transaction Batches window or upload data from spreadsheets using Oracle WebADI Templates available within EAR. This data is collected by the Emission Calculation API that calculates the energy and carbon equivalent emissions by applying energy and emission factors and

stores the information in the Environmental Ledger.

EAR leverages Oracle Data Integrator (ODI) to transfer the data from the Environmental Ledger to the Environmental Data Warehouse. The Oracle Business Intelligence application uses the data for environmental reporting through the pre-built dashboards and reports.

EAR enables you to record environmental transactions involving the issue of items, to assets defined in the Oracle Assets application. You can also define assets within EAR if you have not installed the Oracle Assets module. Refer to the "Defining Assets" topic of the Setting Up chapter for more information.

EAR allows you to map Environmental Organizations to projects and tasks defined in Oracle Projects. While processing Invoices that have references to projects and tasks, EAR uses this information to identify organizations to calculate and store environmental data based on the projects and tasks mapped to the organization. For example, a site specific construction project and task code could be used to account for environmental emissions related to the facility.

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## Setting Up

### Oracle Environmental Accounting and Reporting Setup Overview

The Oracle Environmental Accounting and Reporting (EAR) setup steps span several Oracle applications including Oracle E-Business Suite, Oracle Business Intelligence Enterprise Edition (OBIEE), and the Oracle EAR setup as follows:

- Set up the following prerequisite applications of Oracle E-Business Suite to be able to run the EAR application:
  - Oracle System Administration
  - Oracle Inventory
  - Oracle General Ledger
  - Oracle Human Resource Management System
  - Oracle Payables
  - Oracle Assets
  - Oracle Projects

Depending on your individual requirements, there may be EAR related or additional setup required. If this is the case, then the details are provided in the "Setting Up in Other Applications, page 2-2" topic.

- Perform the EAR setup including Lookups, Reporting Structures, Parameters, Formulas, Flexfields, Reporting Combinations, UOMs, UOM Classification, Organization, and Organization Hierarchies, Assets, Sources, Suppliers, Items, and KPI definitions. Schedule the Oracle Data Integrator (ODI) ETL (Extract, Transform, and Load) batch or shell script to run for specific intervals of time as required. The program loads the data from the source EBS system to the data warehouse schema

for environmental reporting.

- Set up OBIEE that provides analytics from data spanning enterprise sources and applications.

## Setting Up in Other Applications

Perform the following prerequisite setup in other applications of the E-Business Suite for running the Oracle Environmental Accounting and Reporting (EAR) application. Refer to the details for setting up these requirements provided in the application user's guides indicated.

## Setting Up in Oracle System Administrator

Set up the following in Oracle System Administrator:

- Profile Options
  - GHG: Data Warehouse Database Link.
  - BNE Allow No Security Rule

See: Setting Up Profile Options.

- Descriptive flexfield structure for transaction source. As described earlier, one of the modes to capture environmental emissions, is through the Inventory Miscellaneous Issue of Environmental Items to Assets. If this method is chosen, then it is required, to define a corresponding Transaction Type. For defining this Transaction Type, a new "GHG Asset" Context Value, with a transaction prompt as Asset, for the Descriptive Flexfield "Transaction Source", must be defined. Refer to the *Oracle E-Business Suite Flexfields User's Guide* for more information on how to set up flexfields.

You can use the following responsibilities that are seeded in the Oracle System Administration application.

- Environmental Accounting and Reporting Administrator Responsibility
- Environmental Accounting and Reporting User Responsibility

Refer to *Oracle E-Business Suite Maintenance Guide* for more information.

## Setting Up in Oracle General Ledger

Set up the following in Oracle General Ledger:

- Accounting Key Flexfields

Refer to *Oracle E-Business Suite Flexfields User's Guide*.

## Setting Up in Oracle Human Resources Management

Set up the following in Oracle Human Resources Management:

- Locations (Required)
- Multi-Org Access Control (Optional)

To set up Multi-Org Access Control perform the following tasks:

- Define a Multi-Org Security Profile. See: Defining a Security Profile, *Oracle HRMS Implementation Guide*.
- Set the profile option MO: Security Profile to your security profile for each application responsibility that needs to access multiple operating units.
- Set the profile option MO: Default Operating Unit to a default operating unit for the responsibility from the step above.

Refer to the *Oracle E-Business Suite Multiple Organizations Implementation Guide* for more information.

## Setting Up in Oracle Inventory

Set up the following in Oracle Inventory:

- Items (Required)
- Subinventory (Required)
- Units of Measure (Required)
- Units of Measure Classes (Required)
- Descriptive flexfield structure for transaction source. Refer to "Setting Up in Oracle System Administrator" topic for information.
- Transaction Source Type to track inventory issues to the environmental assets. For example, you can define a Transaction Source Type with the following information:
  - Name: GHG Issue
  - Description: GHG Issue
  - Validation Type: Value Set
  - Context: GHG Asset

This setup is optional and is only required if you have installed Oracle Inventory and maintain inventory of items that you issue to assets have impact on the environment.

- Transaction Type. If you want to account for emissions related to Inventory Issues, then you must set up the GHG Inventory Issue to GHG Asset Transaction Type. For example, you can define transaction type with the following information:
  - Name: GHG Inventory Issue to GHG Asset
  - Description: GHG Inventory Issue to GHG Asset
  - Action: Issue from Stores

Refer to the *Oracle Inventory User's Guide* for more information.

## Setting Up in Oracle Payables

Set up Supplier and Supplier Sites. Refer to the *Oracle Payables User's Guide* for more information on setting up Supplier and Supplier Sites.

## Setting Up in Oracle Assets

Set up Assets. Refer to the *Oracle Assets User's Guide* for more information on setting up assets.

## Setting Up in Oracle Projects

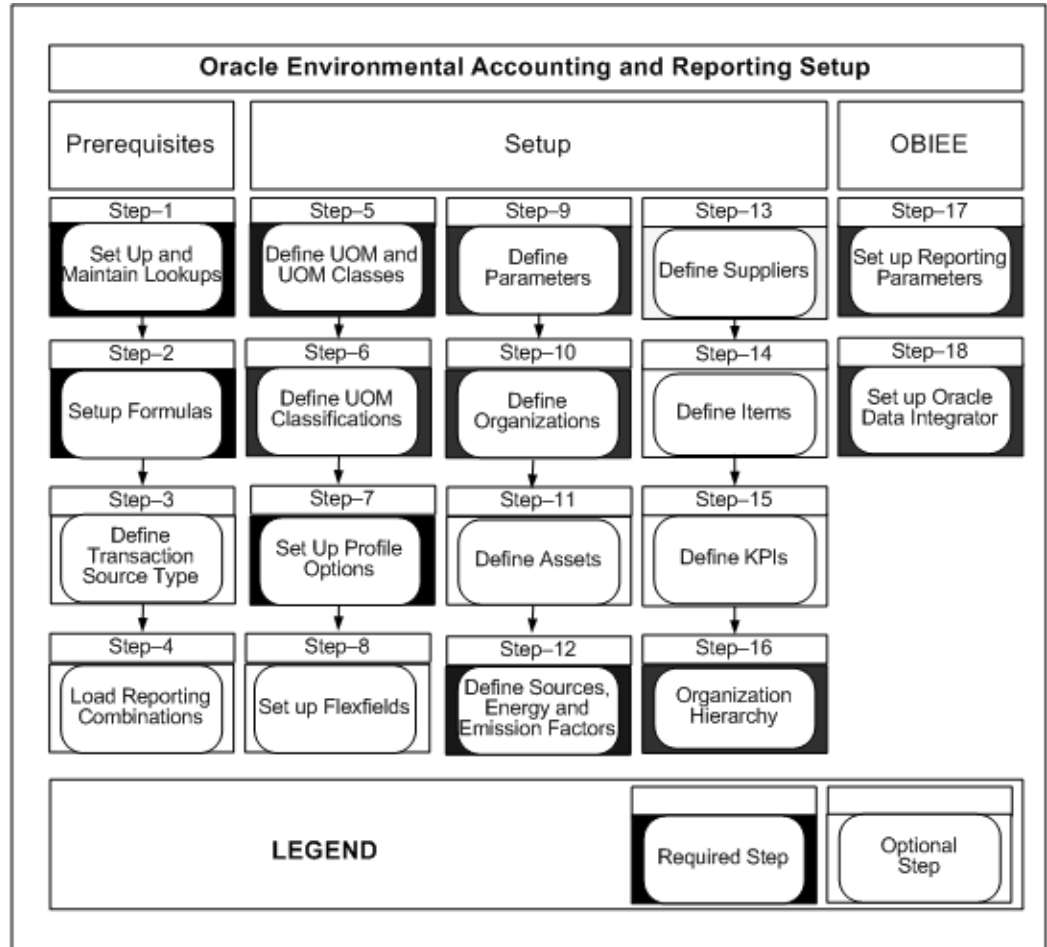
Set up the following in Oracle Projects:

- Projects
- Tasks

Refer to the *Oracle Projects Implementation Guide* for more information.

## Setting Up in Oracle Environmental Accounting and Reporting

The following is a list of setups required for Oracle EAR:



## Setting Up Lookups

Set up the following lookups in Oracle Environmental Accounting and Reporting (EAR) according to your organization's requirements:

- **Emission Types:** Set up emission types to define the types of gas emissions that result from consuming or producing a source. For example, carbon dioxide (CO2), Perfluoroethane (C2F6), nitrous oxide (N2O) etc. EAR provides 27 seeded emission types.
- **Energy Types (GHG\_ENERGY\_TYPE):** Optionally, set up energy types used by sources. For example, Electricity, Fuel, Cooling, and Heating. Energy types used are specified in the following CDP report sections:
  - Gross Energy Usage
  - Gross Energy Usage by Energy Type

- **Legislation:** Set up Legislation codes to define government entities that require carbon permits. For example, set up a code for a certain city that requires permits, such as the Northeast U.S. states' Regional Greenhouse Gas Initiative (RGGI), Tokyo Metropolitan Trading Scheme, or the Kyoto Protocol. For more information about carbon permits, refer to Setting Up Carbon Permit Management, page 2-38.
- **Locations:** Set up a location to replicate the State or County values defined within the Oracle E-Business Suite. Oracle EAR then uses it to identify the state/country that an asset resides in. When a location specific emission factor is used, these values are used to determine the correct factors to use, when calculating the emission information. For example, the Emission Source ELECTRICITY is location specific, and can have different factors depending on the state that the facility is consuming the ELECTRICITY in.
- **Measurement Criteria:** Set up Measurement Criteria to indicate the reliability of information that is related to the transactions. For example, the Measurement Criteria for a Paper Invoice is 'A', i.e. very reliable. The following measurement criteria are seeded in the EAR application:

Number	Code	Meaning
1	A	Supplier Invoice
2	AA	Indirect measurement at consumption point
3	AAA	Direct measurement at consumption point
4	BBB	Simplified consumption measurement

- **Source Category:** Set up source categories (GHG\_SOURCE\_CATEGORY) to use for grouping sources together for reporting purposes in the Environmental Sources window. For example, sources such as Chilled Water, Hot Water, and Steam Water can be grouped under a Water source category. The following source categories are seeded in the EAR application:
  - Water
  - Waste

To view reports for these categories, refer to Understanding the Water and Waste Dashboard, page 4-21. You can add additional categories and create custom dashboards for them as needed.



- **Standard Industry Codes:** Set up the Standard Industry Codes suitable to your organization.
- **Transport Types:** Set up transport types to identify the various diesel engine types. You must enter emission factors for diesel engines by the engine type as each type has a different emission value. For example, EURO 1, EURO 2, EURO 3.

### **To define lookups:**

1. Navigate to the Application Object Library Lookups window
2. Perform a query to review seeded lookup types for the application Oracle Environmental Accounting and Reporting.
3. The following information displays for the lookup Type:
  - Look up type in the Type field.
  - A short description of the lookup type in the Meaning field.
  - A detailed description of the lookup type in the Description field.
4. To add additional lookup values:
  1. Enter the Code for the lookup value.
  2. Enter a short description for the lookup value in the Meaning field.
  3. Optionally, enter a detailed description for the lookup value in the Description field.
  4. Enter the Effective Dates for the lookup value in the From and To fields. If you do not enter a From date, the new lookup value is valid immediately. If you do not enter a To date, the new lookup value is valid indefinitely.
5. Select the Enabled checkbox to enable the lookup value.
6. Click Save.

## **Defining Organization Hierarchy Lookup**

Oracle EAR enables you to define multi-level organization hierarchies to support multi level analysis and reporting of environmental data. To define a hierarchy you must define additional look up values for the standard Oracle HRMS look up type HIERARCHY\_NODE\_TYPE.

Additional lookup values needed for EAR are as follows:

Code	Description
GHG_ORGANIZATIONS	Organization
GHG_FACILITIES	Facility
GHG_SUB_FACILITIES	Sub Facility

### To define additional lookup values:

1. Navigate to the Application Utilities: Hierarchy Node Type Lookups window.
2. The following information displays:
  - HIERARCHY\_NODE\_TYPE type in the Type field.
  - HIERARCHY NODE TYPE displays in the Meaning field.
  - Human Resources displays in the Application field.
  - Hierarchy Node Types for the generic hierarchy in the Description field.
3. Enter the Code for the lookup value.
4. Enter a short description for the lookup value in the Meaning field.
5. Optionally, enter a detailed description for the lookup value in the Description field.
6. Enter a Tag for the lookup value.
7. Enter the Effective Dates for the lookup value in the From and To fields. If you do not enter a From date, the new lookup is valid immediately. If you do not enter a To date, the new lookup value is valid indefinitely.
8. Select the Enabled checkbox to enable the lookup value.
9. Click Save.

## Setting Up Formulas for Operating Units

Oracle Environmental Accounting and Reporting provides seeded formulas for calculating emissions. The following formulas are stored in the GHG\_EMISSION\_FORMULAS\_ALL table:

Formula ID	Description	Formula Content	Secondary Formula ID
-1	None	Null	N/A
1	Standard	$Q \times (EC \times EF)$	3
2	Electricity	$Q \times EF$	N/A
3	Energy	$Q \times EF$	N/A
4	Waste	$Q \times EF$	N/A

Following is the description of the variables used in the formulas:

- Q is the usage quantity of the emission source.
- EC is energy factor.
- EF is emission factor.

Run the Setup Formulas for Operating Units concurrent program to enable environmental accounting for all operating units operating units that existed in the system while running the concurrent request. Refer to the topic Environmental Accounting Overview, in the Environmental Accounting chapter for detailed information on using formulas for environmental accounting.

#### **To run the Setup Formulas for Operating Units concurrent program:**

1. Navigate to the Submit Request window.
2. Select Set up Formulas for Operating Units.
3. Click OK , and Submit.

## **Setting Up Units of Measure Classes**

You must set up a UOM Class for Energy to allow the entry of data in Energy Units. Oracle Environmental Accounting and Reporting uses gigajoules (GJ) to account and report energy. For example, you can define a unit of measure class with the following information:

- Name: ENERGY
- Description: Energy

- Base Unit: GJ
- UOM: GJ

If you choose to use a different UOM (for example, Ton) other than kilograms (KG) for reporting emissions in the Business Intelligence dashboards, then use either an existing UOM Class or define a new one. Refer to the GHG: Emission UOM Class profile option within Setting Up Profile Options, page 2-11 for more information.

You can define additional UOM Classes as required by your organization. Refer to the *Oracle Inventory User's Guide* for more information about setting up units of measure.

## Setting Up Units of Measure

Set up Energy Units of Measure (UOM) and Conversion to allow the entry of data in energy units. For example, you can define a unit of measure with the following information:

- Name: GJ
- UOM: GJ
- Description: Gigajoules
- Class: ENERGY

You can define additional UOMs as per the requirement of your organization. Refer to the *Oracle Inventory User's Guide* for more information on setting up units of measure.

**Note:** You can set up units of measure in both the Oracle Environmental Accounting and Reporting and Oracle Inventory applications, but must be setup only once.

## Setting Up Units of Measure Conversions

Set up Source UOM Conversion to allow UOM conversions for sources that are required to be recorded in the energy and emission calculations. A source may normally be used, consumed, or generated in a unit of measure (UOM) different from that of the base energy factor set up for it in the EAR application. Sources may not be linked to an inventory item and even where the conversions exist, the UOM conversion would not be a unit of measure that is ideal for warehousing, procurement or distribution areas. Setting up UOM conversions for sources facilitates the conversion of the recorded source usage UOM to the base unit of measure of their energy and emission factors and provides for energy and emission calculations. For example, gases like ethane are purchased in Kg or bottles but related energy factors are based on cubic meters. Hence, you must set up a conversion for Kg into cubic meters to be able to perform emission

and energy calculations based on the usage quantity of ethane.

Refer to the *Oracle Inventory User's Guide* for more information on setting up units of measure.

## Setting Up Unit of Measure Classification

Set up the UOM classification to maintain a standard unit of measure for measuring the usage quantities for a single environmental source or a group of related sources to facilitate calculations and reporting of the source usages and emissions by the Oracle Environmental Accounting and Reporting (EAR) application. The UOM Classification window enables you to define the broad classifications for sources, with a base unit of measure. The EAR dashboards require all transactions for an emission source in the same unit of measure for consistent reporting. For example, you can define a classification called Electricity to classify all sources that provide electricity and set up KWh (kilowatt hour) as a standard UOM for the classification. If you enter the usage data of any source that falls under the Electricity Classification, then the application converts the UOM the usage is recorded in, into the standard UOM of KWh to further calculate the usage quantities and emissions.

### To set up UOM classification:

1. Navigate to the UOM Classification window.
2. Enter a unique code to identify the classification name in the Classification Code field.
3. Enter a brief description for the classification in the Description field.
4. Select a Standard UOM from the LOV for the classification. All sources which use the classification are converted into the selected standard UOM.
5. Click Save.

## Setting Up Profile Options

Set up the following profile options:

Profile Option	User User	Sys Admin User	Sys Admin Resp	Sys Admin Resp	Sys Admin App	Sys Admin Site	Required	Default Value
BNE Allow No Security Rule	-	-	-	-	-	Yes	Yes	No

Profile Option	User User	Sys Admin User	Sys Admin Resp	Sys Admin Resp	Sys Admin App	Sys Admin Site	Require d	Defa ult Valu e
GHG: Emission UOM	-	-	-	-	-	Yes	No	Null
GHG: Emission UOM Class	-	-	-	-	-	Yes	No	Null
GHG: Energy UOM Class	-	-	-	-	-	Yes	Yes	Null
GHG: Location specific Emission Factor Selection	-	-	-	-	-	Yes	Yes	Null
GHG: Reporting Energy UOM	-	-	-	-	-	Yes	No	GJ

## BNE Allow No Security Rule

This profile option enables users to view Oracle Web Applications Desktop Integrator (WebADI) templates. Change the default value from No to Yes in order to download templates and use WebADI.

Default: No

Options: Change the value to Yes in order to use WebADI templates in the application.

Recommended Change Level: Site

## GHG: Emission UOM

This profile option stores the UOM required for reporting emissions. Set up this profile option only if you setup the GHG: Emission UOM Class profile option. The LOV includes all UOMs that belong to the UOM Class set in the GHG: Emission UOM Class profile option. If this profile option is left blank, the system reports the emissions in kilograms (KG) regardless of whether KG exists or does not exist as a UOM.

