SOLUTION ENABLEMENT

Environmental, Social and Governance Data Management

2024.1 – March 2024

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ESG Solution Enablement

The Environmental, Social and Governance (ESG) Data Management solution enables companies to create, maintain, and manage their ESG requirements and then apply those standards to products, suppliers, and locations.

To apply the solution implementation, refer to the topics in this section of the solution enablement documentation.

Introduction to ESG

To account for the large and growing number of sustainability reporting standards and certifications in use in the global marketplace, Stibo Systems' Environmental, Social and Governance (ESG) Data Management solution seeks to streamline and simplify the process of managing ESG assessments, and then apply that process to product, supplier, or location data to help satisfy compliance requirements.

In a rapidly changing world, organizations aiming to maximize the value of their global operations are being asked to comply with ever-evolving assessments and certifications. This requires companies to track these assessments to ensure regulations are correctly incorporated into the organization's policy, practices, and processes. Sustainability master data management (MDM) of the kind administered by the ESG solution enables customers in the manufacturing, retail, and distribution sectors to effectively meet regulatory policies, directives, laws, and measures defined by both national and international standards. Failure to adhere to compliance standards can result in heavy fines, brand damage, and weakened relationships with suppliers and consumers, which makes implementation of an effective ESG solution an important part of a robust growth strategy.

Compliance Focus Areas

ESG standards are wide-ranging and can be applied to many aspects of organizations, big or small, regardless of industry. They can be standards that require compliance with regulations backed with legal force, or optional standards prioritized by customers who reward companies that comply with them. Listed below are some types of ESG compliance that the ESG Data Management solution can assist with:

- **Regulatory compliance** – Ensures compliance with statutes enforced where the organization conducts business.
- **Product compliance** – Ensures factual declarations are made about products created by the business, either in whole or in part. Examples of ESG standards relevant to product compliance are those that relate to GMOs, allergen information (like gluten), organic claims, biodegradation, and Forest Stewardship Council (FSC) certification for timber-related industries.
- **Human Resource compliance** – Ensures the ethical treatment of the workforce based on various metrics and standards.
- **Data compliance** – Ensures organizations are collecting, organizing, storing, and managing data in compliance with regulatory standards set by, for example, the General Data Protection Regulation (GDPR) law applicable in the European Union (EU), Extended Producer Responsibility (EPR), and others.
- **Health and Safety compliance** – Ensures the safety of working environments by applying standards that reduce work–related accidents, exposure to hazardous chemicals, and electrical and fire hazards.

Challenges in Compliance Management

Companies that are subject to one or more of these types of compliance but have not yet implemented a standardized central compliance data management system can face various challenges caused by one or more of the following drivers:

- Multiple and often complex standards
- Conflicting standards for compliance reporting
- Time-consuming audits
- Changes in compliance criteria and regulatory requirements

These challenges can be mitigated by implementing the ESG Data Management solution as it provides improved visibility into evaluated business data, simplifies business processes, and helps build a durable competitive advantage by improving:

- Administrative efficiency
- Reduction of manual data maintenance activity
- ESG-compliant supplier management and procurement strategies
- Efficient location planning
- ESG goal-oriented product / assortment planning
- Ability to quantify ESG standards compliance progress

The ESG Data Management solution also allows organizations to integrate with sustainability databases like ‘HowGood’ to do sustainability reporting, track carbon emissions, assess marketing and label claim validations, and ingredient validations. Integrations with organizations like ‘Transparency-One’ enable organizations to gather data on corporate social responsibility (CSR), compliance management, supply chain transparency, and traceability for raw and finished goods.

ESG for Suppliers

As previously described, it is important for organizations to establish and maintain compliance with the ESG requirements vital to their goals. Critical to that aim is procuring verified and verifiable supplier assessments that help ensure the organization's ESG standards for quality, sustainability, ethical behavior, and other criteria are met.

There are several reasons why verifiable supplier assessments are necessary for organizations to meet their ESG goals:

- **Compliance** – Suppliers must comply with a range of legal and sustainability-related regulatory requirements, such as adherence to labor laws and environmental regulations. If these requirements are not met, the organization may not be able to comply with their ESG assessment requirements.
- **Risk management** – Ensuring that suppliers adhere to requirements pertaining to ethical sourcing, due diligence, and regulatory permissions can help identify potential risks, ensure suppliers are managed effectively, and mitigate potential impacts on an organization’s ESG goals.
- **Quality control** – Because organizations rely on their suppliers to provide high-quality goods and services, validated assessments of suppliers can help ensure that suppliers are meeting the organization’s quality standards.

In many instances, the best method to procure high-quality ESG assessments is through a neutral third party for whom measuring business metrics against ESG requirements is a core competency. Integrating the ESG Data Management solution with third-party vendors can provide timely and accurate information to the organization about the supplier's processes and practices as they relate to ESG.

The information received from both third-party data sources and the organization's own STEP ESG Data Management can help users create meaningful workflows that enable users to approve, review, or reject supplier inputs. This data can also enable organizations to send relevant and informative notifications (to internal and external audiences) based on business requirements. Further, automating these integrations allows organizations to establish standard supplier audits starting from when a supplier is onboarded.

