UC2: Calculate Scope 2 Emissions

Name	**Calculate Scope 2 Emissions**
Description	The user wishes to calculate the Scope 2 Emissions from the GLEC-Framework
Actors	User
Pre-Conditions	User has been authenticated
Scenario	1. User enters basic information 2. User sends request to the application 3. System processes request 4. System sends result back to the User
Results	The system should calculate and return the correct Scope 2 Emissions value.
Exceptions	1. a. The user does not give all the necessary information
Extensions	Additional information to improve and return a more detailed calculation

UC1: Calculate GLEC Framework Scope 1 emissions

Name	**Calculate GLEC Framework Scope 1 emissions**
Description	As a User, I would like to calculate the GHG emissions produced by the assets owned or controlled by the company I work for
Actors	User
Pre-Conditions	User logged in.
Scenario	1. User provides necessary information to perform the Scope 1 emissions calculation. The minimum information needed consists of: ◦ The type of transport (Transport mode) ◦ The fuel in `kg` or `l` used during transport ◦ The type of fuel used during transport ◦ Emission type (Well-to-Tank, Tank-to-Wheel, Well-to-Wheel) 2. User requests Scope 1 emissions calculation 3. System checks if enough information has been provided 4. System performs calculation 5. System sends result to the User in `kg of CO2-equivalent`
Results	User gets the desired Scope 1 emissions calculation
Exceptions	3. a. System doesn't have enough information to perform calculation 3. b. System informs User and ends request 4. a. System encounters errors while performing the calculation 4. b. System informs User and ends request

Name	Calculate GLEC Framework Scope 1 emissions
Extensions	1. a. User provides detailed information to perform Scope 1 emissions calculation, which can consist of: - The different vehicle types - The amount of fuel used by each vehicle in `kg` or `l` - The fuel type used by each vehicle 1. b. Continue with the scenario until step 4 4. a. System performs a detailed GHG emissions calculation, which is described per vehicle used

UC6: Remove an emission factor

Name	Remove an emission factor
Description	An Admin wishes to add an emission factor to the database which the users can use in their calculations.
Actors	Administrator
Pre-Conditions	1. The Actor has been authenticated 2. The Actor has the role of Administrator
Scenario	1. The Administrator sends a request to add an emission factor 2. The system processes the request 3. The system adds the emission factor 4. The Administrator gets a success message
Results	The emission factor has been added to the application
Exceptions	2.a. The emission factor already exists 1.a. The Administrator inserts an invalid value
Extensions	-

UC10: Check for past GHG emissions calculations

Name	Check for past GHG emissions calculations
Description	The users wish to store the result of their calculation for later use and/or review
Actors	User
Pre-Conditions	1. The Actor has been authenticated 2. The Actor has completed an emission calculation
Scenario	1. The Actor sees the result of their calculation 2. The Actor sends a request to the system to save the calculation 3. The system processes the request 4. The system stores the request 5. The system returns a success message to the Actor
Results	The calculation result has been stored within the application
Exceptions	1.a. The calculation failed
Extensions	-

UC7: User wants to read emission factors

Name	User wants to read emission factors
Description	As a user, I want to read the emission factors used by the software. As an administrator, I want to read the emission factors used by the software in order to maintain them.
Actors	Users, Administrators
Pre-Conditions	- The user is authenticated. - The user has access to the emission factors.
Scenario	1. The user makes a request to read the emission factors. 2. The software returns the emission factors to the user. 3. The user can read the list of emission factors.
Results	The user gains insights into the emission factors used by the software.
Extensions	1. 1 - The user requests to read the emission factors for a specific transport mode. - The system returns the emission factors for the specific transport mode. 1. 2 - The user requests to read the emission factors for a specific fuel. - The system returns the emission factors for the specific fuel.

UC11: User wants to manage the previously stored emission calculations

Name	User wants to manage the previously stored emission calculations
Description	As a User, I want to manage the previously stored emission calculations. This includes deleting calculations and editing calculation’s metadata.
Actors	Users, Administrators
Pre-Conditions	- The user is authenticated. - The user has access to the emission calculations. - The user has the rights to manage the emission calculations.
Scenario	1. The user requests to manage a certain previously stored emission calculation. 2. The system returns the previously stored emission calculation. 3. The user edits the metadata of the emission calculation. 4. The user saves the changes. 5. The system updates the previously stored emission calculation.
Results	The previously stored emission calculations are updated to the user’s preferences.
Exceptions	1. 1 - The requested emission calculation does not exist. - The system returns an error message to the user.
Extensions	3. 1 - The user requests to delete the previously stored emission calculation. - The system deletes the previously stored emission calculation.

UC3: Calculate Scope 3 Emissions

Name	Calculate Scope 3 Emissions
Description	As a user, I want to calculate Scope 3, the Supply chain emissions, based on the GLEC Framework. These are the emissions the company is not directly responsible for them, but they are part of the company's value chain.
Actors	User
Pre-Conditions	- User is authenticated. - Users have the relevant data available.
Scenario	1. The Software User initiates the emission calculation process through the software. 2. The user specifies the minimum set required data. This is required per transport mode and includes: - The type of transport (Transport mode) - The fuel in `kg` used during transport - The type of fuel used during transport - The distance in `km` the goods are transported. This should be, in the worst case, at least the **Network distance**. - The weight in `tonnes` of the goods transported 3. The software processes the input data and calculates emissions in accordance with the GLEC Framework. 4. The results are returned to the user, providing an overview of greenhouse gas emissions in `kg of CO2-equivalents`. 5. User reviews the calculated emissions and may choose to save them for later use.
Results	The software generates accurate greenhouse gas emissions calculations based on the provided data. Users gain insights into their emissions on Scope 3 level.
Exceptions	2. 1 - The user provides insufficient data. - The software returns an error message to the user. 3. 1 - The system cannot find the correct emission factors for the calculation. - The system returns an error message to the user. 3. 2 - System encounters and error while performing the calculation. - The system returns an error message to the user.
Extensions	2. 1 - The user provides a more precise distance in `km` the goods are transported. In the best case, this is the **Actual distance**. - The system calculates more accurate emissions. 2. 2 - The user provides the CO2-equivalent intensity factor for the fuel used during transport. - The system calculates the total emissions based on the provided intensity factor and the tonne kilometers. 2. 3 - The user provides its own emission factors for the calculation process. - The system calculates the total emissions based on the provided emission factors.