**Note:** The Environmental Ledger always stores and displays the GHG emissions in kilograms regardless of the settings of the GHG: Emission

UOM Class and GHG: Emission UOM profile options. These two profile options apply only to reporting and viewing GHG emissions in the pre-built Oracle Business Intelligence dashboards.

Default: Null

Options: all UOMs within the selected Emission UOM Class

Recommended Change Level: Site

## GHG: Emission UOM Class

This profile option stores the UOM Class of the desired UOM for reporting emissions in the Oracle Business Intelligence dashboards. You only need to specify an emission UOM Class if you choose to use a UOM other than kilograms (KG) for reporting and viewing GHG emissions in the pre-built Oracle Business Intelligence dashboards. It works in the following ways:

- If you choose to use a different UOM (such as Ton), then you can use an existing or define a new UOM Class. Ensure that the desired reporting UOM (Ton) and the UOM KG belong to the same UOM Class. In addition, ensure that the proper UOM conversions are defined. Finally, specify the emission UOM Class in this profile option, GHG: Emission UOM Class.

**Note:** If the UOM "KG" is not defined in the system, then you must define KG as a UOM. The application uses KG as a basis for converting the values to the desired UOM for reporting emissions.

- If you do not set up this profile option, by default, the system reports emissions in KG regardless of whether KG exists or does not exist as a UOM in the system.

Default: Null

Options: all defined UOM Classes

Recommended Change Level: Site

## GHG: Energy UOM Class

This profile option stores the UOM class that is created as part of the implementation step for Energy. This profile option determines if the secondary formula is used to calculate the emissions if the UOM class of the source UOM is same as the value set for this profile option during the creation of ledger entries.

Default: Null

Options: All UOM classes

Recommended Change Level: Site

## GHG: Location specific Emission Factor Selection

This profile option stores the type of location (such as STATE or COUNTRY) and can be set up at the Site or Organization level. The profile value is used as a basis to derive the location specific energy and emission factors for environmental accounting of transactions that are related to emission sources.

Default: Null

Options: STATE, COUNTRY.

Recommended Change Level: Organization

## GHG: Reporting Energy UOM

This profile option stores the value of Energy UOM used for environmental reporting. The environmental ledger maintains the Energy UOM in Giga Joules (GJ) but in the Energy dashboard, users can view the energy reports in the UOM selected using this profile option.

Default: GJ

Options: All valid Energy Units within the Energy UOM Class.

Recommended Change Level: Site

## Defining Key Flexfield Structures for Reporting

Certain legislation requires the reporting of energy usage and emissions in specific formats. For example, the National Greenhouse and Energy Reporting Act requires the reporting of energy usage and emissions using a three segment combination defined as Parent Source, Source, and Activity Data. A sample combination is:

- Parent Source - electricity
- Source - coal (other than that to produce coke)
- Activity Data - non-transport

To set up and use this three segment combination, perform the following steps:

1. Set up a multi-segment Key Flexfield structure, known as the Reporting Flex Structure.  
  
Link this flexfield structure to specific factors defined for an emission source.
2. Define the value sets and their values.  
  
Describe the value sets using descriptions from the legislation.
3. Load valid reporting combinations into the database using SQL Scripts.



The legislation specifies the valid combinations of values. For more information, see: Reporting Combinations, page 2-15.

While defining emission sources and factors in EAR, when you enter the values in the KFF segments, the application validates against combinations that are pre-loaded and stored in the tables.

## Defining Descriptive Flexfields for Reporting

You can also set descriptive flexfields in the EAR application to store and report additional information. In Oracle Environmental Accounting and Reporting, you can use descriptive flexfields to enter additional information for organizations and environmental sources. For example, you can use descriptive flexfields to store physical and chemical properties for a source for additional reporting. You can enter additional information using the following descriptive flexfields:

- Organizations for Environmental Accounting flexfield for organizations.
- Sources for Environmental Accounting flexfield for sources.

## Reporting Combinations

In Oracle Environmental Accounting and Reporting you can load valid reporting combinations using an sql script. Refer to the *Oracle Environmental Accounting and Reporting Installation Notes* for further details. The reporting combinations that you set up and associate with emission factors are validated based on these reporting combinations that you load into the GHG\_REPORT\_COMBINATIONS table of the EAR application.

**Note:** You can load the reporting combinations only after defining the key flexfield reporting structure.

Run the following query to get a list of all structures for the Key Flexfield "Environmental Reporting". This would also give the corresponding ids:

```
SELECT  ID_FLEX_NUM,  
        ID_FLEX_STRUCTURE_NAME  
FROM    fnd_id_flex_structures_vl  
WHERE   id_flex_code = 'GHG#';
```

Run the following insert statement as many times as many valid combinations are needed:

```
INSERT INTO ghg_report_combinations  
(code_combination_id,  
last_update_date,
```

```

last_updated_by,
chart_of_accounts_id,
segment1,
segment2,
segment3,
start_date_active,
enabled_flag,
summary_flag)
VALUES
(1,          -- Should be a unique number
SYSDATE,
0,
55034,      -- Should be the id_flex_num from previous query
'FCE',      --\
'OS',       -- Enter values as per your requirement
'50',       --/
'01-JAN-2009',
'Y',
'Y');

```

## Setting Up Parameters

The Oracle Environmental Accounting and Reporting (EAR) parameters are defined at the Operating Unit level.

### To set up parameters:

1. Navigate to the Define Environmental Parameters window. The Operating Unit displays. If using MOAC, select the desired Operating Unit.

Define Environmental Parameters (Environmental Accounting and Report)

Operating Unit

Organization Transaction Reporting

☒ GL Accounts ☒ Projects

Accounting Segments

☒

☒

☐

☐

☒

GPS Co-ordinates

Mandatory ☒

2.

In the Organization tab, select GL Accounts if you want the application to identify an organization using accounting code combinations that are referenced in AP Invoices. If you select GL Accounts, select the specific Accounting Segments in the Chart of Accounts to identify the Organization

3. Select Projects if you want the application to identify an Organization using projects, and tasks numbers that are referenced in AP Invoices. Select GPS Coordinates if you want the GPS Coordinates entry to be mandatory in the Define Organizations window.
4. In the Transaction tab, you can define the date to be used by the EAR Application as the Emission Date when an invoice is created from a Purchase Order Match. The Oracle Payables application allows you to define the Invoice Match Option to be used by Oracle Payables at Supplier Site level. Refer to the *Oracle Account Payables User's Guide* for more information. Options available are:
  - Purchase Order (2-Way Match). This option allows you to match against the Purchase Order regardless of the existence of receipts against it.
  - Receipts (3-Way Match). This option only allows you to match the Purchase

Order when a valid receipt exists against it.

The Transaction tab has two zones that determine how the EAR application derives the emission date dependent on the Invoice Match Option defined on the Supplier site.

5. Select the Emission Date as:
  - PO Match Emission Date (Used when Invoice Match Option is Purchase Order):
    - INVOICE: If you select Invoice, then the date entered in the Invoice Date field on the Invoice Entry window is used as the Emission Date.
    - RECEIPT: If you select Receipt, then if there are existing receipts for this Purchase Order, the latest Receipt's date is used as the Emission Date. If there are no receipts for the Purchase order, then the Invoice Date is used as the Emission Date.
  - PO Receipt Match Emission Date (Used when Invoice Match Option is Receipts):
    - INVOICE: If you select Invoice, then the date entered in the Invoice Date field on the Invoice Entry window is used as the Emission Date.
    - RECEIPT: If you select Receipt, then the Receipt's date for the goods on the Purchase Order is always used as the Emission Date.

The Emission Date displays in the From and To fields in the Environmental Emissions window, when you enter an invoice or when you match an invoice to a purchase order or a purchase order receipt.

For more information, refer to Environmental Accounting for Invoices, page 3-2.

6. In the Reporting tab, select the Reporting structure to determine the reporting key flexfields to be used for mapping Emission Sources to statutory reporting combinations.
7. Select a reporting structure from the LOV of the Reporting Flex Structure field. This determines the reporting structure displayed in the Environmental Sources window.
8. Click Save.

## Setting Up Organizations

An Environmental Organization can be thought of as a single undertaking or as an enterprise or any entity that performs activities or a series of activities that emit greenhouse gases and/or produces, or consumes energy at a single site and is

attributable to a single industry sector.

The Environmental Organizations window enables you to create organization entities that are required for hierarchical reporting of emission information. These entities can be facilities, sub-facilities, aggregate facilities, etc. for reporting aggregation and government agencies that may be interested in data related to an organization.

It is not required to enter or select a organization for each transaction as the application derives the appropriate organization from the general ledger account segment or project/task values on each distribution line for a Payables invoice. You must enter or select an organization for each transaction if you are entering environmental data manually using the Environmental Transaction Batches window.

Refer to the Environmental Accounting chapter for more information on manually entering environmental data. Organization definitions and organization mapping rules determine how the organizations are derived by the application.

You can use descriptive flexfields to store additional attributes related to an organization such as area, employee headcount, etc. with this window.

### To set up Organizations:

1. Navigate to the Environmental Organizations window. The Operating Unit displays.

Operating Unit	Organization	Organization Type	Description	Location	Latitude	Longitude
Vision Operations	Global Industries	Organization	Construction company	Auckland	36.520000	174.000000

Division		Group		Start Date	End Date
Code	Description	Code	Description		
B	Description	461	Description	19-MAY-2011	End Date

2. Enter the name of the organization in the Organization field.
3. Select the type of the organization from the list of values (LOV) in the Type field. The following values display in the LOV:
  - Aggregate Facility: This is a logical facility that acts as a container for many

smaller facilities.

- Facility: This is a main container for collecting emission transactions.
- Government Agency
- Joint Venture
- Management Unit
- Organization
- Partnership
- Sub-facility

4. Optionally, enter a brief description for the organization in the Description field.
5. Select a location for the organization from the Location field LOV. The LOV displays all the locations that you define in Oracle HRMS. This is used to determine the state of the location when looking for location specific rates applied on emissions. This step is required.
6. Enter the Latitude and Longitude for the location of the organization. Optional. If you select the GPS Coordinates check box in the Parameters window, then you must provide the latitude and longitude.

Refer to Setting Up Parameters, page 2-16 for more information

7. Select Allow Transactions if you want to allow transactions to be entered for the organization. This step is required.
8. Enter the size of the organization in the Size field. Valid options are Large, Medium, and Small.
9. Enter the CEO name and the Company No for the organization. This is required for GHG reporting using OBIEE dashboards.
10. Select a currency for the organization from the Currency field LOV. The LOV displays the currencies defined in either Oracle Payables or Oracle General Ledger.

**Caution:** You can not change the currency of an organization later. Instead, you must enter a new effective End Date for the organization, then add the organization again with a new currency value and new effective dates.

11. Enter the effective Start Date for the organization. This step is required.

12. Optionally, enter the effective End Date for the organization.

13. Enter information in the GL Accounts tab. If you select the GL Accounts check box in the Parameters window, then this tab is enabled. Refer Setting Up Parameters, page 2-16 for more information.

Enter the following information to map the organization to accounting flexfield segments that have been set up in Oracle General Ledger, for a specific date range:

- Flexfield Low as the lowest Value in the accounting flexfield range.
- Flexfield High as the highest value in the accounting flexfield range.
- Start Date as the effective start date for the accounting flexfield mapping to the organization.
- End Date as the effective end date for the accounting flexfield mapping to the organization.

**Note:** You cannot change existing mapped facilities. You can end date a mapping rule and then define a new facility mapping rule.

14. Enter information in the Projects tab. If you select the Projects checkbox in the Parameters window, then this tab is enabled. Refer to Setting Up Parameters, page 2-16 for more information.

Enter the following information to map the organization to projects and tasks that have been set up in Oracle Projects for a specific data range:

- Projects Low as the lowest value in the project range.
- Projects High as the highest value in the project range.
- Tasks Low as the lowest value in task range within the project.
- Tasks High as the highest value in task range within the project.
- Start Date as the effective start date for the project and tasks mapping to the organization.
- End Date as the effective end date for the project and tasks mapping to the organization.

15. Use the SIC Codes tab to enter the following information to map the organization to a standard industry code:

- Division Code as the division reporting code for the organization (Required).

- Division Description defaults to description for the Division Code.
- Group Code as the group reporting code for the organization.
- Group Description defaults to the description for the Group Code.
- Start Date as the effective start date for the division and group code mapping to the organization (Required).
- End Date as the effective end date for the division and group code mapping to the organization.

**Note:** You must link an organization to only one SIC code.

**16.** In the Interested Parties tab, enter the following information to define organizations or agencies that are interested in the transactions of the organization:

- Interested Organization is the name of an organization interested in the organization.
- Interest Type from the following available options:
  - Equity Control: This indicates that the interested organization has equity control in the facility or organization.
  - Financial Control: This indicates that the interested organization has financial control in the facility or organization.
  - Operational Control: This indicates that the interested organization has operational control in the facility or organization.

**Note:** Each organization can have only one operational control.

- Analysis Reporting: This indicates that the interested organization has analysis reporting interest in the facility or organization.
- Equity Interest: This indicates that the interested organization has equity interest in the facility or organization.
- Financial Interest: This indicates that the interested organization has financial interest in the facility or organization.
- Statutory Reporting: This indicates that the interested organization has statutory reporting interest in the facility or organization.



- Share as the percentage of interest the interested organization has in the facility or organization.
- Start Date as the effective start date for the interested organization's interest in the organization.
- End Date as the effective end date for the interested organization's interest in the organization.

17. Click Save.

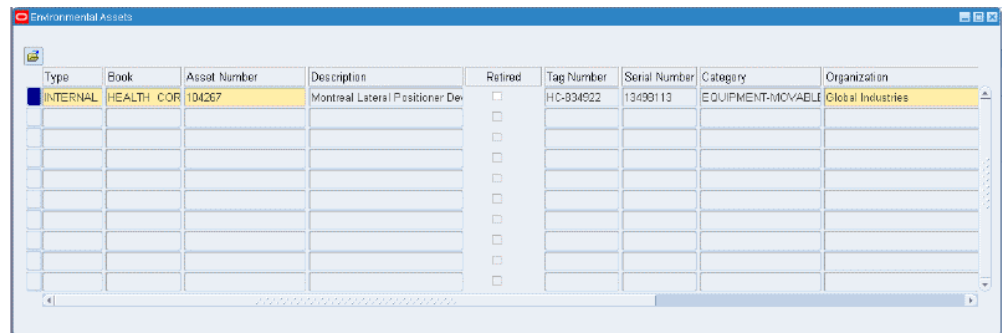
## Defining Assets

An Asset is an equipment or a plant that generates emissions and / or consumes or produces energy. A transport type, organization or supplier may be related to an asset. For example, a transport truck can be defined as an asset having a Euro 1 Engine (transport type) and belong to a supplier.

The Environmental Asset page enables you to define assets with additional information, such as location and engine type that allows the Oracle Environmental Accounting and Reporting application to determine the correct emission factor to use for the asset.

### To define an environmental asset:

1. Navigate to the Environmental Assets window.



2. Select the Type of asset that you want to create. This step is required. Select:
  - Internal if the asset you are using is an Asset that is already defined in Oracle Assets. Refer to the *Oracle Assets User's Guide* for more information.
  - External if you are defining an asset only in the Oracle Environmental Accounting and Reporting (EAR) application to enable the recording of usage transactions.

3. Select a Book from the list of values (LOV). This is enabled only for Internal type of assets and is a required step.
4. Enter a unique Asset Number for an External asset or select a number from the LOV for an Internal Asset (Required).
5. Enter a brief description for the asset.
6. Check the Retired check box if you do not want to use this asset in transactions that have environmental impact.
7. Enter a Tag Number for the asset, if you are defining an External asset. For an Internal asset, the tag number defaults to the one defined in Oracle Assets.
8. Enter a Serial Number for the asset, if you are defining an External asset. For an Internal asset, the serial number defaults to the one defined in Oracle Fixed Assets.
9. Review the asset Category details. The asset category details display only for an internal asset. This field is not enabled for an External asset.
10. Select a Location for the asset from the LOV that displays a list of facilities. Refer to Setting Up Lookups, page 2-5 for details on how to define locations.
11. Select a Transport Type for the asset. Add examples of transport type.
12. Enter a Supplier Name for the asset if the asset belongs to an external supplier.
13. Optionally, select a supplier Site for the asset.
14. Enter the Company Identifier as the code for the company.
15. Enter the start date of the effective date range for the asset in the Start Date field (Required).
16. Optionally, enter the end date of the effective date range for the asset in the End Date field.
17. Click Save.

## Defining Sources

An Environmental Source defines a product or activity whose use creates emissions and / or consumes or produces energy. For example, black coal, transport fuels, coal tar, biogases, fossil fuels, and biomass municipal and industrial materials, if recycled and combusted to produce heat or electricity. You can classify a source under one of the following scopes specified by the GHG Protocol and seeded in the Oracle EAR application:

- Scope 1: Greenhouse gas emissions from sources that are owned or controlled by an organization. For example, vehicles and equipment, stationary sources, onsite landfills, waste water treatment plants etc.
- Scope 2: Greenhouse gas emissions resulting from the generation of electricity, heat or steam purchased by the organization.
- Scope 3: Greenhouse gas emissions from sources not owned or directly controlled by the organization but are related to the organization activities. For example, employee transportation contracted waste disposal etc.

Sources can also be created to track usage related to other environmental aspects where there is no related energy or emissions, for example, water, or alternatively for products or activities that cause pollution but have no related energy or environmental emissions, for example, Employee Head Count, Kilometers Traveled, and Detonation of explosives.

### **Emission Factors**

An Emission Factor is a factor used to calculate the amount of an Emission Type produced (typically a gas) by consuming or producing an Emission Source. For example, according to the National Greenhouse and Energy Reporting (NGER) in the energy industry, burning one ton of black coal produces 27.0 gigajoules (GJ) of energy. One gigajoule of energy produced by burning Black Coal produces 88.2 kilograms (kgs) (emission factor) of Carbon Dioxide, 0.03 kilograms of Carbon Dioxide equivalent (CO<sub>2</sub>-e) for Emission Type Methane and 0.2 kilograms of Carbon Dioxide equivalent (CO<sub>2</sub>-e) for Emission Type Nitrous Oxide. The following information can be derived from the example:

- The Emission Source is Black Coal.
- The Emission Types are Carbon Dioxide, Methane, and Nitrous Oxide.
- The NGER factors are normalized to Kgs/GJ of CO<sub>2</sub>-e for emissions regardless of the emission type.
- The emission factors are:
  - CO<sub>2</sub>: 88.2 kgs/GJ of CO<sub>2</sub>-e
  - Methane: 0.03 kgs/GJ of CO<sub>2</sub>-e
  - Nitrous Oxide: 0.2 kgs/GJ of CO<sub>2</sub>-e

### **Energy Factors**

An Energy Factor is a factor used to calculate the amount of energy consumed or produced by an Emission Source. Therefore, using the example above in Emission Factors, consuming 20,000 tons of Black Coal for a purpose other than for the production of electricity or Coke produces the following amount of energy:

Energy Consumed = 20,000 x 27 = 540,000 GJ

### **Source Combinations**

Source combinations are used to store attribute specific energy and emission factors for a source. The attributes can be location, transport type, and measurement method. For example, emission factor for electricity consumed in a state, can be different from that of another state in the same country.