The ESG Data Management solution supports the ability to store a supplier's certification and compliance adherence data. As examples of ESG reporting standards the ESG Data Management solution can help with are the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board's (SASB) international financial reporting standards (IFRS). Integration with standards like these can be done with multiple standard data sources; underlying data can be validated and unified to create a single source of truth for better regulatory readiness.

ESG Terminology

To assist users in their review of Stibo Systems' Environmental, Social and Governance (ESG) Data Management solution documentation, a glossary of terms is included below:

Assessor – As an object, an assessor is a collection of one or more assessments. Functionally, assessors often represent an organization supplying external assessments.

Assessment – The assessment measures (both quantitatively and qualitatively) how a business object conforms to a set of criteria.

Compliance objects – A blanket term that includes frameworks, disclosures, criteria, assessments, and assessors.

Criteria / Criterion – Quantifiable data points that, when grouped together, make up an assessment. The criteria are the quantifiable means the solution uses to measure whether the data card-linked object complies or does not comply with ESG requirements.

Data card – The data card uses references to connect sustainability data together under one uniform object, the data card. The data card is, in turn, connected to a domain object like products, suppliers, locations, or external placeholders.

Because the solution is designed to overlay sustainability data onto existing implementations with minimal interference with already defined customer data models, the data card becomes the focal point for managing sustainability data associated with a product, supplier, or location.

Data cards reference one or more assessments. Additionally, data cards can also reference one another. For example, a product data card can reference a supplier data card.

ESG – An acronym that stands for Environmental, Social and Governance

Reporting Framework – The ESG Reporting Framework anchors reports across the sustainability data. The reporting may include recognized sustainability standards and internally defined customer standards. The ESG framework is defined with several sub-levels. Assessments can be linked to any one of the sub-levels to indicate that the assessment supports the reporting parameters at that level. For more information, refer to the ESG Frameworks topic in this documentation.

Basics of the ESG Data Management Solution

The Environmental, Social and Governance (ESG) Data Management solution addresses two major demands presented to companies complying with ESG requirements by enabling customers to:

1. Establish an ESG profile, which summarizes the goals and values the organization wants to represent. This profile serves as the core of any company's sustainability initiative.

2. Enable ESG compliance officers to manage the company's ESG data as they would any other master data. The solution supports acquisition, management, and publication of ESG data through pre-configured workflows and business rules.

ESG Profile

Creating an ESG profile requires companies to define the assessments, both internal and external, that the business will be measured against. Assessments measure a data card-linked object's (or objects') compliance, both quantitative and qualitative, with one or more criteria. Criteria, which are the most granular level of detail in an assessment, are evaluated using attribute values, references, or other MDM (Master Data Management) constructs.

ESG Master Data Management

To measure an organization's ESG compliance, the assessments must be applied to a data card, which is a representation of product, supplier, or location objects.

The outcome of the assessment for the specific data card is a summary of the criteria results which may be in the form of a binary 'Pass/fail' or 'True/false' result, value, value percentage, text, etc.

The criteria associated with each of these compliance objects determine whether these objects 'Pass' an evaluation, or 'Fail' it. In some ESG scenarios, if all associated (and required) criteria are evaluated and determined to fall within the configured parameters, the compliance object passes. If even one of the associated (and required) criteria falls outside those parameters, however, the compliance object fails. In other, more complex scenarios, assessments can be nested together to create a compliance result based on evaluations of multiple criteria linked to multiple assessments.

In short, the ESG Data Management solution is comprised of objects that enable a highly flexible configuration that can be designed to fit the user's requirements, however straightforward or complex.

Criteria

The 'criteria' of the ESG Data Management solution are arguably the most important elements of the solution. Modeled in STEP using the 'criteria' product object type, criteria are configurable measurements that help determine whether an evaluated object (a product, supplier, or location) is compliant with a given ESG requirement. Data associated with criteria could be an attribute value, reference, or other STEP object.

A criterion could be configured to determine an object's compliance using one of the following methods:

- Comparing the object to a predefined string (a text value)
- Comparing the object to a predefined numeric value
- Determining whether a configured value is ‘null’
- Determining whether another assessment is in a ‘Pass’ state
- Evaluation of a result generated by a business function

Assessment Metadata

An assessment’s metadata attributes work in concert with criteria to manage sustainability data and model real-world compliance scenarios. Assessment metadata include:

- Criteria-level compliance result
- Last Criteria Update date
- Assessment Validity period (months)
- Number of Active Criteria
- Number of Archived Criteria
- Number of Inactive Criteria

These metadata attributes can be used to trigger alerts around assessment updates, expiration dates, and performance metrics.

ESG Frameworks

To help users manage the various Environmental, Social and Governance (ESG) frameworks relevant to their business, the ESG Data Management solution allows users to create and configure objects called ESG Reporting Frameworks. These frameworks enable an ESG Compliance Officer to organize assessors that may have multiple standards. For instance, the United Nations (U.N.) supports multiple ESG standards, which comprise multiple disclosures. Though a given business may not seek to comply with all the U.N.'s standards, ESG Reporting Frameworks provide a structure to organize standards from a single assessor that a user must review, maintain, and enforce compliance with.

Setting up and configuring reporting frameworks is step one in setting up the ESG Data Management solution.

