

Sustainability Framework - Scope 1 Mobile Combustion

A technical overview of the Sustainability Framework module for scope 1 mobile emissions to capture details on the important aspects of the environmental data.

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Public

Purpose statement

This document provides an overview of the setup in the JD Edwards EnterpriseOne Sustainability Framework that is required for capturing the environmental data pertaining to Mobile Combustion. The document explains in a step-by-step manner how to set up the foundational components and then how to enter the sustainability data for mobile combustion activity.

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Contents

Purpose	3
Overview	3
Setting Up the Sustainability Foundation	3
Entering the Sustainability Activity Record	9

Purpose

The purpose of this technical brief is to provide a case for a company that has a need to capture the Mobile Combustion data. The document explains how to enter the sustainability data for mobile combustion and track fuel consumption and emissions using JD Edwards EnterpriseOne Sustainability Framework.

Overview

The JD Edwards Sustainability Framework focuses on setting up the sustainability foundation by identifying the environmental reference data, gathering the environmental data residing in different business processes, and storing the data in a repository called Sustainability Activity Ledger.

Scenario:

A petrochemical company operates a fleet of vehicles, such as trucks, forklifts, and service vans, to transport raw materials, equipment, and personnel within its refinery and production plants. The company needs to track fuel consumption and emissions from these company-owned vehicles as part of its environmental compliance and sustainability reporting requirements. We will see how Sustainability Framework can help in this scenario.

Setting Up the Sustainability Foundation

Let's take a case in which the company owns a diesel-powered truck that is being used for the transportation of goods. Let us set up the components of the sustainability foundation.

Prerequisites

Before you use the JD Edwards EnterpriseOne Sustainability Framework system, you must have set up the below prerequisites:

1. Activate the system code 20S for Sustainability Framework using the EnterpriseOne System Control (P99410) program.
2. Set up the next number for the Activity Document Number and Activity Batch using the Next Numbers (P0002) program.

Setting Up Determinants

In this scenario, emissions will vary depending on the type of fuel and/or the type of the vehicle used for transportation. Therefore, Diesel (Fuel_Type) and HeavyDutyTruck_2018 (Veh_Type) can be set up as determinants.

1. Navigate to EnterpriseOne Menus, Sustainability Framework Setup (G20S41), Determinants (P20S05) program, and then click Add to access the Determinants Revision (W20S05C) form.
2. On the Determinant Revision form, set up the determinants and its additional information in the grid.

Enter these values for the grid columns:

- **Determinants:** DIESEL
- **Determinant Description:** Diesel
- **Determinant Type:** FUEL_TYPE

Tab down and enter these values for the grid columns:

- **Determinants:** HEAVYDUTYTRUCK_2018
- **Determinant Description:** Truck
- **Determinant Type:** VEH_TYPE

Determinant *	Determinant Description	Determinant Type *	Determinant Type Description	Determinant Long Description
DIESEL	Diesel	FUEL_TYPE	Fuel Type	Diesel used for transportat
HEAVYDUTYTRUCK_2018	Truck	VEH_TYPE	Vehicle Type	Truck used for transportat

Image Caption 1. This image shows the Determinants Revision(W20S05C) form that is used to set up the Determinants in P20S05

3. Click OK.
4. If you need to add more of these determinants, repeat step 2.

Determinant	Determinant Description	Determinant Type	Determinant Type Description
BIO_DIESEL	Bio Diesel	FUEL_TYPE	Fuel Type
CAR_2007	Car	VEH_TYPE	Vehicle Type
CAR_2020	CAR	VEH_TYPE	Vehicle Type
COAL	Bituminous Coal	FUEL_TYPE	Fuel Type
DIESEL	Diesel	FUEL_TYPE	Fuel Type
GASOLINE	Gasoline Fuel	FUEL_TYPE	Fuel Type
HEAVYDUTYTRUCK_2018	Truck	VEH_TYPE	Vehicle Type
HEAVY_GOODS_VEHICLE_RIGID	Truck	VEH_TYPE	Vehicle Type
LPG	Liquified Petroleum Gas	FUEL_TYPE	Fuel Type
NATURAL_GAS	Natural Gas	FUEL_TYPE	Fuel Type

Image Caption 2. This image shows the Work with Determinants(W20S05A) form displaying all the Determinants in P20S05

Setting Up Determinant Types Mapping

To save the determinants in the corresponding column of the Sustainability Activity Ledger table (F20S11), you must complete the below setup using the Determinant Type Mapping application.