### **Working with Overrides**

Emission and energy factors are provided by respective government departments to help the estimation of the emissions for organizations. These factors are usually scientifically verified but are based on broad generalizations on the way that a source is consumed and the amount of energy and emission generated. In the context of environmental accounting, these factors are referred to as Method 1 under the GHG Protocol. To enable organizations to present more accurate values for emission and source usage, GHG Protocol provides for the Methods 2 to 4. The rules for Method 2 to 4 are extremely strict and define the exact scientific evidence required to satisfy the government auditors on the validity of the proposed emission factor. Hence, where required organizations can define overrides for the Method 1 in specifying their emission factors.

For example, consider an organization that runs a factory. At this factory there is a smoke stack that releases the emission from an oil fired boiler. Under the Method 1, the government provides the factors that must be used in this context. The factory may have installed monitoring equipment in the smoke stack to see the actual emissions. If these emissions are lower than the ones provided by the government, then there is a valid reason to over-ride the Method 1.

The EAR application enables you to create overrides that can exist at the following levels:

- **Item:** If you set the override to an Item, then the application uses the item specific factors defined for the item, when consuming that item. For example, consider two oil tanks, one with an additive that produces less emissions and one without it. In the environmental Items inventory, 2 items are setup to represent the fuels. When issuing the fuel to an asset, either of the fuels can be used. But if you issue the fuel with the additive, then the application uses the specific factor defined for it, for emission calculation.
- **Organization:** If you set the override to an organization, then the application uses the organization specific factors defined for the source, when the source is consumed at that organization.
- **Supplier:** If you set the override to a Supplier, then the application uses the supplier specific factors defined for the source, when consuming source provided by that supplier. For examples, there may be two suppliers A and B providing the same fuel. But Supplier A adds an additive to its fuel that reduces emissions. So the factors are different for each supplier and an override can be set to supplier A or B.

You can define and manage the sources required by your organization using the Environmental Sources window. You can also set up the emission factors associated with sources. You can use descriptive flexfields with this window to store additional attributes related to the source.

### To define emission sources:

1. Navigate to the Environmental Sources window.

The screenshot shows the 'Environmental Sources (Environmental Accounting and Reporting Administration)' window. It has two main sections: 'Sources' and 'Source Combinations'.

**Sources Section:**

Operating Unit	Source	UOM	UOM Classification	Applied Formula	Active
Mission Operations	Electricity	kGlowatt Hr	111-ELECTRICITY	Electricity	<input checked="" type="checkbox"/>

**Source Combinations Section:**

Code	Alias	Description	Reporting Combination	Scope	Location	Transport Type	Method	Override	Start Date	End Date
EL12	EL12			1	CA	E1	2	Supplier	01-JAN-1900	

**Energy Section (Bottom Left):**

Type	Factor (KG/CJ)
CO2	3.00000

**Override & Justification Section (Bottom Right):**

Supplier Name: General Electric  
 Supplier Site: GE  
 Type:   
 Method Justification: Electricity generation units available.

2. In the Sources region, select an Operating Unit that can use the emission sources you are creating.
3. Enter a name for the source in the Source field. For example, coal, diesel etc.
4. Select a unit of measure in which you want to express the emissions from the source in the UOM field. Refer to Setting Up Units of Measure, page 2-10 for more information.
5. Select a UOM Classification for the emission source to determine other units of measure that can be used for the emission source. Refer to Setting Up UOM Classifications, page 2-11 for more information.
6. Select an Applied Formula to use for the calculation of total emissions for any recorded usages for the emission source. Refer to Setting Up Formulas for Operating Units, page 2-8 for more information.
7. Optionally, select an Energy Type to specify the energy type used by the source. Refer to Setting Up Lookups, page 2-5 for more information. This information is used to create the CDP reports Gross Energy Usage and Gross Energy Usage by Energy Type.

8. Optionally, select a Category to categorize the type of emission source.

The Category field displays values from the Source Category (GHG\_SOURCE\_CATEGORY) lookup. The two seeded values are Water and Waste. You can view reports about these two categories of emission sources in the Water and Waste Dashboard, page 4-21.

**Tip:** You can add additional categories to the Source Category lookup and create custom dashboards for these categories, similar to the Water and Waste Dashboard. If you do not create additional categories, then there is no need to select a category if the source does not belong to either the Water or Waste category.

9. Select the Active check box to indicate that the emission source is active for the operating unit. It is selected by default.
10. In the Source Combinations region, enter a Code Alias as an alias for the source combination. This is required during the entry of usage transactions and the upload of usage transactions for the emission source.
11. Enter a Description for the source combination.
12. Enter a Reporting Combination for the emission source based on your local legislative reporting combinations. You must enter a reporting combination for a source only if you want the source to be reported in your environmental reports.
13. Enter the emission Scope for the emission source. Valid options are:
  - 0: No scope
  - 1: Direct
  - 2: Indirect
  - 3: Other indirect
14. Select the Location Code for the source combination.
15. Select the Transport Type for the source combination.
16. Select a measurement method for the source combination in the Method field. Valid options are: 1, 2, 3 and 4. Refer to Setting Up Lookups, page 2-5 for more information on Location Codes, Transport Types and Measurement Methods.
17. Select an Override Type for the source combination. If you select 1 as the method, then this field is not required. Refer to the topic "Working with Overrides" topic for more information.

18. Enter a Start Date for the effective date range for the source combination. Required.

19. Enter an End Date for the effective date range for the source combination.

20. Enter the following in the Emissions tab:

- Type: Select a type of gas of interest for which an emission calculation is required for each usage transaction.
- Factor: Enter a factor as the quantity of a greenhouse gas emitted per unit of energy (kg CO<sub>2</sub>-e /GJ), fuel (t CH<sub>4</sub>/t coal) or a similar measure. Emissions are calculated by multiplying the factor (e.g. kg CO<sub>2</sub>/GJ energy in petrol) with activity data (e.g. kilolitres x energy density of petrol used).

21. Enter the following in the Energy tab:

- Type: Select Energy as the type of consumption for which an energy calculation is required for each usage transaction.
- Factor: Enter a factor as the energy obtained from 1 unit of source in the default unit of measure of giga joules, for the emission source combination. For example, the energy factor for Gasoline is 34.2 GJ/KL.

**Note:** If you want to capture the usage of sources that have no emissions, then leave the Emission Factors section blank. The application does not generate any CO<sub>2</sub>-e or energy record.

**Note:** Factors cannot exist with a date overlap where the following attributes are the same:

- Source
- Scope
- Location
- Transport Type
- Measurement Method
- Override Type

22. Use the Override and Justification region to enter factor overrides for the sources. The section enables you to enter the following information depending on the selected Override Type:

- If you select the Override Type as Item, then you can enter the Item, Description, and Type.
  - If you select the Override Type as Organization, then you can enter Organization Name and Description.
  - If you select Supplier, then you can enter Supplier Name, Supplier Site, and Type.
23. Enter the required Override for the source.
  24. In the Method Justification field, enter a justification for the method of calculation of the emission and energy factors for the emission source combination. If you select 1 in the Method field in the Emission Combinations section, then this field is required. You can set the override at the organization level.
  25. Click Save.

## Defining Suppliers

You must define suppliers defined in Oracle Accounts Payables as Environmental Suppliers that provide products or services whose usage transactions are used by the EAR application for emission calculations.

### **To define suppliers:**

1. Navigate to the Environmental Suppliers window.



The screenshot shows a window titled "Environmental Suppliers". Inside, there is a table with the following columns: "Supplier Name", "Supplier Site", and "Default Source". The first row of the table is populated with the values "Star Gate Ltd", "STAR GATE - PAY", and "111- FUEL OIL (NON-TRANSPORT)". There are several empty rows below the first one. The table has a vertical scrollbar on the right side.

Supplier Name	Supplier Site	Default Source
Star Gate Ltd	STAR GATE - PAY	111- FUEL OIL (NON-TRANSPORT)

2. Select a Supplier Name whose usage transactions for products or services are used in emissions calculations. The LOV displays a list of suppliers that are set up in Oracle Accounts Payables and have a status as Active.
3. Select a Supplier Site whose usage transactions for products or services are used in emissions calculations. All suppliers with a Status as Active display in the LOV.
4. Select a Default Source which is used as a default emission source for all transactions for the Supplier and Supplier Site. If this field is left blank, then a default emission source does not appear on each usage transaction.
5. Click Save.

## Defining Items

You must define items defined in Oracle Inventory as Environmental Items to be able to identify their default emission sources to record their usages and account for environmental emissions in the Oracle Environmental Accounting and Reporting application. For example, diesel, liquefied petroleum gas, gasoline, etc.

### To define Environmental Items:

1. Navigate to the Environmental Items window.

Item Name	Default Source
Material	111- GASOLINE - AIRCRAFT

2. Select an Item Name from the LOV that displays all the Oracle Inventory Items. Only Items with an "Active" Item Status display in the LOV. Refer Setting Up in Other Applications, page 2-2.
3. Select a Default Source as the default emission source for all usages of this inventory item.
4. Click Save.

## Defining Key Performance Indicators

Key Performance Indicators (KPIs) in reporting dashboards enable you to assess business performance. For programs designed to reduce usage or emissions, you can track a KPI over a time period to evaluate if the program is effective or is producing the expected results. For example, Fuel Emissions per Km traveled, Fuel Usage per Km traveled, Electricity Usage per Employee On-site, and Electricity Usage per Occupied Room in a hotel.

A KPI is configured using the Environmental KPI Definitions window in the Oracle Environmental Accounting and Reporting application with a numerator and a denominator. The numerator / denominator have an associated KPI Type, KPI Action and UOM.

The KPI Type defines the source of the quantity used in the KPI. Following KPI types are available in the EAR application:

- Usage: Usage quantity from transactions converted to Standardized Usage UOM.
- Energy: Energy quantity in gigajoules (GJ) from environmental transactions.

- Emissions: CO2-e emission quantity in kilograms (Kgs) from environmental transactions.
- Value: Value in domestic currency from environmental transactions.

The KPI Action defines the action that is performed by the related KPI calculation in Reporting. Following KPI actions are available in the EAR application:

- Sum: Adds the related quantity (Qty) defined by the KPI Type for the granular period, normally 1 month.
- Average: Averages the related Qty defined by the KPI Type for the most granular period, normally 1 month. For example, KPI Electricity Usage per Employee on-site requires average of daily count, for the period of a month to be compared with sum of total electricity used for the month.
- Minimum
- Maximum

There must be at least one emission source assigned to the Numerator List and Denominator List. For example, if the List's KPI Type is 'Usage', then all of the emission sources in the list must have the same Unit of Measure Classification.

The following example explains how the EAR application calculates the metric values using the various KPI actions:

Consider that a company by the name Global Industries has a metric defined as, Quantity of Electricity per Full-time-equivalent (FTE) Employee. This metric is needed for each facility within the company. The company requires the analysis of this metric per month by facility with the ability to aggregate up a time period hierarchy (from month to quarter to year) and also aggregate up an organization hierarchy (from facility to region to division to company).

For the metric the following data is required:

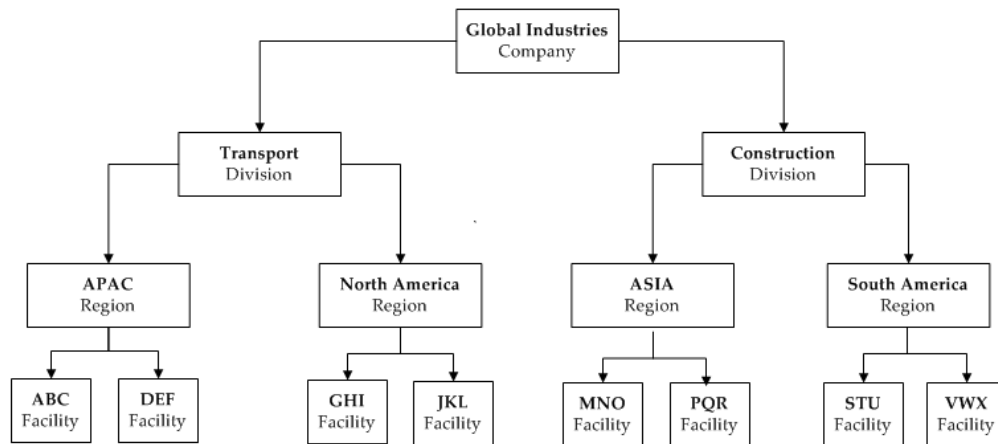
- Electricity (kWh)
- FTE employee headcount (employee)

The unit of measure for this metric is kWh per FTE.

Data is collected in the following way:

- Electricity activity information is sourced from utility bills. The bills arrive quarterly for a 90/91 day billing period.
- Employee headcount is sourced from the Human Resources department.

Also, consider that the company has the following single organization hierarchy and has the levels, Company, Division, Region and Facility.



A time period hierarchy exists as Year, Quarter, and Month.

With all the data captured for the company the following section describes how the various KPI actions (Sum, Average, Minimum, and Maximum) are applied to determine this metric in different scenarios. When the metric is to be shown at a level other than facility and month, the aggregation chosen for the numerator and denominator is applied. The chosen aggregations are applied in the BI Server using the metadata definitions in the BI repository.

For the ABC facility in the Year 2008 and Quarter 1 consider that the following data exists:

kWh	FTE
152	30
165	30
177	31

The metric values are calculated as follows:

Action	Numerator Value	Denominator Value	Metric Value
Sum	152+165+177 = 494	30+30+31 = 91	494/91 = 5.43

<b>Average</b>	$(152+165+177) / 3 = 164.67$	$(30+30+31) / 3 = 30.33$	$164.67 / 30.33 = 5.43$
<b>Minimum</b>	$\text{Min}(152, 165, 177) = 152$	$\text{Min}(30, 30, 31) = 30$	$152/30 = 5.07$
<b>Maximum</b>	$\text{Max}(152, 165, 177) = 177$	$\text{Max}(30, 30, 31) = 31$	$177/31 = 5.71$

For the Transport division in the Year 2008 and Month 1 consider that the following data exists:

<b>kWh</b>	<b>FTE</b>
152	30
45	9
456	33
234	17

The metric values are calculated as follows:

<b>Action</b>	<b>Numerator Value</b>	<b>Denominator Value</b>	<b>Metric Value</b>
<b>Sum</b>	887	89	$887/891 = 9.97$
<b>Average</b>	221.75	22.25	$221.75/22.25 = 9.97$
<b>Minimum</b>	45	9	$45 / 9 = 5.00$
<b>Maximum</b>	456	33	$456/33 = 13.82$

For the South America region, in the Year 2009 and quarter 3 consider that the following data exists:

<b>kWh</b>	<b>FTE</b>
------------	------------

425	56
469	56
436	56
82	23
91	23
93	23

The metric values are calculated as follows:

Action	Numerator Value	Denominator Value	Metric Value
Sum	1,596	237	6.73
Average	266	39.5	6.73
Minimum	82	23	3.56
Maximum	469	56	4.04

#### To define KPIs:

1. Navigate to the Environmental KPI Definitions window.

**KPI Definition**

Operating Unit: Vision Operations      Code: KPI1      Name: Fuel Consumption per Gal Diesel Oil

Numerator Value Type: Usage      Denominator Value Type: Usage

Numerator UOM Classification: LIQUID      Denominator UOM Classification: LIQUID

Numerator Function: Sum      Denominator Function: Sum

**Numerator**

Numerator Data Source: TRANSPORT FUEL OIL

**Denominator**

Denominator Data Source: DIESEL OIL (NON-TRANSPORT)

**KPI Targets**

Organization Code	Target Value	Start Date	End Date
Broken Hill	.9	22-MAY-2013	15-NOV-2013
Broken Hill	.85	16-NOV-2013	30-APR-2014

2. Select an Operating Unit that owns the facility or organization for which you are defining the KPIs
3. Enter a Code and a Name for the KPI.
4. Select a Numerator UOM Classification for the numerator in the formula. This determines other permitted units of measure for the formula and their conversion to the base unit of measure.
5. Select a Denominator UOM Classification for the denominator in the formula. This determines other permitted units of measure for the formula and their conversion to the base unit of measure.

**Caution:** The Numerator and Denominator UOM Classification fields are enabled only if the Value Type field value is Usage. For other value types such as Energy, CO2-e Emissions, and Financial Value, the classification fields are disabled.

6. Select a Numerator Value Type as the type of formula value to be used as the numerator in the formula.
7. Select a Denominator Value Type as the type of formula value to be used as the denominator in the formula.

8. Select a Numerator Function as the type of algebraic function for which the numerator is used in the formula.
9. Select a Denominator Function as the type of algebraic function for which the denominator is used in the formula.
10. Enter Numerator Data Sources as the emission source that must be used in the numerator in the formula.
11. Enter Denominator Data Sources as the emission source that must be used in the denominator in the formula.
12. In the KPI Targets region, specify one or more targets for different organization and date ranges:
  - Select an existing Environmental Organization.
  - Enter a Target Value for this organization and date range.
  - Select a Start Date when the KPI target value becomes effective for the organization.
  - Select an End Date when the KPI target value becomes ineffective for the organization.
13. Click Save.

## Setting Up Carbon Permit Management

Carbon Permit Management enables a company to participate in emissions trading (sometimes referred to as cap-and-trade). Some governments use a market-based approach to control pollution by providing economic incentives for achieving reductions in the emissions of pollutants. These governments set a limit or cap on the amount of a pollutant that may be emitted. This limit or cap is allocated or sold to firms in the form of emissions permits, which represent the right to emit or discharge a specific volume of the specified pollutant.

Companies are required to hold a number of permits (or carbon credits) equivalent to their emissions. Liable entities must have procedures in place to ensure that they purchase or surrender the correct amount of permits for each relevant year. Typically, in carbon tax and emission trading schemes, significant penalties apply for not surrendering the correct amount of permits by the compliance date. Companies must establish processes to actively manage the trading of permits, such as funding purchases when needed and understanding which permits to use to meet their liabilities. Use the Carbon Permit Management pages in Oracle Environmental Accounting and Reporting to track carbon permits by organization. Create carbon permit reports using the Carbon Permit tab in the Emissions Dashboard (see:



Understanding the Emissions Dashboard).

## Prerequisites

- ☐ Add lookup values for the Legislation lookup. See: Setting Up Lookups, page 2-5.
- ☐ Verify that the environmental organization for which you want to set up carbon permit management has an assigned currency. See: Setting Up Organizations, page 2-18.

### To create a carbon permit:

1. Navigate to the Enter Carbon Permits window.
2. Select an Operating Unit for which to maintain carbon permit information.
3. Select an environmental Organization within the operating unit for which to maintain carbon permit information.
4. Enter the effective Start Date for the carbon permit. This step is required.
5. Optionally, enter the effective End Date for the carbon permit.
6. Optionally, enter the Compliance Deadline of the legislation. This is the end date for reporting on carbon permits for the specific legislation.
7. Optionally, select a Legislation value from the LOV.
8. Optionally, enter the number of Free Allocated Permits allocated by the legislation for this carbon permit.
9. Optionally, enter the Estimated Permit Cost (cost per permit).
10. The Currency code of the estimated permit cost defaults from the currency specified for the environmental organization. You cannot change the currency.
11. Optionally, in the CO2-e Quantity Per Permit field, enter the quantity of CO2-e allocated to a single permit.
12. In the CO2-e UOM Per Permit field, the unit of measure in which the carbon content of permits is measured defaults from the profile option 'GHG: Emission UOM'. If this profile option is not set up, the unit of measure defaults to 'KG'.
13. In the Included Scope region, Scope field, select the scope under which carbon permits are reported. Scope1 is the default value. You can add multiple scopes if needed.