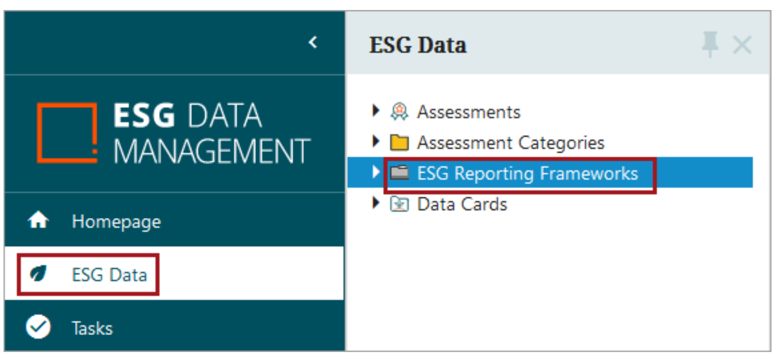
Creating ESG Reporting Frameworks

Organizing ESG standards follows this hierarchy of object types:

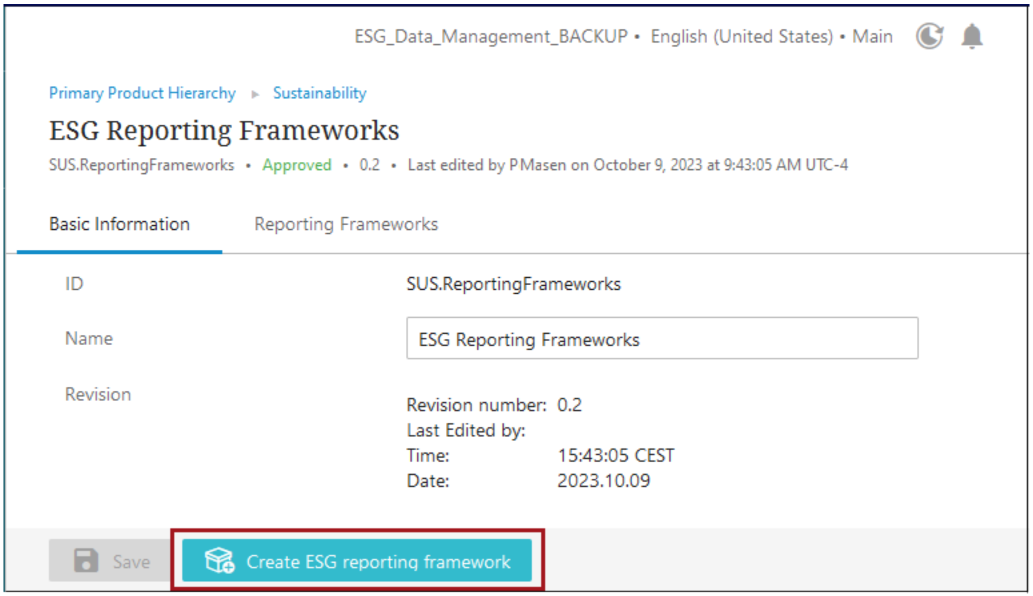
ESG Reporting Framework → ESG Reporting Standard → Disclosure Category → Disclosure (or Target) → Disclosure (if a child to a Target object)

Because a single framework often has many standards, providing users with a structure built in this way allows objects at a lower level in the structure to automatically inherit attributes and values from objects at a higher level, saving users time and effort when designing their own ESG frameworks.

To create a structure that organizes ESG standards and enables the solution to depict visually the connections between the standards, assessments, and data cards, users can start the process by clicking on 'ESG Data' in the Global Navigation Panel, then on 'ESG Reporting Frameworks.'



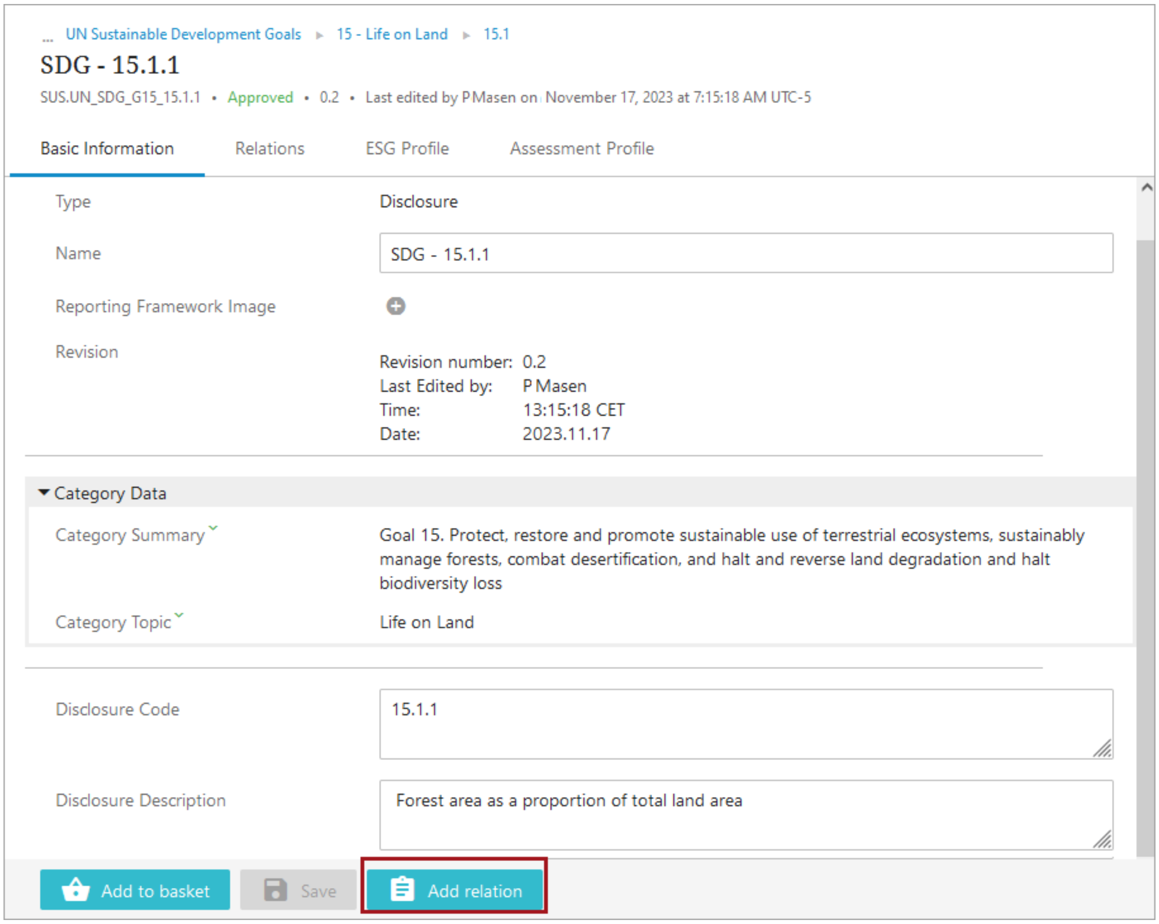
On the 'ESG Reporting Frameworks' screen that displays, click the 'Create ESG reporting framework' button at the bottom of the screen.