Use these steps to map the Fuel_Type Determinant Type to the ALFUELTY column of the Activity Ledger (F20S11) table:

1. Navigate to EnterpriseOne Menus, Sustainability Framework Setup (G20S41), Determinant Types Mapping (P20S09) program, and then click Add to access the Determinant Types Mapping Revision (W20S09B) form.
2. On the Determinant Type Mapping Revision form, set up the Determinant Type and its associated column of the Sustainability Activity Ledger table in the grid.

Enter these values for the grid column:

- **Determinant Type:** FUEL_TYPE
- **Associated Data Item:** ALFUELTY

The screenshot shows the 'Determinant Types Mapping Revision' form. At the top, there are icons for a green checkmark, a red X, and a gear labeled 'Tools'. Below these is a search bar for 'Determinant Type' with a dropdown arrow. The main section is a table with the header 'Records 1 - 2'. The table has four columns: 'Determinant Type', 'Determinant Type Description', 'Associated Data Item', and 'Associated Data Item Description'. The first row is selected and contains the following data: 'FUEL_TYPE' in the first column, 'Fuel Type' in the second, 'ALFUELTY' in the third, and 'Fuel Type' in the fourth. There is a radio button to the left of the first row, which is currently selected.

Image Caption 3. This image shows the Determinants Type Mapping Revision(W20S09B) form that is used to set up the Determinants Type Mapping in P20S09

3. Click OK.

Use these steps to map the Veh_Type Determinant Type to the ALVEHTYP column of the Activity Ledger (F20S11) table:

1. Navigate to EnterpriseOne Menus, Sustainability Framework Setup (G20S41), Determinant Types Mapping (P20S09) program, and then click Add to access the Determinant Types Mapping Revision (W20S09B) form.
2. On the Determinant Type Mapping Revision form, set up the Determinant Type and its associated column of the Sustainability Activity Ledger table in the grid.

Enter these values for the grid column:

- **Determinant Type:** VEH_TYPE
- **Associated Data Item:** ALVEHTYP

The screenshot shows the 'Determinant Types Mapping Revision' form. At the top right, it says 'Personal Form: (N)'. Below the header, there are icons for a green checkmark, a red X, and a gear labeled 'Tools'. Below these is a search bar for 'Determinant Type' with a dropdown arrow. The main section is a table with the header 'Records 1 - 2'. The table has four columns: 'Determinant Type', 'Determinant Type Description', 'Associated Data Item', and 'Associated Data Item Description'. The first row is selected and contains the following data: 'VEH_TYPE' in the first column, 'Vehicle Type' in the second, 'ALVEHTYP' in the third, and 'Vehicle Type' in the fourth. There is a radio button to the left of the first row, which is currently selected.

Image Caption 4. This image shows the Determinants Type Mapping Revision(W20S09B) form that is used to set up the Determinants Type Mapping in P20S09

4. Click OK.

Setting Up Fuel Types

If we need to store additional attributes such as Biomass and Carbon Content of the determinant DIESEL of FUEL_TYPE, we can use the Fuel Types (P20S02) application.

What Do You Need?

You must have completed the following tasks:

- Set up the determinant in the Determinants application (P20S05) with the associated Determinant Type as Fuel Type.
- Set up the Determinant Type FUEL_TYPE to map to the Sustainability Activity Ledger column ALFUELTY in the Determinant Type Mapping (P20S09) application.

Use these steps to set up the Fuel Type:

1. Navigate to EnterpriseOne Menus, Sustainability Framework Setup (G20S41), Fuel Types (P20S02) program, and then click Add to access the Fuel Type Revision (W20S02B) form.
2. On the Fuel Type Revision form, set up the Fuel Type (Determinant in P20S05) and its additional attributes in the form grid.

Enter these values for the grid column:

- **Fuel Type:** DIESEL
- **Biomass:** N (As diesel is a fossil fuel).
- **Item Number:** 5303 (As diesel is stored as an inventory item).
- **Effective Date:** System Date (By Default)
- **Expiration Dates:** 31/12/2050 (dd/MM/YYYY).
- **Carbon Content:** 0.72(Optional).
- **Carbon Content UoM and per unit UoM:** KG/LT(Optional).
- **Higher Heating Values:** 45.50(Optional).
- **Higher Heating Values UoM and per unit UoM:** MJ/KG(Optional).
- **Lower Heating Values:** 42.60(Optional).
- **Lower Heating Values UoM and per unit UoM:** MJ/KG(Optional).