14. Click Save.

## Related Topics

Understanding the Emissions Dashboard, page 4-1, Carbon Permits tab.

## Setting Up in Oracle Data Integrator

Oracle Environmental Accounting and Reporting (EAR) uses Oracle Data Integrator (ODI) to transfer data from EAR to the Business Intelligence Data Warehouse tables. This transfer occurs by running ETL (Extract, Transform, and Load) programs in ODI. For detailed information on the installation steps, refer to the *Oracle Environmental Accounting and Reporting Installation Notes for Business Intelligence and Data Warehouse*, My Oracle Support Document ID 1470553.1.

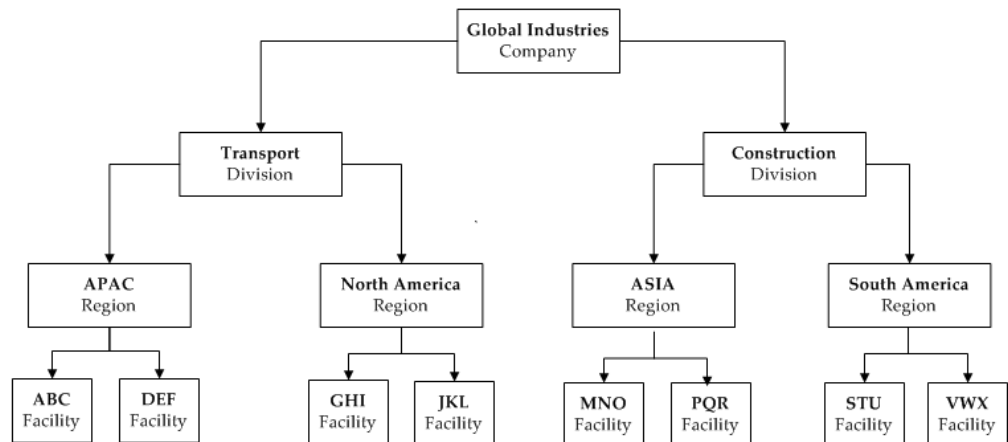
## Setting Up in OBIEE

You must define the Calendar and the Organization Hierarchy for a specific user, user group or application, to view the dashboard reports. Refer to the *Oracle Environmental Accounting and Reporting Installation Notes* for more information.

## Defining an Organization Hierarchy

Oracle Environmental Accounting and Reporting (EAR) application enables you to build multiple hierarchies for various business requirements, such as legal, reporting, operations, etc. A hierarchy must be defined with meaningful levels and branches to correctly represent the various levels of your organization. The levels define parent-child relationships and a child can only have one parent within a hierarchy. You must create a balanced organization hierarchy to be able to view in the OBIEE dashboards. A balanced hierarchy implies that each level within the hierarchy includes logical relationships between each level. Following is an example of a balanced hierarchy:

A company called Global Industries has an organizational hierarchy that has the levels, Company, Division, Region, and Facility. The following diagram represents the organization hierarchy:



Oracle Environmental Accounting and Reporting uses the functionality of Generic Hierarchies available as a part of Oracle HRMS. The Hierarchy Node Types defined in the Organization Hierarchy Lookup are used in defining the Hierarchy Structure. Refer to the "Defining Organization Hierarchy Lookup" topic for more information. Although you can add any number of levels to a hierarchy, OBIEE supports a maximum of 12 levels for reporting.

To define an Organizational Hierarchy, firstly, a Hierarchy Type must be defined. While defining the Hierarchy type, the Hierarchy Code must be entered as GHG\_ORGANIZATION\_STRUCTURE. Node type combinations are seeded in the application that you can review while defining the Organization hierarchy. Please note that the Organization Node Type can only have a Node Type as Facility under it. However the Organization Node Type cannot be under the Facility Node Type. But the Organization and Facility Node Types can exist at the same level. Similarly a Sub Facility Node Type can only be a child to a Facility Node Type. Secondly, a Hierarchy name must be defined and associated to the Hierarchy Type defined earlier. Refer to the "Defining a Hierarchy Type" and "Defining a Hierarchy" topics for detailed information.

## Defining a Hierarchy Type

The Create Hierarchy Type page enables you to create hierarchy types. Seeded hierarchy types are provided in the application. A hierarchy type remains available after deleting its structure. You can then redefine its structure.

### To create a hierarchy type:

1. Navigate to the Maintain Hierarchy Structure page.

Maintain Hierarchy Structure Maintain Hierarchy Content

---

**Search**

Note that the search is case insensitive

Hierarchy Type

Status

☒ TIP You cannot update or delete predefined or system hierarchy types.  
☒ TIP A hierarchy type remains available after deleting its structure. You can then redefine its structure.

Hierarchy Type	Update	Delete Structure
<a href="#">Career Path</a>		
<a href="#">Vets, FEO, AAP, OSHA, Multi Work Sites</a>		
<a href="#">Generic Purge</a>		
<a href="#">Organization Structure for Environmental Accounting and Reporting</a>		
<a href="#">Local Cost of Living Allowance</a>		
<a href="#">Mexico HRMS Statutory Reporting</a>		
<a href="#">Operation Plan</a>		
<a href="#">Calendar Geographical Hierarchy</a>		
<a href="#">Remuneration Regulation</a>		

- Click Create Hierarchy Type to create a new hierarchy type.

Create Hierarchy Type

\* Indicates required field

\* Hierarchy Type

\* Hierarchy Type Code

Description

The Create Hierarchy Type page displays. Enter the following information:

- Hierarchy Type as the name of the new hierarchy type. This hierarchy type is used for defining all hierarchies in your organization.
- Hierarchy Type Code as the code for the new hierarchy type. You must enter the code as GHG\_ORGANIZATION\_STRUCTURE.
- Description as a brief description for the new hierarchy type.

- Click Continue. The Hierarchy Type Structure page displays.

Hierarchy Type Structure

---

**Hierarchy Type Information**

Hierarchy Type

☒ Allow Multiple Hierarchy

☒ Allow Multiple Version

**Node Type Information**

[Expand All](#) | [Collapse All](#)

Focus/Node Type	Value Set	Add Child	Update Child	Delete
Azzaro Doc Group				

- In the Hierarchy Type Information region, select Allow Duplicate Name to enable the creation of multiple hierarchies of this type.
- Select Allow Multiple Versions to enable the creation of multiple versions of hierarchies of this type.

6. In the Node Type Information region, the following fields display:
  - Node Type
  - Value Set
7. Click Add Child to add nodes to this node type.
8. Click Update Child to update the child nodes of this node type.
9. Click Delete child node from this node type.

**To view and update hierarchy types:**

1. In the Search region, make no entries to search for all records. Enter any of the following criteria to narrow your search:
  - Hierarchy Type
  - Status to find a hierarchy type using the status.
2. Click Go. A list of Hierarchy Types display in the results region.
3. To view the hierarchy structure, click the Hierarchy Type. The View Hierarchy Type page displays. Refer to the "Viewing Hierarchy Structure" topic for more information.
4. To update the hierarchy structure, click Update. Refer to the "Updating Hierarchy Type" topic for more information.

## Defining a Hierarchy

You can define a hierarchy using the Create Hierarchy page. You must define a Hierarchy Type before defining a hierarchy.

**To define an organization hierarchy:**

1. Navigate to the Maintain Hierarchy Content page.
2. Click Create Hierarchy. The Create Hierarchy page displays.

Create Hierarchy  
Use this page to provide information about your new hierarchy and initial version.  
\* Indicates required field

**Hierarchy Information**

\* Hierarchy Name: Universal

\* Hierarchy Type: Organization Structure for Environmental Accounting

☒ Global  
Select this box if you want your Hierarchy to span more than one business group.

Context Value: [dropdown]

**Version Information**

\* Version: 1

\* Status: Active

\* Date From: 16-May-2011  
example: (ddMay-YY)

Date To: 16-May-2020

Comments: [text area]

Context Value: [dropdown]

Cancel Continue

Enter the following information in the Hierarchy Information region:

- Hierarchy Name
- Hierarchy Type
- Select Global if you want the hierarchy to span over more than one business group.
- Context Value

3. Enter the following information in the Version Information region:

- Version of the hierarchy. Required.
- Status as active or inactive. Required.
- Date From as the date from when the hierarchy is effective.
- Date To as the date until when the hierarchy is effective. Optional.
- Comments
- Context Value

4. Click Continue. A message displays that a new hierarchy is created.

## Creating a Hierarchy Version

You can create a version of a hierarchy using the Create New Version page.

### To create a hierarchy version:

1. Navigate to the Maintain Hierarchy Content page.

2. Select the Create Version option for the hierarchy you want to create a version for. The application enables you to create a version in the following ways:
  - Create new version without data
  - Copy existing version with data
3. When you select the Create new version without data, then the Create Hierarchy Version Appears. In the Hierarchy Information region, the Hierarchy Name and Hierarchy Type display. You cannot edit the Global checkbox.
4. Enter the following in the Version Information region:
  - Version of the hierarchy. Required.
  - Status as active or inactive. Required.
  - Date From as the date from when the hierarchy is effective.
  - Date To as the date until when the hierarchy is effective. Optional.
  - Comments
  - Context Value
5. Click Continue. A message displays that the version is created.

## Finding an Organization Hierarchy

You can search for organization hierarchies and view its details using the Maintain Hierarchy Content page.

### **To find organization hierarchies:**

1. Navigate to the Maintain Hierarchy Content page.
2. In the Search region, enter any of the following criteria to narrow your search:
  - Hierarchy Name to find a hierarchy using its name.
  - Version to find a hierarchy using the version of the hierarchy.
  - Hierarchy Type to find a hierarchy using its type.
  - Status to find a hierarchy using its status. Options are Active and Inactive.
  - Effective Date to find a hierarchy using its effective date.

- Click Go. The page displays the results of the search.

Maintain Hierarchy Content

Maintain Hierarchy Structure

**Search**

Note that the search is case insensitive

Hierarchy Name

Version

Hierarchy Type

Status

Effective Date  (example: 01-Mar-2011)

Hierarchy Name	Version	Hierarchy Type	Start Date	End Date	Status	Duplicate	New Version	Update	Delete
<a href="#">Budget Worksheet Purge</a>	1	Generic Purge	25-Feb-2002		Active				
<a href="#">Corps Career Path</a>	1	Career Path	25-Feb-2002		Active				
<a href="#">Default version</a>	1	Organization Structure for Environmental Accounting and Reporting	01-Mar-2011		Active				
<a href="#">GSP Purge Process</a>	1	Generic Purge	25-Feb-2002		Active				
<a href="#">Headquarters Reporting</a>	1	Vets, EEO, AAP, OSHA, Multi Work Sites	01-Jan-2001		Active				
<a href="#">Mass Process Purge</a>	1	Generic Purge	25-Feb-2002		Active				
<a href="#">Multiple Establishment Reporting</a>	1	Vets, EEO, AAP, OSHA, Multi Work Sites	01-Jan-2001		Active				

The following information displays for each hierarchy:

- Hierarchy Name is the name of the organization hierarchy.
  - Version is the version of the hierarchy.
  - Hierarchy Type is the type of hierarchy.
  - Start Date and End Date are the effective dates for the hierarchy.
  - Status is the hierarchy status and displays as active or inactive.
- To view the hierarchy, click the Hierarchy Name. The View Hierarchy page displays the Hierarchy Information and Version Information for the hierarchy.

View Hierarchy: Headquarters Reporting

**Hierarchy Information**

Hierarchy Name: **Headquarters Reporting**  
☐ Global

Hierarchy Type: **Vets, EEO, AAP, OSHA, Multi Work Sites**

**Version Information**

Version: **1**  
 Date From: **01-Jan-2001**  
 Comments:

Status: **Active**  
 Date To:

**Nodes**

[Expand All](#) | [Collapse All](#)

Focus Node Name	Node Type
<input type="checkbox"/> Headquarters Reporting-Version 1	Vets, EEO, AAP, OSHA, Multi Work Sites
<input type="checkbox"/> Vision Corporation	Parent Entity

[Return to Maintain Hierarchy Content](#)

The following fields display in the Nodes region:

- Node Name
- Node Type



5. To create a duplicate of a hierarchy, select the Duplicate option for the hierarchy you want to duplicate. The Duplicate Hierarchy page displays. Use this page to copy the selected hierarchy to a new hierarchy. You can copy the version of the hierarchy available on the effective date you specify. Enter the following information:
  - Hierarchy Name
  - Effective Date
  - Select Global if you want the hierarchy to span over more than one business group.
6. To create a new version of a hierarchy, select the Create Version option for the hierarchy. You can create a new version using the following options:
  - Create new version without data
  - Copy existing version with data

Refer to Creating a Hierarchy Version, page 2-44 for more information.

7. To update a hierarchy, click the Update option for the hierarchy you want to update. Refer to Updating a Hierarchy Version, page 2-47 for more information.
8. To delete a hierarchy, click the Delete option for the hierarchy you want to delete.
9. Click Maintain Hierarchy Structure to update or delete hierarchy types. Refer to Updating a Hierarchy Type, page 2-49 for detailed information.

## Updating a Hierarchy Version

You can update a hierarchy version using the Update Hierarchy Version page. You cannot update predefined or seeded hierarchies.

### To update a hierarchy version:

1. Navigate to the Maintain Hierarchy Content page.
2. Select the Update option for the hierarchy version you want to update. The Update Hierarchy Version page displays. In the Hierarchy Information region, the Hierarchy Name and Hierarchy Type display. You cannot edit the Global checkbox.
3. Enter the Context Value.
4. In the Version Information region, the hierarchy Version displays. Enter the following information:

- Status as active or inactive (required).
  - Date From as the date from when the hierarchy is effective.
  - Date To as the date until when the hierarchy is effective (optional).
  - Comments (optional).
  - Context Value
5. Click Continue. The Maintain Nodes page displays. The Hierarchy Information and Version Information display.
  6. In the Nodes region, the following information displays:
    - Node Name
    - Node Type
  7. To add a child node, click Add Child. The Add Child Node page displays. Enter the following information for the new node:
    - Select the Node Type as Child or Parent
    - Node Name
    - Context Value
  8. To update a child node, click Update. The Update Node page displays the Node Type. Update the following information for the node:
    - Node Name
    - Context Value
  9. Click Apply. A message confirms that the node is updated.

## Viewing a Hierarchy Type

You can view the details of a Hierarchy Structure Type using the View Hierarchy Type page. A hierarchy type remains available after deleting its structure. You can then redefine its structure.

### To create a hierarchy type:

1. Navigate to the Maintain Hierarchy Structure page.

2. In the Search region, make no entries to search for all records. Enter any of the following criteria to narrow your search:
  - Hierarchy Type
  - Status to find a hierarchy type using the status.
3. Click Go. A list of Hierarchy Types display in the results region.
4. To view a hierarchy structure, click the Hierarchy Type. The View Hierarchy Type page displays.

View Hierarchy Type: Local Cost of Living Allowance

Hierarchy Type Information	
Hierarchy Type	Local Cost of Living Allowance
	<input type="checkbox"/> Allow Duplicate Name
	<input checked="" type="checkbox"/> Allow Multiple Version

Node Type Information	
Expand All   Collapse All	
<div> <div>Local Cost of Living Allowance</div> <div> <div>Tariff Contract</div> <div>Tariff Class</div> <div>Tariff Group</div> </div> </div>	
Value Set	DE_PQH_TARIFF_CONTRACT
	DE_PQH_TARIFF_GROUP

[Return to Maintain Hierarchy Structure](#)

5. In the Hierarchy Type Information region, the following information displays:
  - Hierarchy Type
  - Allow Duplicate Name is selected if duplicate names for hierarchies are allowed in the hierarchy type.
  - Allow Multiple Versions is selected if multiple versions of hierarchies can be defined with this hierarchy type.
6. In the Node Type Information region, the following information displays:
  - Node Type
  - Value Set
7. If you want to navigate to the Maintain Hierarchy Content page, click Maintain Hierarchy Content.

## Updating a Hierarchy Type

You can update a hierarchy type using the Update Hierarchy Type page. You cannot update or delete seeded hierarchy types. A hierarchy type remains available after deleting its structure. You can then redefine its structure.

**To update a hierarchy:**

1. Navigate to the Maintain Hierarchy Structure page.
2. In the Search region, make no entries to search for all records. Enter any of the following criteria to narrow your search:
  - Hierarchy Type.
  - Status to find a hierarchy type using the status.
3. Click Go. A list of Hierarchy Types display in the results region.
4. To update a hierarchy type, click Update for a hierarchy type. The Update Hierarchy Type page appears. The Hierarchy Type and Hierarchy Type Code display
5. Optionally, enter a new Description for the Hierarchy Type and click Continue. The Hierarchy Type Structure page appears.
6. In the Hierarchy Type Information region, select Allow Multiple Hierarchies to enable the creation of multiple hierarchies of this hierarchy type.
7. Select Allow Multiple Versions to enable the creation of multiple versions of hierarchies of this type.
8. In the Node Type Information region, the following information displays:
  - Node Type
  - Value Set
9. Click Add Child to add child node to the node type. The Add Child Node Type page appears. Select a Node Type and Value Set to add and click Apply.
10. Click Add Another Row to add another child node.
11. Click Update Child to update a child node. The Update Child Node page appears that displays the Node Type. Select a Value set for the node type and click Apply. A message confirms that the node type is updated.
12. To navigate to the Update Child Node page, click Back
13. To delete a child node from the node type, click Delete.
14. Click Finish after you have made your changes.

---

# Environmental Accounting

## Environmental Accounting Overview

Oracle Environmental Accounting and Reporting (EAR) integrates with Oracle Payables and Oracle Inventory and enables you to capture the environmental source usage for various transactions. EAR uses the environmental source usage value in the transactions to calculate GHG Emissions through the application of Energy and Emission Factors. An Emission Factor is a factor used to calculate the amount of an Emission Type produced (typically a gas) by consuming or producing an Emission Source. GHG Emissions are calculated by multiplying the factor (For example, kg CO<sub>2</sub>/GJ energy in petrol) with activity data (For example, kilolitres x energy density of petrol used). Emission calculation techniques range from usage of emission factors to direct monitoring. Emissions can be calculated by using one of the following factors:

- Factors based on direct monitoring of emissions for a specific item. This method is used for Scope 1 emissions. Refer to Defining Sources, page 2-24 for information on types of emission sources.
- Factors specific to a supplier.
- Factors based on direct monitoring of emissions for a specific organization.
- Factors provided by a government that are location specific.
- Factors provided by a government are universal and apply to all locations.

Item specific factors override supplier specific factors which in turn override organization specific factors. The decision regarding which factor to apply is done within the application based on the above order.

## Data Collection

EAR enables you to collect and account environmental source usage by:

- Entering environmental data through Payables AP Invoice.
- Recording environmental data through Inventory Miscellaneous transactions by issuing environmental items to Assets.
- Uploading environmental source usage data through Oracle Web ADI.
- Entering data manually using the Environmental Transaction Batches window.