The same pattern follows for other object types in the reporting framework hierarchy: go to an object of the higher-level object type to create an instance of the object of the lower-level object type. In this way, users can build out a hierarchy of reporting frameworks and their various standards, as fits the user's requirements.

Adding relations

On the lowest-level object, the disclosure, users can click the 'Add relation' button to link the disclosure to any relevant compliance object.

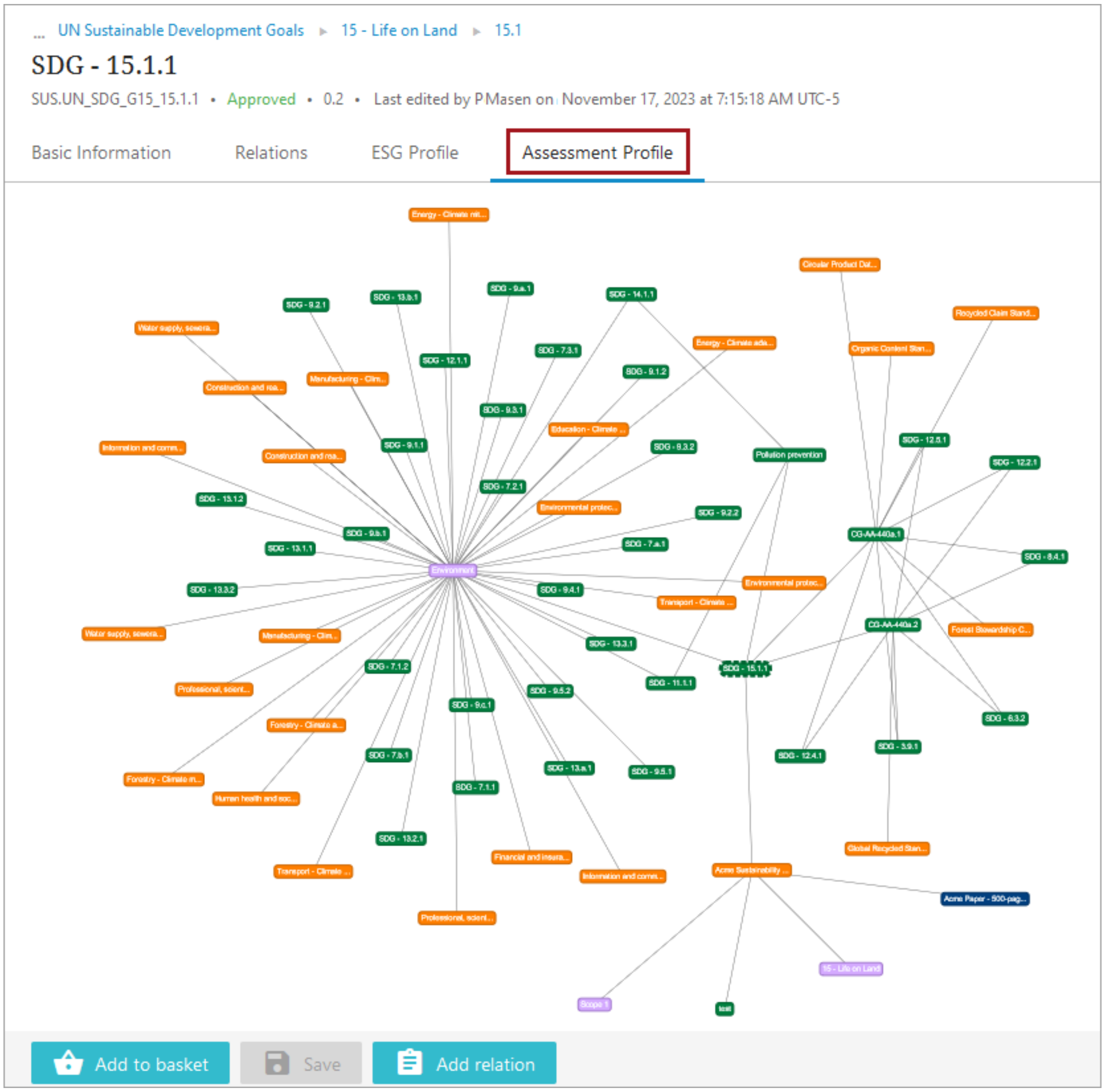


Relations are compliance objects that allow ESG-compliant users to create an ESG (Sustainability) Profile for their organization. Users can add other disclosures, targets, and assessments as relations. The 'Add relation' functionality establishes a 'Related Reporting Metric' connection from the compliance object (disclosure, target, or assessment) linked to the disclosure the 'Add relation' action is executed from.

Additionally, when linking a disclosure using the 'Add relation' functionality, a 'Related Reporting Category' relation is automatically established between the disclosure category and the disclosure the 'Add relation' action is executed from.

This new relation will show in a tabular format in the 'Relations' tab on the disclosure's screen, and on the 'ESG Profile' tab, as a visual depiction of the disclosure's connections to all related compliance objects.

On the ‘Assessment Profile’ tab, all data cards evaluated by the linked assessments are displayed in a visual depiction of their connections to one another.


... UN Sustainable Development Goals ▸ 15 - Life on Land ▸ 15.1
SDG - 15.1.1
SUS.UN_SDG_G15_15.1.1 • Approved • 0.2 • Last edited by PMasen on November 17, 2023 at 7:15:18 AM UTC-5
Basic Information
Relations
ESG Profile
Assessment Profile
Add to basket
Save
Add relation

Using the ESG Data Management solution