Fuel Type	Fuel Type Description	Biomass	Item Number	Item Number Description	Effective Date	Expiration Date
DIESEL	Diesel	N	5303	Diesel Fuel	07/17/2024	

Image Caption 5. This image shows the Fuel Type Revision(W20S02B) form that is used to set up the Fuel Type in P20S02

3. Click OK.

Setting Up Activity Types

In this scenario, diesel is burnt in company owned vehicles, thus this activity comes under the Mobile Combustion activity type.

1. Navigate to EnterpriseOne Menus, Sustainability Framework Setup (G20S41), Activity Types (P20S01) program, and then click Add to access the Activity Type Revision (W20S01D) form.
2. On the Activity Type Revision form, set up the Activity Type, Scope, and its additional information.

Enter these values for the form controls:

- **Activity Type:** MOB_COMB
- **Activity Type Description:** Mobile Combustion

- **Scope:** 1
- **Effective Date:** 01/01/2024 (Optional)
- **Expiration Date:** 12/31/2027 (Optional)

a. In the Determinant Type tab, enter this value in the grid column:

- **Determinant Type:** FUEL_TYPE, VEH_TYPE

Activity Type Revision Personal Form: (No Personalization) Layout: (No Layout)

Activity Type: MOB_COMB Mobile Combustion

Activity Type Long Description: Combustion in company owned vehicles

Scope: 1 Scope1-Direct Emission

Scope Category:

Effective Date: 01/01/2024

Expiration Date: 12/31/2027

Determinant Type Measure Type Emission Type

Records 1 - 3

Determinant Type	Determinant Type Description	Activity Type	Activity Type Description
☒ FUEL_TYPE	Fuel Type	MOB_COMB	Mobile Combustion
☐ VEH_TYPE	Vehicle Type	MOB_COMB	Mobile Combustion

Image Caption 6. This image shows the Activity Type Revision(W20S01D) form that is used to set up Activity Type and Determinant Type

Note:

1. In addition to Fuel type and Vehicle type, if emission factors vary based on other attributes such as 'Percent Laden', you can add them as determinant types in UDC 20S|DT and associate it with the Activity Type.
2. For any additional determinant types that you add, ensure the required mapping is done using Determinant Types Mapping (P20S09) program and respective determinants is set up in the Determinants (P20S05) program.

b. In the Measure Type tab, enter this value in the grid column:

- **Measure Type:** QUANTITY, DISTANCE

Activity Type Revision Personal Form: (No Personalization) Layout: (No Layout)

Activity Type: MOB_COMB Mobile Combustion

Activity Type Long Description: Combustion in company owned vehicles

Scope: 1 Scope1-Direct Emission

Scope Category:

Effective Date: 01/01/2024

Expiration Date: 12/31/2027

Determinant Type **Measure Type** Emission Type

Records 1 - 3

Measure Type	Measure Type Description	Activity Type	Activity Type Description
☒ DISTANCE	Distance	MOB_COMB	Mobile Combustion
☐ QUANTITY	Quantity	MOB_COMB	Mobile Combustion

Image Caption 7. This image shows the Activity Type Revision(W20S01D) form that is used to set up the Activity Type and Measure Type

c. In the Emission Type tab, enter this value in the grid column:

- **Emission Type:** CO2, CH4, N2O

The screenshot shows the 'Activity Type Revision' form. At the top, there are tabs for 'Determinant Type', 'Measure Type', and 'Emission Type', with 'Emission Type' currently selected. The form includes fields for 'Activity Type' (set to 'MOB_COMB' with a dropdown arrow), 'Activity Type Long Description' (set to 'Combustion in company owned vehicles'), 'Scope' (set to '1' with a dropdown arrow), 'Scope Category' (set to 'Scope 1-Direct Emission'), 'Effective Date' (set to '01/01/2024'), and 'Expiration Date' (set to '12/31/2027'). Below these fields is a table with 4 columns: 'Emission Type', 'Emission Type Description', 'Activity Type', and 'Activity Type Description'. The table contains 4 rows of data, with the first row selected (radio button). The data is as follows:

Emission Type	Emission Type Description	Activity Type	Activity Type Description
☒ CH4	Methane	MOB_COMB	Mobile Combustion
☐ CO2	Carbon Dioxide	MOB_COMB	Mobile Combustion
☐ N2O	Nitrous Oxide	MOB_COMB	Mobile Combustion
☐			

Image Caption 8. This image shows the Activity Type Revision(W20S01D) form that is used to set up the Activity Type and Emission Type

Setting Up Activity Sources

In this scenario, the petrochemical company uses diesel to operate vehicles such as trucks for the transportation of goods. Therefore, we can set up TRUCK_2018_DIESEL as the activity source for the Mobile Combustion Activity Type. This categorization indicates that the fuel diesel is used in trucks manufactured in 2018, thus providing a clear and precise basis for selecting the appropriate emission factor.

What Do You Need?

You must have completed the following tasks:

- Set up the Determinant in the Determinants application (P20S05) associated to the determinant types Fuel Type and Vehicle Type.
- Set up the Determinant Type FUEL_TYPE to Activity Ledger column ALFUELTY and VEH_TYPE to Activity Ledger column ALVEHTY in the Determinant Type Mapping application (P20S09).
- Set up the Activity Type in the Activity Types application (P20S01).

Use these steps to set up the Activity Source:

1. Navigate to EnterpriseOne Menus, Sustainability Framework Setup (G20S41), Activity Source (P20S07) program, and then click Add to access the Activity Source Revision (W20S07C) form.
2. On the Activity Source Revision form, set up the Activity Source, Activity Type, Determinant Type and Determinant in the form grid.

Enter the values in form controls:

- **Activity Source:** TRUCK_2018_DIESEL
- **Activity Source Description:** Heavy Duty Truck
- **Activity Source Long Description:** Truck run by diesel 2018 model.
- **Activity Type:** MOB_COMB
- **Transaction Source:** V (optional)

Enter the values in grid column:

- **Determinant:** DIESEL for FUEL_TYPE
- **Determinant:** HEAVYDUTYTRUCK_2018 for VEH_TYPE

Activity Source Revision Personal Form: (No Personalization) Layout: (No Layout)

✓ ✕ ⚙ Eorm ⚙ Tools

Attributes **Category Codes**

Activity Source *

Activity Source Description

Activity Source Long Description

Activity Type * *Mobile Combustion*

Transaction Source *Invoice*

Records 1 - 2

Determinant Type	Determinant Type Description	Determinant	Determinant Description
FUEL_TYPE	Fuel Type	DIESEL	Diesel
VEH_TYPE	Vehicle Type	HEAVYDUTYTRUCK_2018	Truck

Image Caption 9. This image shows Activity Source Revision(W20S07C) form that is used to set up the Activity Source in P20S07

Note

In this sample scenario, the model year 2018 of the vehicle is included as part of the vehicle type (HEAVYDUTYTRUCK_2018). If you want to track it in a separate column, you can add 'Model Year' as a determinant type in UDC 20S|DT and associate it with the Activity Type using the Activity Types (P20S01) program.

3. You can enter the category codes for the Activity Source (optional).

Activity Source Revision Personal Form: (No Personalization) Layout: (No Layout)

✓ ✕ ⚙ Eorm ⚙ Tools

Attributes **Category Codes**

Category Code 01 .

Category Code 02 .

Category Code 03 .

Category Code 04 .

Category Code 05 .

Category Code 06 .

Category Code 07 .

Category Code 08 .

Category Code 09 .

Category Code 10 .

Records 1 - 2

Determinant Type	Determinant Type Description	Determinant	Determinant Description
FUEL_TYPE	Fuel Type	DIESEL	Diesel
VEH_TYPE	Vehicle Type	HEAVYDUTYTRUCK_2018	Truck

Image Caption 10. This image shows the Activity Source Revision(W20S07C) form that is used to set up Activity Source Category Codes in P20S07

4. Click OK.

Entering the Sustainability Activity Record

In this company, vehicle operators record fuel purchases and distances travelled in a standard daily log sheet. The Sustainability Manager consolidates these log sheets and inputs the transactions directly into the Sustainability Activity Ledger, ensuring accurate tracking of fuel consumption and emissions.

Processing Option Setup for Sustainability Activity Ledger

1. Navigate to EnterpriseOne Menus, Sustainability Framework Processing (G20S10), and then right-click on Sustainability Activity Ledger (P20S11|ZJDE0001) and select Values from the drop-down.