## Data Processing and Calculation

The Emission Calculation API calculates emissions by using the organization specific seeded formulas, emission source specific energy and emission factors and the recorded usage data. The calculated information is stored in the Environmental Ledger. Emission factors are defined in kgs/GJ of CO2-e. The following example explains how the emissions are calculated:

Consider that a Facility uses purchased electricity for its operations and the operations result in the emission of carbon dioxide. If the Facility uses 1,00,000 Kwh of purchased electricity, then the emissions are calculated as follows:

Emission Source: Purchased Electricity

Emission Factor for Electricity = 0.9 Kg CO2-e /KWh

Emission Scope: Indirect

Emission Types: Carbon dioxide

The consumption of 1, 00,000 Kwh of Purchased Electricity produces the following emissions:

Emissions of CO2 = (1,00,000 x 0.9) = 90,000 Kgs of CO2-e

## Emission Calculations using Location Specific Factors

The EAR application enables you to setup and use location specific energy and emission factors for environmental transactions. These factors can be used by setting the GHG: Location Specific Emission Factor Selection profile option to calculate the emissions for transactions. For example, the emission source electricity is location specific, and can have different factors depending on the state or country of the facility where electricity is consumed. Refer to Setting Up Profile Options, page 2-11 for information on the profile option

## Environmental Accounting for Invoices

The Oracle Environmental Accounting and Reporting (EAR) application integrates with Oracle Payables and enables you to record the environmental source usage through invoices. You can choose to enter the environmental data related to invoices while

performing the following:

- Invoice validation
- Post processing of invoices

## Prerequisites

- ☐ Set up GL Account or Projects to identify organizations that must report emissions.
- ☐ Validate the invoice in Oracle Payables. Refer to the *Oracle Payables User's Guide* for information on validating invoices.
- ☐ Invoice must contain at least one distribution account that is mapped to a environmental organization or must contain an environmental item in case of PO match.

The GL date from the invoice is used to derive the environmental organization while creating emissions through Oracle Payables. If a user enters a project and task, the project is used to derive the environmental organization. If no project is entered, then the environmental organization is derived from the GL account.

- ☐ Verify that a valid GL Account or Projects mapping to an Environmental Organization exists for the entire date range of the transaction.

### To enter environmental data during validation of invoices:

When you validate invoices related to an environmental organization or item, the Environmental Emissions pop up window appears and enables you to enter environmental data.

1. Navigate to the Invoices window using the Payables Manager responsibility.
2. Enter the invoice or query an existing invoice. Click Actions, check Validate (if the invoice has not been validated) and press OK. Refer to the *Oracle Payables User's Guide* for detailed information on validating invoices. If the invoice contains a GHG related account or an environmental item (in case of a PO Match), then the Environmental Emissions pop up window appears and enables you to enter source usage data.

Refer to the topic "Entering Environmental Usage Data during Post-processing of Invoices" for a detailed description on how to enter source usage data in the Environmental Emissions window, if the usage data entry is skipped during validation of invoices.

### To Enter environmental data during post-processing of invoices:

You can enter environmental data for validated invoices that contain GHG accounts or

environmental items for which environmental data entry was skipped during validation. You can query for a specific invoice using the Invoice Overview window and enter the environmental data using the Environmental Emissions window. You can use the option of source usage data entry when the tasks of invoice data entry and environmental data entry are clearly separated and assigned to different individuals for business reasons. For example, an organization can have a Payables Clerk who validates an invoice and a Sustainability Officer who enters environmental data later in the business process.

1. Navigate to the Invoice Overview window using the Process Unaccounted Invoices menu option. Use the Find Invoices window to search for an invoice. This brings up the invoices that are in the status "Validated" with at least one distribution account mapped to an Environmental Organization and do not have any Emissions recorded. Refer to the *Oracle Payables User's Guide* for detailed information on finding and viewing invoice details.
2. Select Create Environmental Transactions from the Tools menu. The Environmental Emissions window appears. The Autoallocate tab displays by default.

Source	Usage	UOM	From Date	To Date
222-TRANSPORT FUEL OIL	1000	kiloliters	22-MAY-2011	22-MAY-2011

Create Emissions

- If you want the application to automatically prorate the emission source usage across relevant distributions based on their financial distributions, then perform the following steps:
  - View the Emission Source. This field defaults to the source involved in the transaction. The UOM field defaults to the UOM defined for the source. You can edit the UOM field. Refer to the "Defining Sources" topic of the Setting Up chapter for more detailed information on setting up sources. Required.
  - Enter the Usage quantity as the quantity of the emission source used. The UOM field defaults to the base unit of measure for the emission source. You can also select an alternate unit of measure from units within the same Unit of Measure Classification. Required.
  - View the From Date field that defaults to an invoice or a receipt date



depending on the Parameters that you set up for the operating unit. You can edit this field. You cannot change this date after the emission usage is saved. Refer to Setting Up Parameters, page 2-16 for more information.

- View the To Date field that defaults to an invoice or a receipt date depending on the Parameters that you set up for the operating unit. You can edit this field. You cannot change this date after the emission usage is saved.
- Click Create Emissions. The application autoallocates the usage on a pro-rate basis over the total of the invoice general ledger distributions.
- If you want to allocate the emission source usage manually to distribute the emission source usage across specific organizations mapped to specific invoice distribution accounts, then perform the following steps:
  - Click the Manually Allocate tab.

Line Num	Account	Source	Usage	UOM	From Date	To Date
1	1	01-404-1550-0000	222-TRANSPORT FUEL OIL	1,000.00	kiloliters	22-MAY-2011

- Enter the Line, Number, and Account details of the specific general ledger lines that you want to allocate the source usage to.
- The Emission Source displays but can be edited. The LOV displays a list of emission sources that you define as per the setup. Refer to Defining Sources, page 2-24 for more detailed information on setting up sources. Required.

Enter the Usage quantity as the quantity of the emission source used. The UOM field defaults to the base unit of measure for the emission source. You can also select an alternate unit of measure from units within the same Unit of Measure Classification. Required.

- View the From Date field that defaults to an invoice or a receipt date depending on the Parameters. You can edit this field. You cannot change this date after the emission usage is saved.
- View the To Date field that defaults to an invoice or a receipt date

depending on the Parameters. You can edit this field. You cannot change this date after the emission usage is saved.

- Click Create Emissions. The application allocates the usage over the specified general ledger lines.

**Note:** The system validates if a valid GL Account or Projects mapping to an Environmental Organization exists for the entire date range of the transaction. If the dates are valid, then the system creates emissions against the Environmental Organization for the corresponding date ranges. If an Environmental Organization is only valid for part of the date range, then only the valid fraction of the emissions is charged to the valid Environmental Organization. If there is no valid Environmental Organization for any part of the date range, then no emissions are charged.

## Viewing Emissions

You can view greenhouse gas emissions resulting from all types of transactions with the Environmental Transaction Batches window. In addition, you can view emissions resulting from an invoice with the Invoice Overview window.

### **To view emissions generated from a miscellaneous inventory transaction:**

You can view the emissions due to a miscellaneous transaction that involves an issue of an environmental item to an asset using the Environmental Transaction Batches window. A source usage transaction is generated automatically from an inventory issue based upon the use of an item that has additionally been set up as an environmental item with the associated emission source and emission factors. The Environmental Transaction Batches window displays only the usage transaction and it cannot be edited.

#### **Prerequisite:**

Issue an environmental item to an asset.

1. Navigate to the Material Transactions window.
2. Query for the transaction of interest using the Find Material Transactions window. Refer to the *Oracle Inventory User's Guide* for detailed information about the Material Transactions and Find Material Transaction windows.
3. Select View Emissions from the Tools menu. The Environmental Transaction Batches window appears, displaying the transaction generated by the inventory issue. Refer to *Entering Transaction Batches Manually*, page 3-11 for a detailed

description of the Environmental Transaction Batches window.

**To view emissions generated from an invoice using the Environmental Transaction Batches window:**

Invoices created in Oracle Payables using the Invoice Workbench have a batch type of Internal Invoice and no subtype. Query these invoices by invoice number or a batch type of Internal Invoice using the Environmental Transaction Batches window. You cannot create transactions with a batch type of Internal Invoice from the Environmental Transaction Batches window.

1. Navigate to the Environmental Transaction Batches window.
2. Query for the transaction of interest by entering "Internal Invoice" in the Type field.
  - Select [M] View > Query By Example > Enter.
  - Enter "Internal Invoice" in the Type field.
  - Select [M]View > Query By Example > Run.

Use other fields to narrow the list of results. Refer to Entering Transaction Batches Manually, page 3-11 for a description of the other fields in this window.

**To view emissions generated from an invoice using the Invoice Overview window:**

1. Navigate to the Invoice Overview window. Use the Find Invoices window to search for an invoice. Refer to the *Oracle Payables User's Guide* for detailed information on finding, and viewing invoice details.
2. Select View Environmental Transactions from the Tools menu. The Environmental Emissions window appears.

[illegible]

The following fields display:

- Invoice is the invoice number for the transaction.
- Transaction is the transaction identification number.
- Organization is the facility to which the transaction relates to.
- Supplier is the name of the supplier of the source.
- Asset Number is identification number for the environmental asset.
- Description is a description defined for the asset.
- Asset Book is the asset book number.
- Item is the identification code for the environmental source.
- Description is a short description for the item.
- Source is the environmental source for the transaction.
- Scope is the type of emission source.
- Location is the location of the organization.
- Usage Quantity is the quantity of the source used in the transaction.
- UOM is the unit of measure for the environmental source.
- Measurement Criteria is the method used for measurement of the usage quantity of the source.
- UOM Conv is the unit of measure conversion factor.

- CO2-e (Kgs) is the CO2 equivalents generated by the facilities in your organization and is expressed in kilograms (kgs).
  - Energy (GJ) is the energy associated with the total quantity of environmental source consumed and is expressed in gigajoules (GJ).
  - Source Type is the name of the source type.
  - From and To are the start date and the end date for the usage transaction.
  - Usage is the total source usage by the facilities in your organization.
3. Click View Ledger to view the emissions by day and gas for a transaction. Refer to Viewing the Environmental Ledger, page 3-9 for more information.

## Viewing the Environmental Ledger

You can view the emission details for a transaction by day and by emission type and the emission factors used in the emission calculations using the Environmental Ledger window.

### **To view the emissions Ledger:**

1. Navigate to the Environmental Emissions window.
2. Select the transaction for which you want to view the emissions details. Click View Ledger. The Environmental Ledger window appears

Date	Type	CO2-e (Kg)	Source Combination
27-MAY-2011	CO2E	900.0000	ELNW-ELECTRICITY - NSW

The following fields display:

- In the Emissions tab, the Emission Date is the effective date for the emission transaction.
- Gas is the name of the gas emitted.
- CO2-e is the carbon equivalent for the amount of gas emitted and is expressed in Kgs.
- Emission Factor is the factor used in the emission calculations.
- In the Energy tab, Emission Date is the effective date for the emission transaction.
- Type is energy source type.
- Energy (GJ) is the energy associated with the source consumed in the transaction and is expressed in gigajoules.

3. Close the window.

## Environmental Accounting Using Inventory Issue Transactions

The Oracle Environmental Accounting and Reporting (EAR) application integrates with Oracle Inventory and enables you to enter source usage information for a transaction that involves an issue of environmental Item (like fuels) to an Internal or External asset.

You must create a GHG Inventory Issue to GHG Asset Transaction template to enable you to capture the asset number at the time of a miscellaneous issue. Refer to Setting Up in Oracle Inventory topic in Setting Up in Other Applications, page 2-2 for more information.

**To enter environmental source usage data during a miscellaneous transaction:**

1. Navigate to the Miscellaneous Transactions window using the Inventory Super User responsibility.  
  
Refer to the *Oracle Inventory User's Guide* for detailed information on the Miscellaneous Transactions window.
2. Enter GHG Inventory Issue to GHG Asset in the Type field.
3. Select the GHG Asset to which you want to issue the environmental item, in the Transaction Source field.
4. Click Ok.
5. Click Transaction Lines.
6. Select the environmental item to issue in the Item field.
7. Enter the usage quantity of the item in the Quantity field.
8. Select the Subinventory for the item.
9. Click Save. You can view the transaction using the Material Transactions window and the emission calculations as a result of the transaction, using the Environmental Transaction Batches window. Refer to Viewing Emissions, page 3-6 for more information.

## Entering Transaction Batches Manually

You can enter source usage information for material transactions using the Environmental Transaction Batches window. The Environmental Transaction Batches window also lets you review the emissions on a batch, reverse a batch, copy a batch, and approve a batch.

**Note:** You can use the Environmental Transaction Batches window when you need to add one off usages transactions from a smaller external source system or when WebADI upload is not available.

**Note:** You can also enter emissions in batches when you need to enter manual adjustments, where usage transactions already entered in a closed Payables period, must be adjusted.

Prerequisites:

- Define Assets and Items. Refer to Defining Assets, page 2-23, and Defining Items, page 2-31 for more information.
- Perform a GHG Inventory Issue to GHG Asset miscellaneous transaction in Oracle Inventory to issue a GHG Item to a GHG Asset.

Refer to the Setting Up in Oracle Inventory topic in the Setting Up in Other Applications, page 2-2 for information on setting up the GHG Inventory Issue to GHG Asset transaction type.

Refer to the *Oracle Inventory User's Guide* for detailed information on creating miscellaneous transactions.

### To enter environmental transaction batches:

1. Navigate to the Environmental Transaction Batches using the Enter Transactions Batches menu option. The Environmental Transaction Batches window appears. The Operating Unit that owns the facility or organization where the source is used displays.

Operating Unit	Type	Sub Type	Batch Number	Description	Supplier	Su
Vision Operations	ADJUSTMENT	FLARING	MA22	MA22		

Usage: 1,000.00  
CO2-e (kg): 900.00  
Energy (GJ): 3.60

Emissions Reverse Copy Approve

2. Select a batch type in the Type field. Examples are:
  - Adjustment: This batch type is used to identify transactions as adjustments. An adjustment is required when companies want to make a change to the emissions footprint, but record the event from an audit point of view.
  - Estimate: This batch type is used to categorize transactions as estimates. This is



useful when legislations allow organizations to estimate the emissions for small facilities in their operations. This is also useful for companies to put advanced estimates to potentially build a view of the potentials emissions. These estimates can be reversed at a later stage as actual emissions become available.

- **External Invoice:** This batch type enables the Supplier and Supplier site fields. This allows the entry of information for external invoices not being processed through the internal Accounts Payables. This can be used for sub-contractor invoices. You can enter the supplier and supplier site at the batch level (so the values will default to each emission transaction) or at the emissions transaction level, in the Environmental Emissions window.
  - **Item:** This batch type allows the entry of batches that perform inventory issues without assets or issues to a specific asset. If you select the Item batch type, then the Item and Asset fields are enabled in the Environmental Emissions window. You must enter an Item in the Item field, and optionally select an asset.
  - **Misc for miscellaneous emissions:** This batch type can be used for general transaction batches that require the minimum amount of information to generate the emissions records.
3. Optionally select a Sub Type for the batch. Valid options are:
    - Flaring for emissions due to flaring.
    - Fugitive for fugitive emissions.
    - Misc for miscellaneous emissions.
    - Venting for emissions due to venting of gases.
  4. Enter an alpha-numeric number as a Batch number. Required.
  5. Optionally, enter a brief Description for the batch.
  6. Optionally, select a default Supplier from the LOV who supplied the goods or service. This supplier is the default supplier which initially appears on all batch usage lines
  7. Supplier Num defaults to the number of the default Supplier selected.
  8. Status field defaults to Unapproved when you create a batch. The status changes to Approved when you approve the batch.
  9. Created By defaults to the name of the person who creates the batch initially.
  10. Creation Date defaults to the date the batch is created.

11. Click Save.

**To enter emissions for an environmental transaction batch:**

12. To enter emissions for a batch, click Emissions. The Environmental Emissions window opens.
13. Select the environmental organization where the emission occurred in the Organization field.
14. If the batch type is External Invoice, then enter the supplier and supplier site.
  - In the Supplier field, enter the supplier of the source.  
If you entered a supplier in the Environmental Transaction Batches window, then this value defaults into the Supplier field. You have the option to change the value.
  - In the Site field, enter a supplier site.  
If you entered a supplier site in the Environmental Transaction Batches window, then this value defaults into the Site field. You have the option to change the value.
15. If the batch type is Item Emission, then enter the asset number and item.
  - Optionally, in the Asset Number field, specify the identification number for the environmental asset.
  - In the Item field, specify the identification code for the environmental source.
16. Select the source of the emission in the Source field.
17. Select the type of the emission source in the Scope field.

The Scope field defaults to the value associated with the Source field value selected. If a source has multiple source combinations with different scopes, the value defaults to the first value in the list. For example, if the scopes defined for the selected source are Scope 0 and Scope 1, then Scope 0 is selected as the default value. If the scopes defined for the selected source are Scope 1 and Scope 2, then Scope 1 is selected as the default value.
18. Select the location of the organization where the emission occurred in the Location field.

If you select a specific location, then it is used to select a location-specific emission factor. If you select the value 'All', then the system checks the Location Specific Emission Factor Selection profile option. If the profile option value is COUNTRY, then the system determines the country based on the HR location of the environmental organization, then uses the emission factor defined for that country.

If the profile option value is STATE, then the system determines the state based on the HR location of the environmental organization, then uses the emission factor defined for that state. If you select a specific location not set up as a source combination, then the system uses the Location field default value of 'All', if 'All' has a defined source combination. For more information about setting up a source combination, refer to Defining Sources, page 2-24.

19. Enter the quantity of the source used in the transaction in the Usage Quantity field.
20. Select the method used for measurement of the usage quantity of the source in the Measurement Criteria field.
21. Select the unit of measure for the environmental source in the UOM field. The value defaults based on the emission source selected.
22. Select the name of the source type in the Source Type field. This field defaults to the value Consumed.
23. In the From and To fields, select the start date and the end date for the usage transaction. These fields default to today's date.
24. Optionally, in the Description field, enter a description of the emission.
25. Click Save.
26. The following fields display after you save the usage information for a batch in the Environmental Emissions window:
  - Usage Quantity is the source usage quantity for the selected batch.
  - CO2-e (kg) is the carbon equivalent of the emissions for the selected batch.
  - Energy (GJ) is the energy associated with the source usage for the selected batch.
27. Optionally, click View Ledger to view emission details for a transaction by day and by gas and the emission factors used in the emission calculations for each transaction
28. Select File > Close Form to close the Environmental Emissions window and return to the Environmental Transaction Batches window.

#### **To approve a batch**

29. To approve a batch, click Approve. This option is enabled only after you enter emissions for a batch. If you do not want to add further transactions to the batch, then approve the batch.

**Note:** You cannot edit a batch after you approve it.

**To reverse a batch**

30. To reverse a batch, click Reverse.

The GHG Reverse Batch window opens.

31. In the Batch Number field, the batch number defaults to the batch number selected when clicking Reverse. Change the batch number to reverse, if desired.

32. Click OK.

**To copy a batch**

33. To copy a batch, click Copy.

The GHG Copy Batch window opens.