Accessed through an ESG-specific Web UI, the ESG Data Management solution is data model-agnostic, meaning the structure of the STEP ESG data powering the solution fits easily with other data models and does not require a pre-existing data model to provide value. Integration with an established Product Information Management (PIM) solution (to include handling of suppliers, and locations) is possible with the ESG Data Management solution but does require additional configuration to fully implement.

If setting up the reporting frameworks is step one in configuring the ESG Data Management solution (refer to the ESG Frameworks topic for information on reporting frameworks), this topic describes step two: creating and configuring assessors, assessments, criteria, and data cards.

The ESG Data Management solution operates primarily through ESG-specific objects called Data Cards, Assessors, Assessments, and Criteria.

Data Cards – Standalone objects that can be linked to:

- Products
- Suppliers
- Locations
- Multiples of products, suppliers, or locations
- Multiples of products, suppliers, and locations

Assessors – As an object, an assessor is a collection of one or more assessments. Functionally, assessors often represent an organization supplying external assessments.

Assessments – A collection of criteria; the object that the data card-linked object is to be measured against.

Criteria – Quantifiable data points that, when grouped together, comprise an assessment.

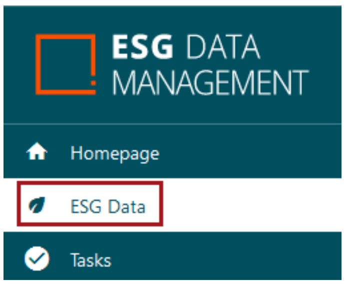
It should be noted that Data Cards, Assessors, Assessments, and Criteria must be created and maintained by the customer based on the customer's ESG requirements.

Creating Assessors

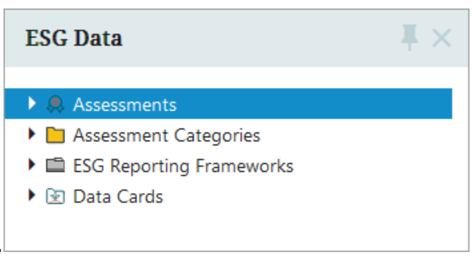
When building an ESG data structure compliant with the needs of a given customer, one of the first objects to be created is an assessor. Assessors represent entities that sponsor one or more assessments. In the hierarchy of compliance objects, assessors are objects that contain assessments. As an example, a non-governmental organization (NGO) focusing on mitigating the effects of global climate change through assessments would be an assessor. All assessments sponsored by the assessor would be stored as assessment objects within the assessor object.

To create an assessor in the Web UI, follow the instructions listed below:

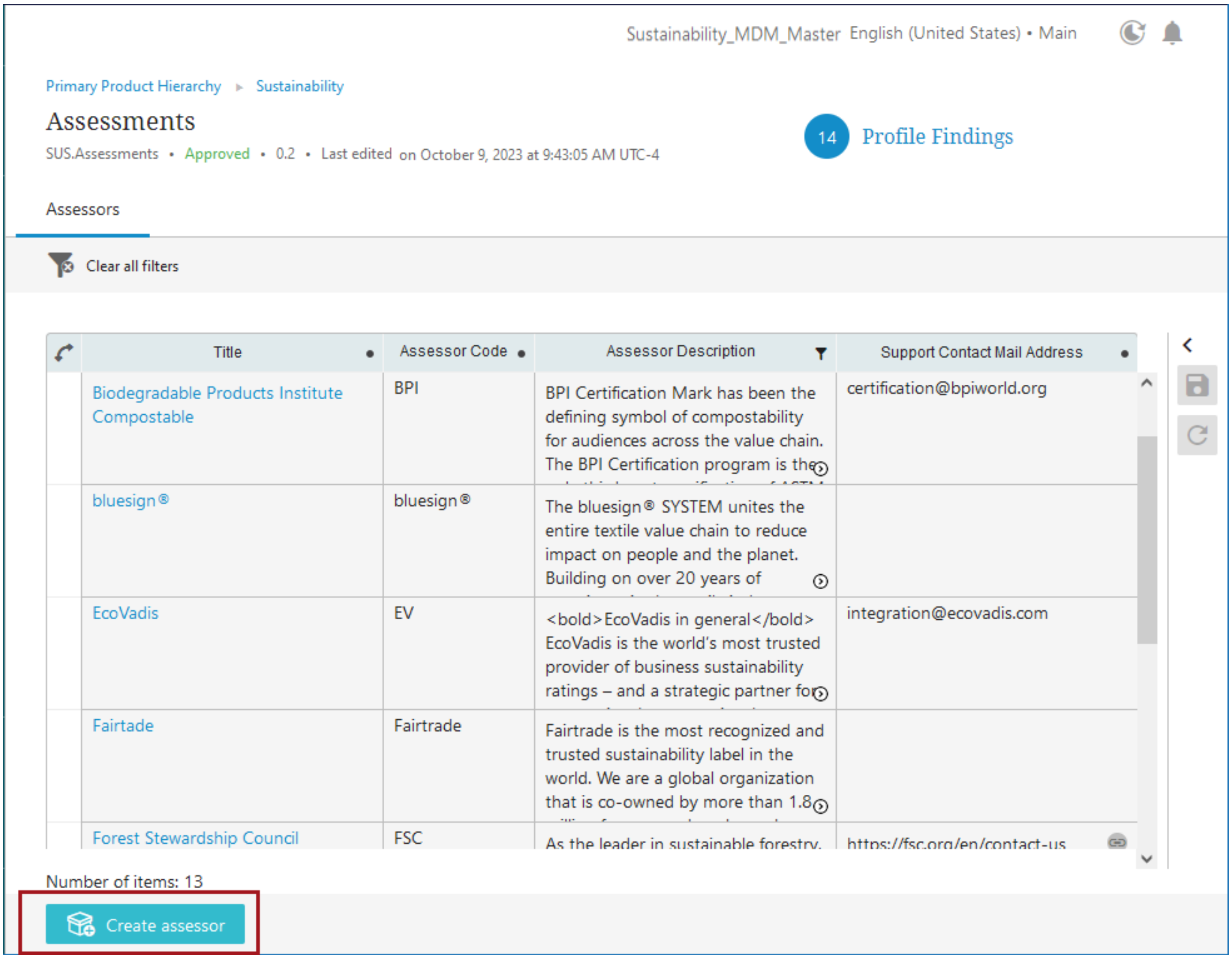
1. Click ‘ESG Data’ in the Global Navigation Panel.



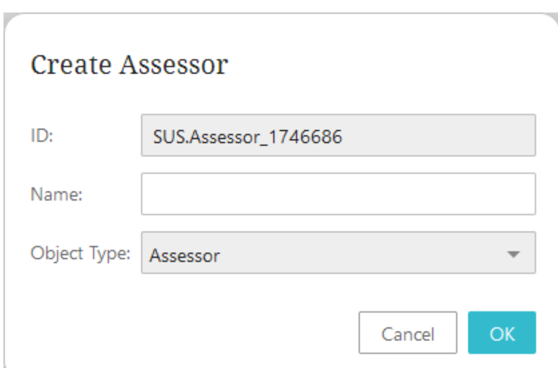
2. Click 'Assessments'.



3. A screen listing all configured assessors is displayed. To add a new assessor, click the ‘Create assessor’ button at the bottom of the table.