2. Enter a value in the Sustainability Framework MBF (P20S12) version processing option or leave it blank for the default ZJDE0001 version.

Processing Options

✓ ✗

Default

1. Sustainability Framework MBF (P20S12) version

Image Caption 11. This image shows the processing option setup for P20S11

Enter the Sustainability Activity Ledger record.

1. Navigate to EnterpriseOne Menus, Sustainability Framework Processing (G20S10), Sustainability Activity Ledger (P20S11), and then click Add to open the Sustainability Activity Revision form (W20S11B).
2. On the Sustainability Activity Revision form, enter the following information in the form controls:
 - **Supplier:** 4242(optional)
 - **Business Unit:** 30

Enter these values in the grid columns:

- **Activity Source:** TRUCK_2018_DIESEL
- **Resource Quantity:** 50
- **Resource UoM:** GA
- **Distance:** 1200
- **Distance UOM:** KM
- **Consumption Start Date:** 01/01/2025(Optional)
- **Consumption End Date:** 31/12/2050 (Optional)
- **Co2 Emissions:** 1.27(Optional)
- **Co2 Emissions UoM:** KG(Optional)
- **Total Co2e Emissions:** 2.36(Optional)
- **Total Co2e Emissions UoM:** KG(Optional)
- **Energy:** 0.56(Optional)
- **Energy UoM:** MJ(Optional)

Sustainability Activity Ledger Revision Personal Form: (No Personalization) Layout: (No Layout) Query: All Records

✓ ✗ ⌂ ⚙ Row Tools

Document No/Type/Co: 00001 Batch Number: 1437

Supplier: 4242 Capital System DO NOT MODIFY Activity Date: 12/12/2024

Business Unit: 30 Eastern Distribution Center

Records 1 - 2

	Activity Source *	Activity Source Description	Activity Type	Activity Type Description	Scope	Scope Description	Scope Category
○	TRUCK_2018_DIESEL	Heavy Duty Truck	MOB_COMB	Mobile Combustion	1	Scope1-Direct Emission	
⊙							

Image Caption 12. This image shows the Sustainability Activity Ledger Revision(W20S11B) with the activity information.

3. If you have the breakup of total emissions, you can enter the Emissions details by selecting the record and selecting Emissions from the Row menu (optional step).

Note: The Emission Type will display by default based on the setup on the Emission Type tab of the Activity Type (P20S01) application.

The screenshot shows the 'Emissions' form in a software application. At the top, there's a header bar with 'Emissions' on the left, and 'Personal Form: (No Personalization)', 'Layout: (No Layout)', and 'Query: All Records' on the right. Below the header, there's a toolbar with icons for save, delete, and tools. The main area contains a form with 'Document No/Type/Co' set to '291 SA 00001' and 'Batch Number' set to '1437'. Below this, a table displays 'Records 1 - 4'. The table has columns: 'Emission Type *', 'Emission Quantity', 'Emission UoM', 'Emission Factor', 'Emission Factor UoM', 'Emission Factor Per Unit UoM', 'Emission Factor Per Currency Code', and 'Factor Source'. The data rows are: CH4 with quantity .1100 KG, CO2 with quantity 10.0000 KG, and N2O with quantity .2000 KG. There are also empty rows for additional entries.

Emission Type *	Emission Quantity	Emission UoM	Emission Factor	Emission Factor UoM	Emission Factor Per Unit UoM	Emission Factor Per Currency Code	Factor Source
CH4	.1100	KG					
CO2	10.0000	KG					
N2O	.2000	KG					

Image Caption 13. This image shows the Emissions(W20S11D) form with the Emission information.

4. Click OK.

The following tables are updated during the manual Sustainability Activity Ledger process:

- Sustainability Activity Ledger (F20S11)
- Emissions (F20S12) (optional)

Note:

1. In case the company receives monthly or quarterly reports from third-party logistics contractors, they can use these reports for mass uploads using spreadsheets in Sustainability Activity Ledger (P20S11) program.
2. During the processing of fuel invoices, if users have sufficient vehicle data, they can enter mobile combustion data using Standard Voucher Entry (P0411) or Voucher Match (P4314) program. These programs will create sustainability activity records and store in the Sustainability Activity Ledger (F20S11).



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