34. In the Batch Number field, enter a new batch number.

35. Click OK.

36. Change any of the copied transaction batch or emissions details as needed, then click Approve.

## Loading Source Usages Using the Oracle Web Applications Desktop Integrator

Oracle Environmental Accounting and Reporting enables you to manually upload transactions resulting in greenhouse gas emissions using WebADI. This feature enables you to upload the usage information in batches from spreadsheets, review the emissions on a batch, reverse a batch, copy a batch and approve a batch. Approving locks the batch and prevents any editing of the batch. Refer to the *Oracle Web Applications Desktop Integrator Implementation and Administration Guide* for detailed information on using WebADI.

## Creating Transactions Using an API

Oracle Environmental Accounting and Reporting provides an API to create environmental batches from external systems and create transactions within these batches. Use this API to create the five types of Environmental Batches supported in Oracle EAR:

- Adjustment

- Estimate
- External Invoice
- Item
- Misc

Invoke the API from the calling application or from a standalone PLSQL wrapper. The following example code calls the GHG\_TRANSACTIONS\_API\_PKG and provides sample values. Change the sample values to meet your needs. After running the API code from the back end, verify the creation of a transaction batch by querying it in the Enter Transaction Batches window.

```

DECLARE

    v_msg_code VARCHAR2(200);
    v_msg_text VARCHAR2(200);

BEGIN

    v_msg_code := FND_MESSAGE.GET_ENCODED;

    GHG_TRANSACTIONS_API_PKG.create_transaction(
        p_org_id                => 204,
        p_batch_type             => 'EXTERNAL INVOICE' ,
        p_batch_sub_type         => '',
        p_batch_number           => 'BUG 13511580',
        p_batch_description      => 'BUG 13511580',
        p_facility               => '222-Broken Hill',
        p_emission_source_name   => '222-FUEL OIL (NON-TRANSPORT)',
        p_emission_scope         => '1',
        p_emission_location      => 'ALL',
        p_emission_usage         => 100,
        p_emission_uom           => 'kiloliters',
        p_emission_from_date     => '01-JUN-2011',
        p_emission_to_date       => '30-JUN-2011',
        p_emission_description   => '222-TEST-EMISSION-001',
        p_supplier               => 21,
        p_supplier_site_name     => 7083,
        p_item_number            => '',
        p_ghgas_asset            => '',
        p_invoice_id             => NULL,
        p_invoice_line_num       => NULL,
        p_invoice_dist_num       => NULL,
        p_m_criteria             => 'A',
        p_commit_flag            => 'Y',
        p_manual_entry_flag      => 'Y'
    );

    EXCEPTION

    WHEN OTHERS THEN

        v_msg_code := FND_MESSAGE.GET_ENCODED;
        Dbms_Output.put_line(substr(v_msg_code,5));
        Dbms_Output.put_line(sqlerrm);
        if v_msg_code is not null then
            v_msg_code := substr(v_msg_code,5);
            v_msg_code := substr(v_msg_code,1,length(v_msg_code)-1);
            FND_MESSAGE.SET_NAME('GHG',v_msg_code);
            v_msg_text := '***Following exception occurred : ' || Chr(10) ||
FND_MESSAGE.GET || Chr(10) || SQLERRM;
        else
            v_msg_text := SQLERRM;
        end if;

        Dbms_Output.put_line(v_msg_text);

    END;

```

Field Name	API Field Description	Mandatory/Optional	Data Type	Remarks
p_org_id	Operating Unit ID	Mandatory	VARCHAR2(200)	Operating Unit for which batch is created.
p_batch_type	Emission Batch Type	Mandatory	VARCHAR2(200)	An existing Batch Type in EAR. For example "EXTERNAL INVOICE". Other Batch Types include: MISC, ADJUSTMENT, ESTIMATE, ITEM.
p_batch_sub_type	Emission Batch Sub Type	Optional	VARCHAR2(200)	An existing Batch Sub Type in EAR. For example "FUGITIVE". Other Batch Sub Types include: FLARING, MISC, VENTING.
p_batch_number	Emission Batch Number	Mandatory	VARCHAR2(200)	User defined batch number.
p_batch_description	Description of Emission Batch	Optional	VARCHAR2(200)	User defined batch description.
p_facility	Environmental Facility	Mandatory	VARCHAR2(200)	Facility Name for which transaction is created.

Field Name	API Field Description	Mandatory/Optional	Data Type	Remarks
p_emission_source_name	Environmental Source Name	Mandatory	VARCHAR2(200)	Source Name for which transaction is created.
p_emission_scope	Emission scope of the source	Mandatory	VARCHAR2(200)	An existing Emission Scope in EAR. For example " 1", Other Scopes are: 0, 2, 3.
p_emission_location	Location	Optional	VARCHAR2(200)	Location where transaction is taking place.
p_emission_usage	Usage Value	Mandatory	VARCHAR2(200)	User defined Usage Value.
p_emission_uom	UOM of the usage value	Mandatory	VARCHAR2(200)	Valid UOM of the usage value that exists in EAR.
p_emission_from_date	Usage Start Date	Mandatory	VARCHAR2(200)	User defined Usage Start Date.
p_emission_to_date	Usage End Date	Mandatory	VARCHAR2(200)	User defined Usage End Date.
p_emission_description	Usage Description	Optional	VARCHAR2(200)	User defined description of usage.
p_supplier	Supplier ID in case of Item Batch	Optional	VARCHAR2(200)	Valid supplier code existing in application.
p_supplier_site_name	Supplier Site ID in case of Item Batch	Optional	VARCHAR2(200)	Valid supplier site code existing in application.



Field Name	API Field Description	Mandatory/Optional	Data Type	Remarks
p_item_number	Item name	Optional	VARCHAR2(200)	Item name Required in case of Item Batch.
p_ghgas_asset	Environmental Asset Number	Optional	VARCHAR2(200)	Valid Environmental Asset Number existing in application.
p_invoice_id	Invoice ID	Optional	VARCHAR2(200)	Valid invoice ID existing in application.
p_invoice_line_number	Invoice Line Number	Optional	VARCHAR2(200)	Valid Invoice Line Number existing in application.
p_invoice_distribution_number	Invoice Distribution Number	Optional	VARCHAR2(200)	Valid Invoice Distribution Number existing in application.
p_m_criteria	Code of measurement criteria of Usage value.	Mandatory	VARCHAR2(200)	Measurement Criteria Code setup in EAR. For example "A". Other criteria are: AA, AAA, BBB
p_commit_flag	Commit	Mandatory	VARCHAR2(200)	Always set this value to 'Y'.
p_manual_entry_flag	Manual Entry	Mandatory	VARCHAR2(200)	Always set this value to 'Y'.

## Performing Emissions and Energy Recalculations

The Oracle Environmental Accounting and Reporting (EAR) application is designed to calculate the emissions and energy usage values based on the relevant factors defined in

the application while entering transactions. The specified factors are considered to be correct and complete when the calculation is performed. However, there may be situations where the factors may be incorrect due to which calculations produce incorrect results.

The EAR application allows you to correct the factors using the Environmental Sources window and provides the Recalculate Emissions concurrent program to recalculate the emission and energy values based on the revised factors.

**To run the Recalculate Emissions concurrent program:**

1. Navigate to the Submit Request window.
2. In the Name field, select Recalculate Emissions. The Parameters window displays.
3. Select any of the following options to run the program for a subset of GHG Transactions:
  - Supplier: To perform recalculations for transactions associated with a specific supplier.
  - Invoice Number: To perform recalculations for transactions related to a specific invoice. If the Supplier is entered, then this field is enabled and is restricted to the invoices associated with the supplier.
  - Organization: To perform recalculations for transactions associated with a specific organization.
  - Emission Source: To perform recalculations for transactions associated with a specific source.
  - Emission From and Emission To: To recalculate emission transactions within a specific date range. Note: If the process is run with no parameters, it completes with an error as unrestricted recalculation of the emission and energy is not permitted.
4. Click Ok and then Submit.
5. You can view the details of the request in the Requests window.

## **Transferring Transactions to the Data Warehouse**

Run the ODI Package PKG\_EBS\_GHG\_ETL to transfer the environmental data from the Environmental Ledger to the Environmental Data Warehouse. The Oracle Business Intelligence application uses the data for environmental reporting through the pre-built dashboards and reports.

**To run the ODI package:**

1. Navigate to ODI Studio, then log in with the credentials provided by your administrator.
2. Select PKG\_EBS\_GHG\_ETL. Right click on the package name and select the Execute option.
3. In the Execution prompt, select a Context from the list of values. Logical Agent and Log Level are optional fields. Click OK.
4. In the Variable Values prompt, provide the values of the run time variables. For the first run, provide the values EBSEARETL.SOURCE\_INSTANCE\_CODE and EBSEARETL.v\_language. For all subsequent runs, the variable values are populated with the last run values's.
5. View the execution status in the ODI Operator tab.



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# Environmental Reporting

## Environmental Reporting Overview

Oracle Environmental Accounting and Reporting provides the following pre-built dashboards to report the source usage, emissions data, carbon disclosure, and KPI measures for organizations:

- Emissions
- Energy
- Metrics
- Reporting
- Summaries
- Test
- Transaction
- Usage

## Understanding the Emissions Dashboard

The Emissions dashboard displays a summary of emissions by scope and by source for the whole organization in the default organization hierarchy. The summary is shown by year and by month for a selected year. You can set up reporting thresholds for emissions for your organization. When the emissions are below the threshold, a green indicator is seen on the report. When the emissions are above the threshold, a red indicator is seen on the report.

### To view the Emissions page:

1. Navigate to OBIEE Dashboards. Click Emissions. The Emissions page appears.
2. The following reports display in the Summary tab:
  - Emissions History is a graphical representation of the history of the carbon emissions by the organization.
  - Emissions by Year report displays emissions for a selected year for an organization. Select a Year for which you want to view the emissions. The following sub reports display for the organization:
    - Emissions by Scope by Year report is a tabular representation of the emissions of the organization by scope for the selected year.
      - Year Number
      - Emission Scope is the scope of the emissions by the organization.
      - CO2-e Quantity is the quantity of emissions by the organization.
      - CO2-e UOM is the unit of measure in which the emissions are measured.




















#### Emissions by Scope by Year

Year Number	Emission Scope	CO2-e Quantity	CO2-e UOM
Year 2008	1	300,389,042	KG
	2	499,243	KG
	3	0	KG
Year 2009	1	444,305,152	KG
	2	1,166,255	KG
	3	0	KG
Year 2010	1	4,808,740	KG
	2	900	KG
Year 2011	1	3,217,127	KG
Year 2012	1	241,600	KG

- Emissions by Source by Year report is a tabular representation of the emissions of the organization by source for the selected year.
  - Year Number
  - Emission Scope is the scope of the emissions by the organization.
  - Source Description is a brief description of the source of emissions.

- Source Code is the code for the source of the emissions.
- CO2-e Quantity is the quantity of emissions by the organization.
- CO2-e UOM is the unit of measure in which the emissions are measured.

Emissions by Source by Year

Year Number	Emission Scope	Source Description	Source Code	CO2-e Quantity	CO2-e UOM
Year 2008	0	KM TRAVELLED	KM_KPI	0 	KG
		PASSENGER FLOWN	PASS_FLOWN	0 	KG
		WATER PUMPED	WATER_PUMP	0 	KG
		WATER RECYCLED	WATER_REC	0 	KG
	1	NATURAL GAS HEAVY DUTY VEHICLE	TFHDV	2,095,625 	KG
		TRANSPORT DIESEL OIL	TFDO	295,339,430 	KG
		TRANSPORT GASOLINE AIRCRAFT	TFGA	2,953,987 	KG
	2	ELECTRICITY - NSW	ELNW	2,548 	KG
		ELECTRICITY - QLD	ELQL	44,383 	KG
		ELECTRICITY - SA	ELSA	2,880 	KG
		ELECTRICITY - VI	ELVI	236,261 	KG
		ELECTRICITY - WA	ELWA	213,172 	KG
	3	PASSENGER FLOWN	TAD	0 	KG
Year 2009	0	KM TRAVELLED	KM_KPI	0 	KG
		PASSENGER FLOWN	PASS_FLOWN	0 	KG
		WATER PUMPED	WATER_PUMP	0 	KG
		WATER RECYCLED	WATER_REC	0 	KG
	1	NATURAL GAS HEAVY DUTY VEHICLE	TFHDV	6,449,315 	KG
		TRANSPORT DIESEL OIL	TFDO	418,381,683 	KG

Optionally, click Export and choose whether to export this report to Excel, PowerPoint, or PDF format.

- The following reports display in the Emissions by Scope Tab. These reports display 3 times total, once each for Levels 01, 02, and 03:
  - Emissions by Scope report is a graphical representation of the emissions of the organization by scope for the selected year.
  - The emission data also displays in a tabular report with the following fields:
    - Year Number
    - Source Description is a brief description of the source of emissions.
    - CO2-e Quantity is the quantity of emissions by the organization.
    - CO2-e UOM is the unit of measure in which the emissions are measured.

## Scope 1 CO2-e Emissions



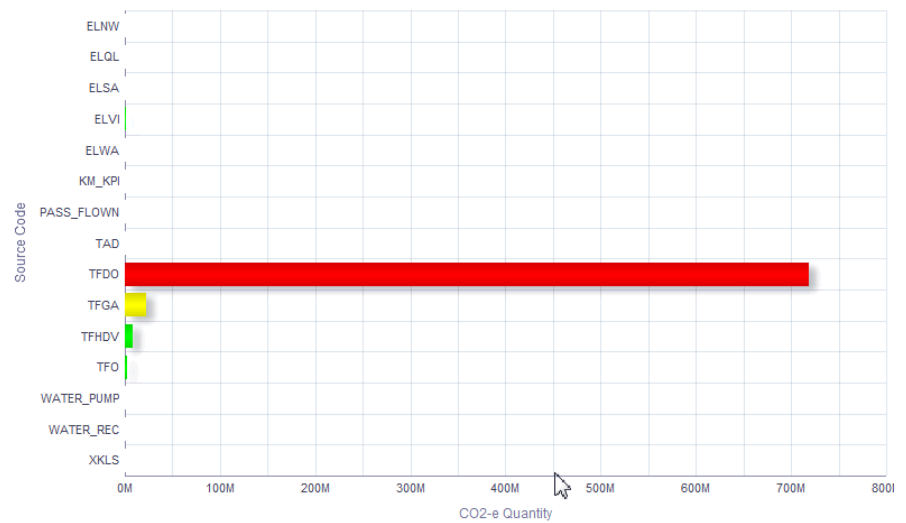
Year Number	Source Description	CO2-e Quantity	CO2-e UOM
Year 2008	NATURAL GAS HEAVY DUTY VEHICLE	2,095,625	KG
	TRANSPORT DIESEL OIL	295,339,430	KG
	TRANSPORT GASOLINE AIRCRAFT	2,953,987	KG
Year 2009	NATURAL GAS HEAVY DUTY VEHICLE	6,449,315	KG
	TRANSPORT DIESEL OIL	418,381,683	KG
	TRANSPORT GASOLINE AIRCRAFT	19,474,155	KG
Year 2010	TRANSPORT DIESEL OIL	4,586,838	KG
	TRANSPORT GASOLINE AIRCRAFT	221,902	KG
Year 2011	TRANSPORT DIESEL OIL	296,795	KG
	TRANSPORT FUEL OIL	2,920,332	KG

4. The following reports display in the Emissions by Source Tab:

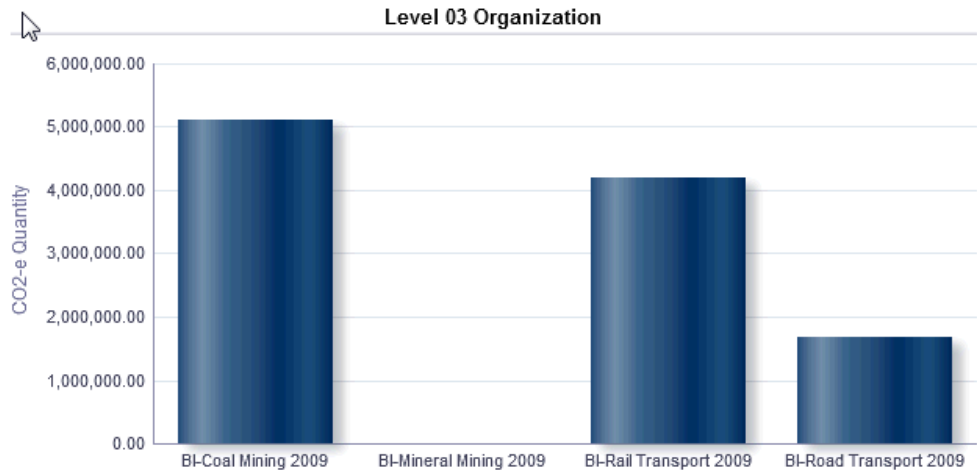
- Emissions by Source report is a graphical representation of the emissions of the organization by source. You can select the year and an emission for which you want to view the emissions. The emission data also displays in a table report with the following fields:
  - Year Number
  - Emission Scope is the scope of the emissions by the organization.
  - Source Description is a brief description of the source of the emissions.
  - Source code is the code for the emission source.
  - CO2-e Quantity is the quantity of emissions by the organization.
  - CO2-e UOM is the unit of measure in which the emissions are measured.



Emissions by Source by Year



- The Emissions by Org Tab displays four Emissions by Year reports, for Level 01, Level 02, Level 03 and Level 04 organizations. The reports display the emissions at the individual hierarchy levels of an organization for the selected year.



- The Carbon Permits tab displays a table of environmental organizations with carbon permits listed by legislation. You can view the carbon permits for one or more legislations at a time by optionally selecting specific legislations. If you do not select a legislation, then the carbon permits for all legislations display.

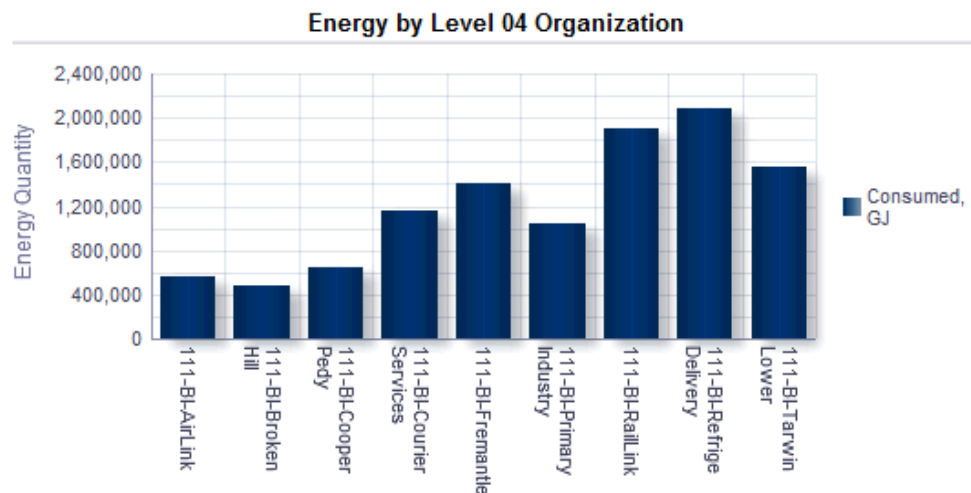
**Note:** For more information about carbon permits, see: Setting Up Carbon Permit Management, page 2-38.

## Understanding the Energy Dashboard

The Energy dashboard displays the energy consumed at the individual hierarchy levels of an organization for the selected year.