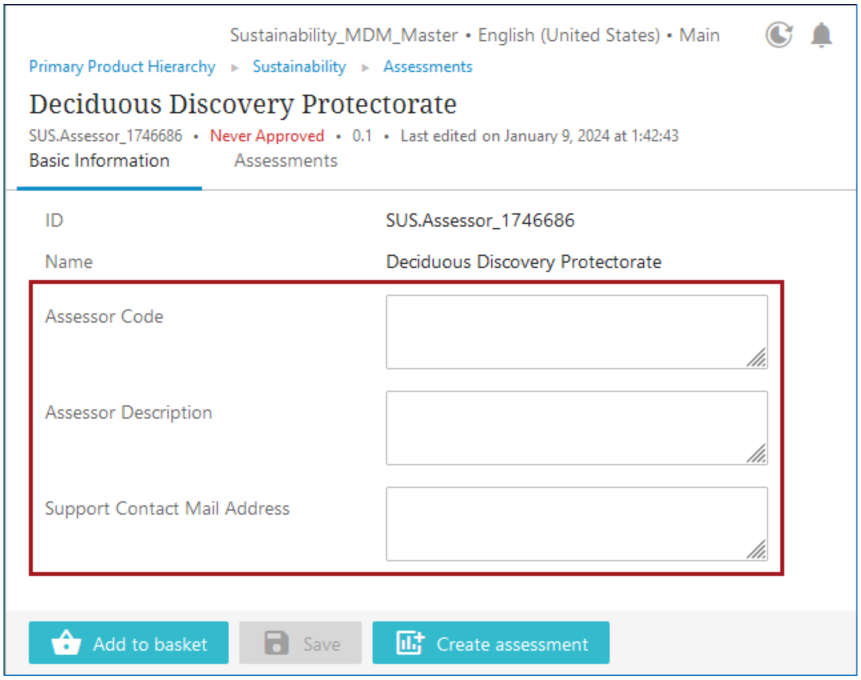


4. In the 'Create assessor' dialog that displays, three fields are presented: 'ID', 'Name', and 'Object Type'. Both 'ID' and 'Object Type' are read-only, but the 'Name' field requires the user to add content. In most cases, the name of the organization that maintains the certification can be included in the value added to the 'Name' field. Click 'OK' when complete.



5. The user is auto-navigated to the newly created assessor's page, which is organized into two tabs: 'Basic Information' and 'Assessments'.

   Under the 'Basic Information' tab, the 'ID' and 'Name' aspects are listed as read-only values, followed by three empty (and optional) parameters that can be populated as per the customer's requirements.



- Assessor Code – Code to identify the assessor of an assessment. Relevant if the assessment(s) contained within the assessor are to be externally validated. The 'Assessor Code' value and the 'Assessment Code' value (described in the topic in this section), are automatically combined to provide the 'Assessment Display Name'.

- Assessor Description – Populate this field with information about the role and responsibilities of the entity (NGO, governmental organization, etc.) that originated the assessments. This information can help provide context and details about the assessor's qualifications, expertise, and areas of focus.

- Support Contact Mail Address – Add the email address where users can contact a responsive representative of the assessor-related organization.

6. Click 'Save' when the assessor has been satisfactorily enriched.

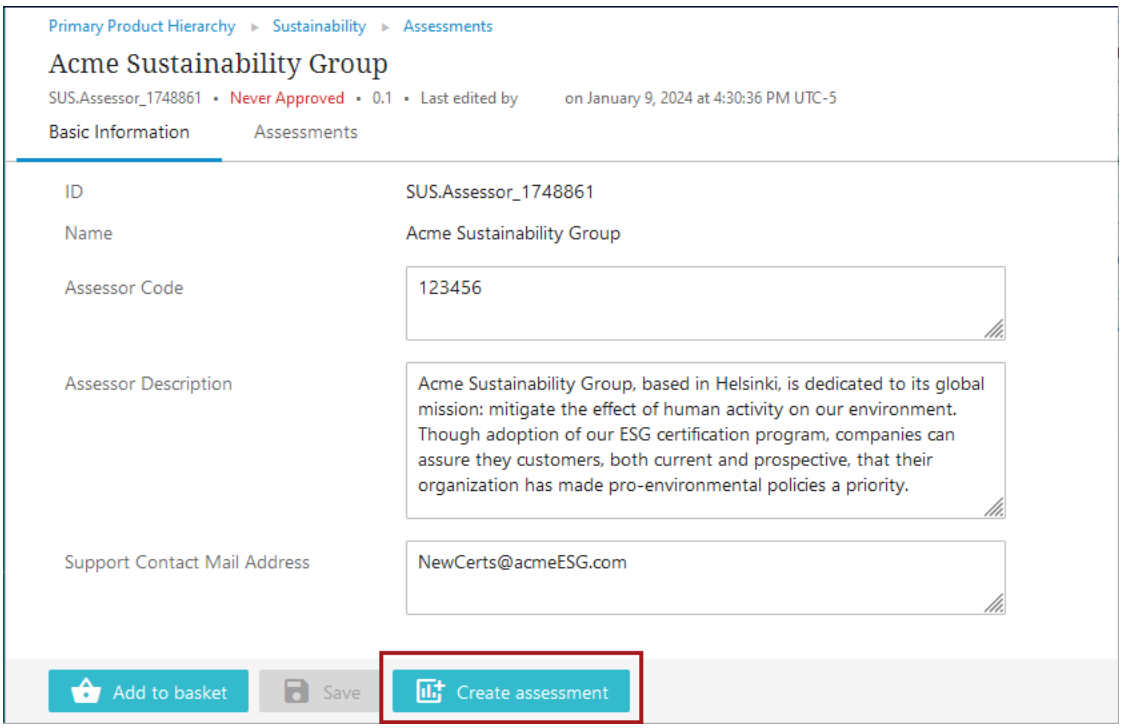
With the assessor created, the user can now create linked assessments related to that assessor.

Creating Assessments

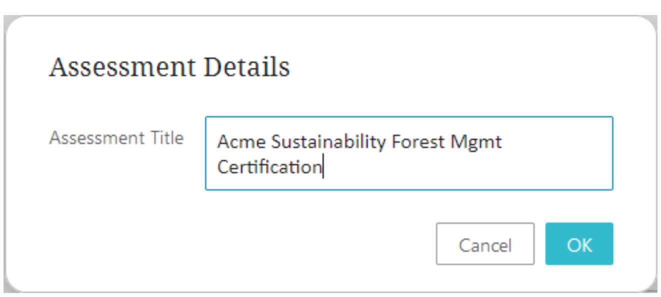
All assessors contain at least one assessment. An assessment is the metric by which a given object (product, supplier, location, or multiples of each, for example) is determined to be either compliant or non-compliant with the assessment. For instance, an assessment can be a pass / fail evaluation based on the values given to criteria linked to the assessment.