### To view the Energy page:

1. Navigate to OBIEE Dashboards. Click Energy. The Energy page appears.
2. Select the Year for which you want to view the energy consumption.
3. The Energy by Year report displays the energy consumed at the individual levels of the organization depending on its hierarchy.



## Understanding the Metrics Dashboard

You can define Key Performance Indicators (KPIs) in the Oracle Environmental Accounting and Reporting (EAR) application to obtain information relevant to an organization. Refer to Defining Key Performance Indicators, page 2-32 for more information. When you set up the KPIs, the EAR application calculates the metrics using the transactions of the sources that are included in the numerator and denominator of the KPI definition and displays the results in the Metrics dashboard. For example, you can define a KPI or a metric to calculate and report the amount of emissions per distance travelled, or amount of energy used per employee, or amount of fuel consumed per volume of water pumped.

### To view the Metrics page:

1. Navigate to the OBIEE Dashboards. Click Metrics. The Metrics page appears.

2. Select the KPI and the Year for which you want to view the metrics. The following reports display:

- A bar chart displays the KPI values for the organization for the selected year.
- A graph displays the KPI values for the organization across the months of the selected year.



## Understanding the Reporting Dashboard

Based on the default organization hierarchy the Reporting dashboard displays the top four levels of the organization structure and the organization control and interested parties to this organization structure.

**Note:** The pre-built OBIEE dashboards use 01 Level Organization, 02 Level Organization, 03 Level Organization, and 04 Level Organization as the default nomenclature to represent the four levels of the Organization Structure set in the Reporting Parameters. However, you can choose to rename them based on your business needs.

### To view the Reporting dashboard:

1. Navigate to the OBIEE Dashboards. Click Reporting. The Reporting page appears.

2. The following reports display for the organization in the Organization Structure tab:
- **Organization Hierarchy:** The report displays the following fields:
    - Hierarchy Name is the name of the organizational hierarchy.

**Tip:** The default Hierarchy Name values are 01 Level Organization, 02 Level Organization, 03 Level Organization, and 04 Level Organization for the four levels of the Organization Structure, but you can rename these levels to meet your business needs.
    - Hierarchy Code is the code for the organizational hierarchy
    - Hierarchy is the type of the organizational hierarchy.
    - Effective From is the date from which the organizational hierarchy is effective.
    - Effective To is the date to which the organizational hierarchy is effective.
  - **Organization Structure:** The report displays the Name, Address, GPS co-ordinates, and the Industry Group Codes for the top four levels of the organization. You can click on the name of a level 4 organization to view details of further levels of the organization hierarchy.
  - **Organizations with Operational Control:** The report displays the details of organizations that have operational control on the organization.
    - Level 4 Organization is the name of the facility on which an organization has operational control.
    - Control Type Description is the type of operational control an organization has on the facility.
    - Effective Date From is the effective start date for the controlling organization's operational control on the facility.
    - Effective Date To is the effective end date for the controlling organization's operational control on the facility.
    - Controlling Organization is the name of the organization that has operational control over the facility.
    - CEO Name is the name of the CEO of the controlling organization.

- Company Identifier is a code for the controlling organization.
  - Address Line 1, Address City, Address State, Address Postcode and Address Country display the address of the controlling organization.
  - **Interested Parties:** The report displays the details of other organizations interested in the current organization.
    - Level 4 Organization is the name of the facility in which other organizations are interested.
    - Interest Type Description is the type of interest an organization has on the facility.
    - Effective Date From is the effective start date for the interested organization's interest in the facility.
    - Effective Date To is the effective end date for the interested organization's interest in the facility.
    - Interested Organization is the name of the organization that has interest in the facility.
    - CEO Name is the name of the CEO of the interested organization.
    - Company Identifier is a code for the interested organization.
    - Address Line 1, Address City, Address State, Address Postcode, and Address country display the address of the interested organization.
3. The following reports display for the organization in the Activity tab. Select the Year and the Level 04 Organization for which you want to view activity details:
- **Organization Details:** The report displays the details of the selected facility for the selected year.
    - Level 01 Organization, Level 02 Organization, and Level 03 Organization fields display the names of the organizations in the top three levels of the organization hierarchy.
    - Level 04 Organization is the name of the Level 04 Organization of the hierarchy.
    - Level 04 Address Line 1, Level 04 Address Line 2, Level 04 Address Level 04 City, Level 04 Address State, Level 04 Address Postcode, and Level 04 Address Country fields display the address of the facility.

- Level 04 latitude and Level 04 Longitude fields display the GPS co-ordinates for the facility.
  - Level 04 Industry Group Code is the industry group code for the Organization at Level 4 of the hierarchy.
  - **Activity Summary:** The report displays the details of all the activities of the organization at Level 04 depending on the hierarchy setup.
    - State is the name of the state in which the organization is located.
    - Month
    - Emission Scope is the scope for the emissions by the organization.
    - Parent Source Description
    - Child Source Description
    - Activity Type Description is a description of the activity type.
    - Source Code is the code for the emissions source.
    - Source Description is a brief description of the emissions source.
    - Activity is the name of the activity.
    - Activity Description is the brief description of the activity.
    - Measurement Criteria
    - Usage Quantity is the quantity of the source used by the organization.
    - Usage UOM is the unit of measure in which the source usage quantity is measured.
  - **Activity for Organizations With Operational Control:** The report displays the details of the activities of the facility that have operational control.
  - **Activity for Organizations without Operational Control:** The report displays the details of those activities of the facility that do not have operational control.
4. The following report displays for the organization in the Controlling Organizations tab. Select the Year and the Controlling Organization (facility) from the list of values (LOV) for which you want to view activity details. All organizations that are defined as Controlling Organizations in the organization setup display in the LOV:

- **Activities:** The report displays a list of all activities of the facility that the Controlling Organization has control on, depending on their effective dates of control.
  - State is the name of the state in which the facility is located.
  - Month
  - Emission Scope is the scope for the emissions by the facility.
  - Source Code is the code for the emissions source.
  - Source Description is a brief description of the emissions source.
  - Activity Type Description is a description of the activity type.
  - Parent Source Description
  - Child Source Description
  - Measurement Criteria. Refer to "Setting Up Lookups, page 2-5" topic in the Setting Up chapter for information on measurement criteria.
  - Usage Quantity is the quantity of the source used by the facility.
  - Usage UOM is the unit of measure in which the source usage quantity is measured.
  
- 5. The following report displays for the organization in the Interested Parties tab. Select the Year and the Interested Organization (facility) from the LOV for which you want to view activity details. The Interest Type displays. All organizations that are defined as Interested Parties in the organization setup display in the LOV.
  - **Activities:** The report displays a list of all activities of the facility that the Interested Organization has interest in depending on their effective dates of interest:
    - State is the name of the state in which the facility is located.
    - Month
    - Emission Scope is the scope for the emissions by the facility.
    - Source Code is the code for the emissions source.
    - Source Description is a brief description of the emissions source.

- Activity Type Description is a description of the activity type.
  - Parent Source Description
  - Child Source Description
  - Measurement Criteria
  - Usage Quantity is the quantity of the source used by the facility.
  - Usage UOM is the unit of measure in which the source usage quantity is measured.
6. The Carbon Disclosure Project displays a selection of questions related to the carbon disclosure project and is presented with the answers derived from the data available to the Oracle Environmental Accounting and Reporting application. Select the Calendar, Year, and Organization Hierarchy for which you want to view the Carbon Disclosure Project report.

**Note:** In the Carbon Disclosure Project (CDP) dashboard page, Company refers to the Level 01 Organization, Division refers to the Level 02 Organization, and Facility refers to the Level 04 Organization in the Organization Hierarchy. The Level 03 Organization is not used for the CDP.

Refer to Greenhouse Gas Accounting and Reporting, page 1-2 for information on the Carbon Disclosure Project.



Organization Hierarchy

Hierarchy Name	Hierarchy Code	Hierarchy Type	Effective From	Effective To
111-BI-Management Structure FY 2009	17085	MANAGEMENT	7/1/2008	6/30/2009

Organization Structure

Level 01 Organization	Level 02 Organization	Level 03 Organization	Level 04 Organization	Level 04 Address Line 1	Level 04 Address Line 2	Level 04 City	Level 04 State	Level 04 Postcode	Level 04 Country	Level 04 Latitude
111-BI-De Mo Corp Grp	111-BI-Mining	111-BI-Coal Mining	111-BI-Broken Hill	1 Pitt St		Sydney	NSW	2000	Australia	0
			111-BI-Tarwin Lower	1 Collins St		Melbourne	VIC	3000	Australia	0
		111-BI-Mineral Mining	111-BI-Cooper Pedy	1 St Georges Terrace		Perth	WA	6000	Australia	0
			111-BI- Fremantle	1 St Georges Terrace		Perth	WA	6000	Australia	0
	111-BI-Transport	111-BI-Rail Transport	111-BI-AirLink	1 Rundle Mall		Adelaide	SA	5000	Australia	0
			111-BI-Courier Services	1 Pitt St		Sydney	NSW	2000	Australia	0
			111-BI-Refrige Delivery	1 Ann St		Brisbane	QLD	4000	Australia	0
		111-BI-Road Transport	111-BI-Primary Industry	1 St Georges Terrace		Perth	WA	6000	Australia	0
			111-BI-RailLink	1 Collins St		Melbourne	VIC	3000	Australia	0

Optionally, click Export and choose whether to export this report to Excel, PowerPoint, or PDF format.

## Understanding the Summary Dashboard

The Summary dashboard page shows a high level information and comparison of carbon equivalent emissions and energy for related activities for the default parameters for the Organization Hierarchy and Calendar Type by year. For a selected year, the CO2-e emissions are reported by organization and displayed in a bar chart, pie chart, and a table. You can set up reporting thresholds for emissions for your organization using the conditional formatting and other features of Oracle Business Intelligence Enterprise Edition (OBIEE).

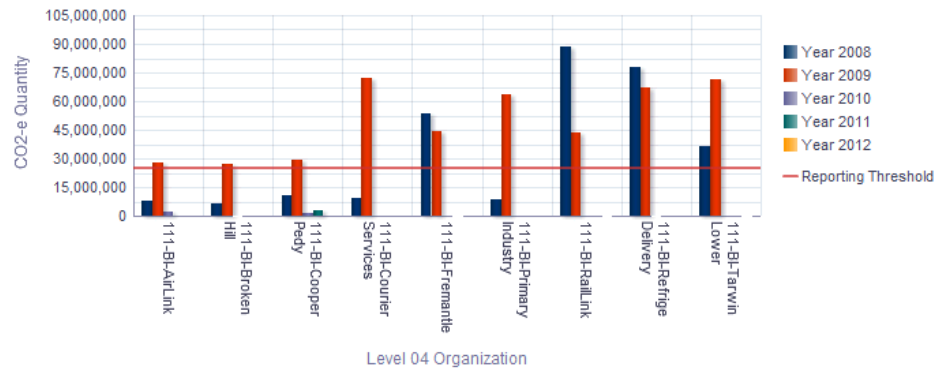
### To view the Summary page:

1. Navigate to OBIEE Dashboards. Click Summary. The Summary page appears.
2. Select the Year for which you want to view the emissions and energy consumption information. The default Organizational Hierarchy and Calendar display. The following reports display:
  - Emissions History is a graphical representation of the history of the carbon emissions by year for the organization.

## Emissions History



- Energy Consumption History is a graphical representation of the history of energy consumed by year for the organization.
- Emissions by Organization displays the carbon emissions by each facility of the organization. This report displays as a graph, a pie chart, and a table.



- The following fields display in the table:
  - Level 04 Organization is the name of the organization that exists in the Level 04 of the Organization Hierarchy set in the Reporting Parameters.
  - CO2-e Quantity is the quantity of the carbon equivalent of the emissions from the organization.
  - CO2-e UOM is the unit of measure in which the carbon emissions are measured.
  - CO2-e Quantity % is the percentage of carbon emitted by the facility, of the

total emissions by the organization.

## Understanding the Test Dashboard

System Administrators use the Test dashboard to review the data collected from source systems and stored in the data warehouse. The Test dashboard provides reports for the following entities:

- Assets
- Transaction Details
- Emission Scopes
- Sources
- Items
- Reporting Periods
- Source Applications
- Subcontractors
- Suppliers
- Transactions
- Organization Hierarchies
- Level 01 Organizations
- Level 02 Organizations
- Level 03 Organizations
- Level 04 Organizations
- Level 05 Organizations
- Level 06 Organizations
- Level 07 Organizations
- Level 08 Organizations
- Level 09 Organizations

- Level 10 Organizations
- Level 11 Organizations
- Level 12 Organizations
- Activity Entities
- Usage Facts
- Controlling Organizations
- Interested Parties
- KPI Definitions
- KPI Transactions
- JDE Business Units

Clicking on the link for a data entity provided on the dashboard, such as Emission Scopes, displays the report for the data element in a new page. If the source for the data warehouse is Oracle E-Business Suite (EBS), then the following links on the Test dashboard, which are irrelevant for Oracle EBS, do not show results:

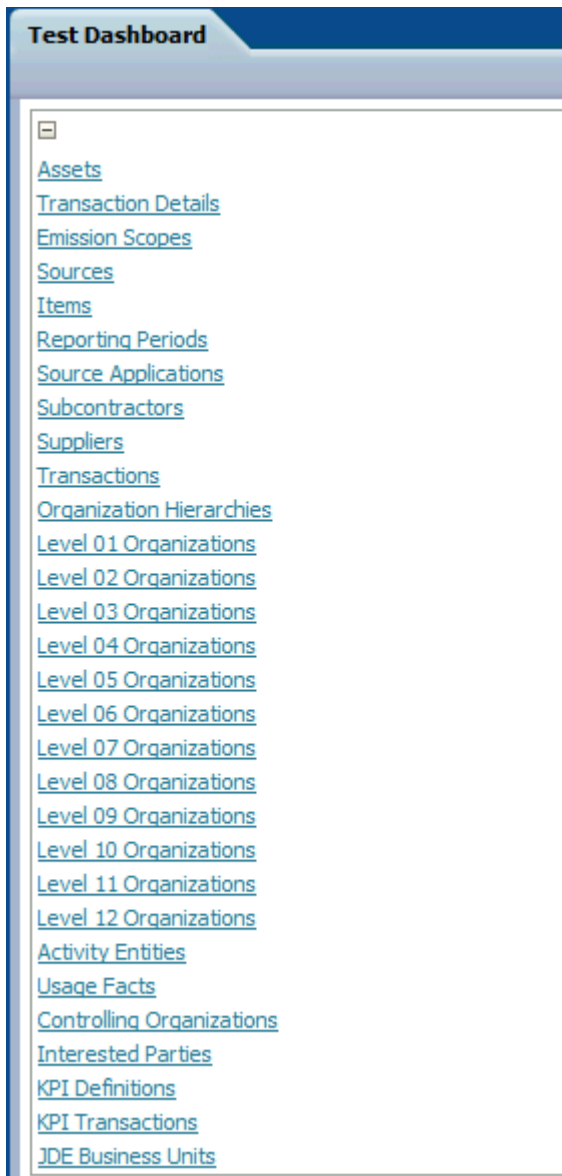
- Source Application
- Subcontractor
- JDE Business Units

System Administrators can use the Test dashboard to verify the accuracy of the data, for debugging, and for troubleshooting.

#### **To view the Test Dashboard page:**

1. Navigate to OBIEE Dashboards. Click Test Dashboard.

The Test Dashboard page appears.



2. Select one of the report links (Assets, Transaction Details, and so on).  
The report displays the data for the entity selected in a new page.

## Assets

Asset Identifier 1	Asset Identifier 2	Asset Identifier 3	Asset Description Line 1	Asset Description Line 2	Asset Description Line 3	Asset Class	Transport Type	Asset Type	Asset Subtype	Generator Flag
111-BI-TRUCK1				Oracle eBs Item ID			DEFAULT	EXTERNAL		
222-BI-TRUCK1				Oracle eBs Item ID			DEFAULT	EXTERNAL		
222-EXT-BGT 1-E1				Oracle eBs Item ID			E1	EXTERNAL		
222-EXT-BGT 2-E3				Oracle eBs Item ID			E3	EXTERNAL		
222-EXT-BGT 3-E4				Oracle eBs Item ID			E4	EXTERNAL		
222-INT-AS 1	109762		HEAVY VEHICLE	Oracle eBs Item ID			E1	INTERNAL		
999-BI-TRUCK1				Oracle eBs Item ID			DEFAULT	EXTERNAL		
AY12345			TRUCK1	Oracle eBs Item ID			E1	EXTERNAL		
DG Set				Oracle eBs Item ID			DEFAULT	EXTERNAL		
GGGG				Oracle eBs Item ID			DEFAULT	EXTERNAL		
TRUCK 1			TRUCK 1	Oracle eBs Item ID			DEFAULT	EXTERNAL		
XYZ1234			TRUCK 1	Oracle eBs Item ID			E1	EXTERNAL		

[Return](#)

Optionally, click Export and choose whether to export this report to Excel, PowerPoint, or PDF format.

## Understanding the Transactions Dashboard

The Transactions dashboard lists the transactions of an organization by day and organization and also displays the usage and emissions data for each transaction

### To view the Transactions dashboard:

1. Navigate to the OBIEE Dashboards. Click Transactions. The Transactions page appears.
2. Select no criteria to display all the results. Select any of the following search criteria to narrow your results:
  - Year to display transactions in a specific year.
  - Transaction Date to display transactions on a specific date.
  - Document Type is the type of transaction document.
  - Document Identifier is the code for the transaction document.
  - State to display transactions in a specific state.
  - Source to display a particular, active environmental source.
  - Level 03 Organization to display a particular level 03 organization in the default

organization hierarchy.

3. Click Go. The following fields display:

- Level 03 Organization is the name of the organization at the level 3 of the organization hierarchy.
- Transaction Date is the date of the transaction.
- Document Type
- State is the state in which the Level 03 Organization is located.
- Document Identifier
- Source code is the code for the emissions source.
- Usage Quantity is the quantity of the source used in the transaction.
- Usage UOM is the unit of measure in which the usage quantity is measured.
- CO2-e Quantity is the quantity of carbon equivalent emissions due to the transaction.
- CO2-e UOM is the unit of measure in which the CO2-e quantity is measured.
- Energy Quantity is the amount of energy consumed in the transaction.
- Source Type is type of source used in the transaction.
- Energy UOM is the unit of measure in which the energy quantity is measured.

Year		Transaction Date		Document Type		Document				
2008				--Select Value--						
Apply		Reset		Apply		Reset				
Level 03 Organization	Transaction Date	Document Type	State	Document Identifier 1	Source Code	Usage Quantity	Usage UOM	CO2-e Quantity	CO2-e UOM	Energ Quan
111-BI-Coal Mining	01/07/2008	Miscellaneous Emission	NSW	4792	ELNW	160	KWH	144	KG	
				4795	KM_KPI	14	Kilometer	0	KG	
				4796	TFDO	10	kiloliters	26,981	KG	
				4797	TFHDV	10	Cubic meter	21	KG	
				4847	ELNW	650	KWH	585	KG	
				4850	KM_KPI	40	Kilometer	0	KG	
				4851	TFDO	600	kiloliters	1,618,884	KG	
				4852	WATER_PUMP	28	kiloliters	0	KG	
				5234	WATER_REC	22,103	kiloliters	0	KG	
				4947	KM_KPI	1,000	Kilometer	0	KG	
111-BI-Rail Transport	01/07/2008	Miscellaneous Emission	QLD	4948	TFDO	1,000	kiloliters	2,698,140	KG	
5135				ELQL	6,789	KWH	6,042	KG		
5138				KM_KPI	2,453	Kilometer	0	KG		
5139				TFDO	7,280	kiloliters	19,642,459	KG		
5140				TFHDV	72,800	Cubic meter	153,352	KG		
4701				KM_KPI	446	Kilometer	0	KG		
4702				KM_KPI	1,200	Kilometer	0	KG		
111-BI-Rail Transport			SA	4703	PASS_FLOWN	1,200	Each	0	KG	
4704				TFDO	12	kiloliters	32,378	KG		
4705				TFGA	1	kiloliters	1,553	KG		
5182				ELVI	13,456	KWH	16,551	KG		
5185				KM_KPI	11,766	Kilometer	0	KG		
111-BI-Coal Mining			VIC	5186	TFDO	3,500	kiloliters	9,443,490	KG	
5187				WATER_PUMP	42,000	kiloliters	0	KG		
5083				ELVI	24,567	KWH	30,217	KG		
111-BI-Road Transport										

- Optionally, click Export and choose whether to export this report to Excel, PowerPoint, or PDF format.

## Understanding the Usage Dashboard

The Usage dashboard displays the source usages for a facility by year and by source.

### To view the Usage dashboard:

- Navigate to the OBIEE Dashboards. Click Usage. The Usage page appears.
- Select no criteria to display all the results. Select any of the following search criteria to narrow your results:
  - Year to display source usages for a facility in a specific year.
  - Level 04 Organization to display source usage for a specific facility.
  - Source Description to display usage for a specific source.
- Click Go. The following fields display:
  - Year Number
  - Level 04 Organization is the name of the facility.



- Emission
- Source Description is a brief description of the source.
- Usage Quantity is the quantity of the source used by the facility.
- Usage UOM is the unit of measure in which the usage quantity is measured.

Year: 2008 [Apply] [Reset] Organization: 111-BI-Broken Hill [Apply] [Reset] Source Description: --Select Value-- [Apply] [Reset]

**Usage by Year**

Year Number	Level 04 Organization	Emission Scope	Source Description	Usage Quantity	Usage UOM
Year 2008	111-BI-Broken Hill	0	KM TRAVELLED	1,642.00	Kilometer
	111-BI-Broken Hill		WATER PUMPED	770.00	kiloliters
	111-BI-Broken Hill		WATER RECYCLED	115,603.00	kiloliters
	111-BI-Broken Hill	1	NATURAL GAS HEAVY DUTY VEHICLE	247.00	Cubic meter
	111-BI-Broken Hill		TRANSPORT DIESEL OIL	2,600.00	kiloliters
	111-BI-Broken Hill		2	ELECTRICITY - NSW	1,832.00

Optionally, click Export and choose whether to export this report to Excel, PowerPoint, or PDF format.

## Understanding the Water and Waste Dashboard

The Water and Waste Dashboard has two tabs, Water and Waste. Select one of the tabs to view charts and reports displaying the usage by year, month, and source.

### Prerequisites

- ☐ Categorize relevant sources in either the Water or Waste source category. See: Defining Sources, page 2-24.

#### To view the Water and Waste Dashboard:

1. Navigate to the OBIEE Dashboards. Click Water and Waste. The Water and Waste page appears.

#### To view water usage

2. Select the Water tab to view the following reports:
  - Water Usage Trend bar chart
  - Water Usage Trend tabular report
3. Select no criteria to display all of the results. Select any of the following search criteria to narrow your results:

- Year to display water usage in one or more specific years.
  - Month to display water usage for one or more specific months within one or more years.
  - Source to display water usage for one or more specific sources included in the Water source category.
4. Click on one of the bars in the Water Usage Trend bar chart to drill down to a detailed report of water usage quantity by month, source, and Level 01 - 04 organizations.
  5. Optionally, click Export and choose whether to export this report in Excel, PowerPoint, or PDF format.

#### **To view waste created and recycled**

6. Select the Waste tab to view the following reports:
  - Waste Trend bar chart
  - Water Trend tabular report
7. Select no criteria to display all of the results. Select any of the following search criteria to narrow your results:
  - Year to display waste generated in one or more specific years.
  - Month to display waste for one or more specific months within one or more years.
  - Source to display water usage for one or more specific sources included in the Waste source category.
8. Click on one of the bars in the Waste Trend bar chart to drill down to a detailed report of waste quantity by month, source, and Level 01 - 04 organizations.
9. Optionally, click Export and choose whether to export this report in Excel, PowerPoint, or PDF format.

## **Related Topics**

## **Formatting Graphs**

Depending on the number of data points, you may need to lengthen the axis of a Dashboard graph in order to read all data point titles along the axis. For example, in the

Emissions Dashboard, select the Emissions by Source tab. The Emissions by Source by Year horizontal bar graph appears. If you have a large number of emissions sources, you may need to lengthen the vertical axis of the graph in order to read the name of each source.

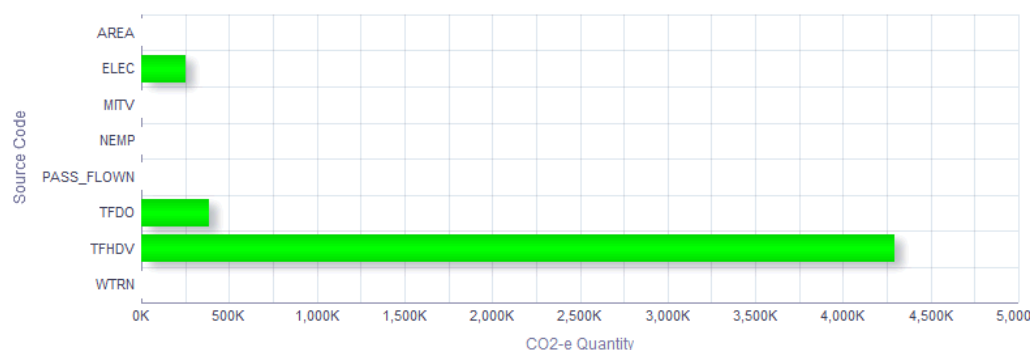
### **Graph with a Short Vertical Axis**

**Emissions by Source by Year**



### **Same Graph with a Correctly Sized Vertical Axis**

**Emissions by Source by Year**

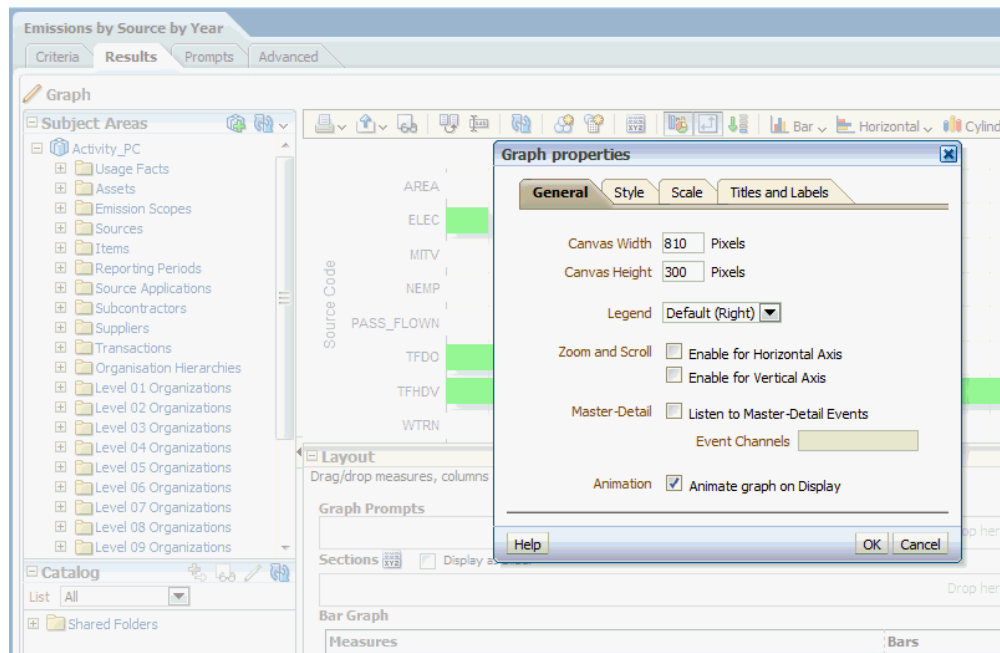


The following procedure explains how to lengthen the axis of a graph using the Emissions by Source by Year horizontal bar graph as an example. You can apply the same steps to any Dashboard graph, though.

### **To change the size of a graph:**

1. Navigate to OBIEE Dashboards. Click Emissions. The Emissions page appears.
2. Select the Emissions by Source tab.  
The Emissions by Source by Year horizontal bar graph appears.
3. Click the Page Options icon.  
The Page Options icon appears in the upper right corner of the page, to the left of the Help icon.
4. Select Edit Dashboard from the Page Options list.

5. Hover over the Emissions by Source by Year Graph 1 box. Two buttons appear in the upper right corner of this box. Click Properties (the xyz icon).
6. Select Edit Analysis from the Properties list.
7. In the Views region in the lower left corner of the page, select Graph from the list of views.
8. Click Edit View (the pencil icon in the Views region).  
The graph appears.
9. Select the Edit graph properties icon (the xyz icon) from the toolbar above the graph.  
The Graph properties box opens.



10. Enter a new graph width or height in the Canvas Width or Canvas Height fields.
11. Click OK.  
If the graph size appears correctly, go to the next step. If you need to change the graph size again, repeat the previous two steps over and over until the graph appears correctly.
12. Click Done in the upper right corner of the page.
13. Click the Save Analysis icon (upper right corner of the page, near the Help icon).

14. Navigate to the Dashboard and verify that the graph appears as expected.



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## Windows and Navigation Paths

This appendix lists each window available for use in the Oracle Environmental Accounting and Reporting application as well as the associated navigator path for each window.

This appendix covers the following topics:

- Environmental Accounting and Reporting Windows and Navigation Paths

### Environmental Accounting and Reporting Windows and Navigation Paths

Although your system administrator may have customized your navigator, typical navigational paths are presented in the following table:

Note: [B] indicates a button and [M] indicates a menu.

In general, use the Environmental Accounting and Reporting Administrator responsibility to perform setup tasks. Use the Environmental Accounting and Reporting User responsibility for transactions and report generation. Users without data entry responsibilities who have a need to query data can use the Environmental Accounting and Reporting - Read Only User responsibility.

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Window Name	Navigation Path
Application Utilities: Hierarchy Node Type Lookups	Environmental Accounting and Reporting Administrator > Setup > Lookups
Application Utilities: Hierarchy Node Type Lookups	Environmental Accounting and Reporting Administrator > Setup > Organization Hierarchy Lookup

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Create Hierarchy Version	Environmental Accounting and Reporting Administrator > Setup > Organization Hierarchy > Maintain Hierarchy Content > Create Version > Create Hierarchy Version
Define Environmental Parameters	Environmental Accounting and Reporting Administrator > Setup > Define Environmental Parameters
Enter Carbon Permits	Environmental Accounting and Reporting Administrator > Setup > Carbon Permit Management
Environmental Assets	Environmental Accounting and Reporting Administrator > Setup > Assets > Environmental Assets
Environmental Emissions	Environmental Accounting and Reporting User > Transactions > Process Unaccounted Invoices > Find Invoices > Invoice Overview > Tools > View Environmental Transactions > Environmental Emissions
Environmental Items	Environmental Accounting and Reporting Administrator > Setup > Items > Environmental Items
Environmental KPI Definitions	Environmental Accounting and Reporting Administrator > Setup > KPI Definitions > Environmental KPI Definitions
Environmental Ledger	Environmental Accounting and Reporting User > Transactions > Process Unaccounted Invoices > Find Invoices > Invoice Overview > [M] Tools > View Environmental Transactions > Environmental Emissions>[B] View Ledger > Environmental Ledger
Environmental Organizations	Environmental Accounting and Reporting Administrator > Setup > Organizations > Environmental Organizations
Environmental Sources	Environmental Accounting and Reporting Administrator > Setup > Sources > Environmental Sources

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Environmental Suppliers	Environmental Accounting and Reporting Administrator > Setup > Suppliers > Environmental Suppliers
Environmental Transaction Batches	Environmental Accounting and Reporting User > Transactions > Enter Transaction Batches > Environmental Transaction Batches
Invoice Overview	Environmental Accounting and Reporting User > Transactions > Process Unaccounted Invoices > Find Invoices > Invoice Overview
Maintain Hierarchy Content	Environmental Accounting and Reporting Administrator > Setup > Organization Hierarchy > Maintain Hierarchy Content
Maintain Hierarchy Structure	Environmental Accounting and Reporting Administrator > Setup > Organization Hierarchy > Maintain Hierarchy Content >[B] Maintain Hierarchy Structure > Maintain Hierarchy Structure
Material Transactions	Environmental Accounting and Reporting User > Transactions > Material Transactions > Find Material Transactions > Material Transactions
Requests	Environmental Accounting and Reporting User > Requests > Find Requests> [B] Find > Requests
Submit Request	Environmental Accounting and Reporting Administrator > Requests > Submit a New Request > [B] ok > Submit Request
Units of Measure	Environmental Accounting and Reporting Administrator > Setup > Units of Measure > Units of Measure
Unit of Measure Classes	Environmental Accounting and Reporting Administrator > Setup > Units of Measure > Classes

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UOM Classification	Environmental Accounting and Reporting Administrator > Setup > Units of Measure > UOM Classification
Unit of Measure Conversions	Environmental Accounting and Reporting Administrator > Setup > Units of Measure > Conversions
Update Hierarchy Type	Environmental Accounting and Reporting Administrator > Setup > Organization Hierarchy > Maintain Hierarchy Content [B] Maintain Hierarchy Structure > Maintain Hierarchy Structure > [B] Update > Update Hierarchy Type
View Hierarchy Type	Environmental Accounting and Reporting Administrator > Setup > Organization Hierarchy > Maintain Hierarchy Content [B] Maintain Hierarchy Structure > Maintain Hierarchy Structure > [B] Hierarchy Type
Viewer	Environmental Accounting and Reporting User > Transactions > Load Transactions (WebADI)

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# Glossary

## **Asset**

An asset is an equipment or plant that generates emissions and / or consumes or produces energy. A transport type, facility, business unit, or a subcontractor may be related to an asset.

## **Emission Source**

An emission source is an item or activity whose use creates emissions and / or consumes or produces energy. Emission sources can be defined to track usage where there is no related energy or emissions, for example, water or alternatively KPI metric, product or activities that cause pollution but have no related energy or environmental emissions. For example, Employee Head Counts, Kilometers Traveled, and Detonation of explosives.

## **Emission Factor**

An emission factor is the factor used to calculate the amount of an emission type produced (typically a gas) by consuming or producing an emission source.

## **Energy Factor**

An energy factor is a factor used to calculate the amount of energy consumed or produced by a source.

## **ETL or Extract, Transform, Load**

Database and data warehousing involves extracting data from outside sources, transforming data per your requirements, and loading it into the database or data warehouse.

## **Item**

An item may be used to identify an emission source and an emission scope in a source transaction where the emission source and emission scope are not provided

## **KPIs or Key Performance Indicators**

Quantifiable measurements reflecting the critical success factors of an organization.

**Organization**

A single undertaking or an enterprise or any entity that performs activities or a series of activities that emit greenhouse gases and/or produces, or consumes energy at a single site and is attributable to a single industry sector. An organization is a part of a corporation and can be divided into types such as Companies, Divisions, and Facilities including Aggregate, Sub-Facilities etc. in order to meet the Greenhouse Reporting Guidelines.

**OBIEE or Oracle Business Intelligence Enterprise Edition**

A comprehensive suite of enterprise business intelligence products that deliver a full range of analysis and reporting capabilities. OBIEE provides intelligence and analytics from data spanning enterprise sources and applications.

**Sustainability**

Sustainability Aspect is a generic name used for continuous inputs consumed by companies to be able to operate and create goods or services. Common examples of sustainability aspects are electricity, gas, oil, water, helium etc.

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# Index

## Symbols

Emissions  
Viewing, 3-6

---

## A

Accounting and Reporting  
Environmental, 1-5  
Introduction , 1-1  
APIs  
Creating Transactions, 3-16  
Assets  
Defining, 2-23

---

## C

Carbon Permit Management  
Setting up, 2-38

---

## D

Dashboards  
Formatting Graphs, 4-22  
Descriptive Flexfields for Reporting, 2-15

---

## E

Emissions  
Recalculations, 3-21  
Emissions Dashboard  
Understanding, 4-1  
Energy  
Recalculations, 3-21  
Energy Dashboard  
Understanding, 4-6

Entering Transaction Batches  
Manually, 3-11  
Environmental Accounting  
Inventory Issue Transactions  
Using, 3-10  
Overview, 3-1  
Environmental Data  
Recording and Reporting, 1-4  
Environmental Ledger  
Viewing, 3-9

---

## F

Formulas for Operating Units  
Setting Up, 2-8

---

## G

Greenhouse Gas  
Accounting and Reporting, 1-2

---

## H

Hierarchy  
Defining, 2-43  
Hierarchy Type  
Defining, 2-41  
Updating, 2-49  
Viewing, 2-48  
Hierarchy Version  
Creating, 2-44  
Updating, 2-47

---

## I

Items  
Defining, 2-31

---

## K

Key Flexfield Structure for Reporting  
Defining, 2-14  
Key Performance Indicators  
Defining, 2-32

---

## L

Lookups  
Setting Up, 2-5

---

## M

Metrics Dashboard  
Understanding, 4-6

---

## N

Navigation Paths, A-1

---

## O

OBIEE  
Setting Up, 2-40  
Oracle Data Integrator (ODI)  
Setting up, 2-40  
Organization Hierarchy  
Defining, 2-40  
Finding, 2-45  
Organization Hierarchy Lookup  
Defining, 2-7  
Organizations  
Setting Up, 2-18

---

## P

Parameters  
Setting Up, 2-16  
Payable Invoices  
Environmental Accounting, 3-2  
Profile Options  
Setting Up, 2-11

---

## R

Reporting Combinations, 2-15  
Reporting Dashboard

Understanding, 4-7

---

## S

Setting Up  
EAR, 2-4  
Sources  
Defining, 2-24  
Summary Dashboard  
Understanding, 4-13  
Suppliers  
Defining, 2-30

---

## T

Technology Overview, 1-4  
Test Dashboard  
Understanding, 4-15  
Transaction Dashboard  
Understanding, 4-18  
Transactions  
Creating with an API, 3-16  
Transferring to Data Warehouse, 3-22

---

## U

Unit of Measure Classification  
Setting Up, 2-11  
Unit of Measure Conversions  
Setting Up, 2-10  
Units of Measure  
Setting Up, 2-10  
Units of Measure Classes  
Setting Up, 2-9  
Usage Dashboard  
Secondary, 4-20

---

## W

Water and Waste Dashboard, 4-21  
WebADI  
Loading Source  
Using, 3-16  
Windows  
navigation paths, A-1