To create an assessment, follow the instructions listed below:

1. In the ESG Web UI, navigate to the assessor object to which the assessment is linked. This is where the assessment will be created. In this example, an assessment will be built for the Acme Sustainability Group assessor. Click the ‘Create assessment’ button.



2. In the ‘Assessment Details’ dialog that displays, add a title for the assessment. Often, the assessor-affiliated organization that maintains the assessment will provide a name that can be used here, either in whole or in part. In this example, the assessment title is ‘Acme Sustainability Forest Mgmt Certification.’ Click the ‘OK’ button when finished.



The assessment has been successfully created, but not yet enriched.

Additionally, the newly created assessment is automatically entered into the 'Assessment Management' workflow and will be in 'Inactive' status until it progresses through the workflow and is finally validated by the ESG Compliance Officer.

3. The user is navigated to the assessment's details page that is organized into four tabs: 'Basic Information,' 'Criteria,' 'Evaluated Subjects,' and 'Assessment Profile.' In the following section, only the first two tabs will be described.

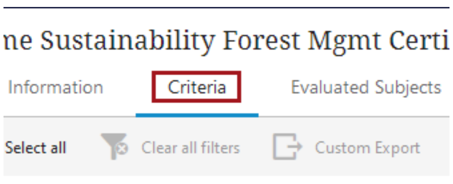
    - On the 'Basic Information' tab, four parameters display that can be populated by the user:
        - **Assessment Code** – Code to identify the assessment.
        - **Assessment Description** – In this field, users can describe the assessment using text either supplied by the assessor-linked organization or from content preferred by the customer.
        - **Assessment Display Name** – By default, this value is a concatenation of the 'Assessor Code' and the 'Assessment Code' but can be overwritten if needed. This value is used as the key to identify which assessments the 'Criteria' tab's criteria belong to.
        - **Assessment Type** – One of five settings users can select that control which business rules are used to verify the provided information for the criteria. Listed and described below are the five assessment types:
            - **Internal (Standard)** – When selected, all mandatory criteria added to an assessment must pass for the assessment to pass.
            - **Internal (Or-Condition)** – When selected, only one mandatory criterion added to an assessment must pass for the assessment to pass.
            - **External** – This assessment type should be selected when the ESG Data Management solution has an established connection to external validation, which is dependent on admin users setting up the connection as well as the nature of the external validation integration.
            - **Nested** – Can contain a mix of internal and nested criteria of which all mandatory criteria must be passed.
            - **Nested (Or-Condition)** – Can contain a mix of internal and nested criteria. One mandatory criterion must be passed for assessments of this type to be passed.
        - **Assessment Validity Period** – This is the number of months for which a passed assessment is valid, based on the requirements of the assessor-affiliated organization.
    - When the fields have been completed, click the 'Save' button.

Creating Criteria

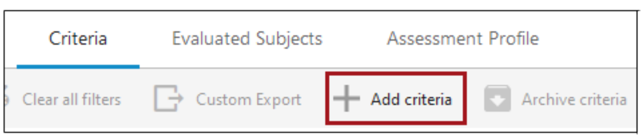
With the assessment data successfully added, users can begin adding criteria to the assessment.

Each assessment is comprised of one or more criteria. Each criterion created by the sustainability officer should help determine whether the assessment is within acceptable parameters for the data card associated with the criterion. Users can only add criteria to an assessment if the assessment is in the 'Maintenance' workflow state. If the assessment is not in the 'Assessment Management' workflow, it can be initiated into the workflow by clicking the 'Start assessment maintenance' button at the bottom of the assessment. For more information on this button, review the 'Start assessment maintenance' button section of the 'Maintenance of the ESG Data Management solution' topic. To add criteria to an assessment, follow the steps listed below:

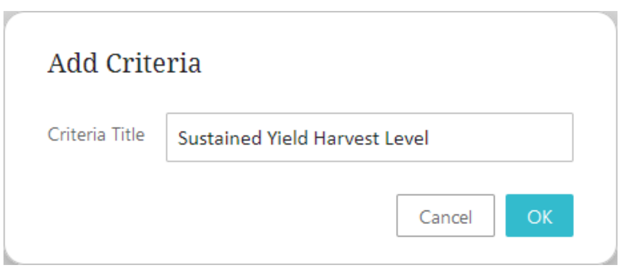
1. On the assessment to which criteria must be added, click the 'Criteria' tab.



2. On the 'Criteria' tab, the criteria added to the assessment are displayed in a tabular format. To add criteria, click the 'Add criteria' button in the toolbar.



3. In the 'Add Criteria' dialog that displays, add a title for the criterion that is descriptive of what the criterion is measuring. For instance, a metric that determines how much of a managed forest is harvested per harvest interval might be called 'Sustained Yield Harvest Level'. Click 'OK' to create the criterion.



4. The added criterion displays in the table. The newly created criterion is automatically entered into the 'Criteria Management' workflow and will be in 'Inactive' status until it progresses through the workflow and is finally validated by the Sustainability Officer Group.

   Additionally, the 'Last Status change' timestamp is set for the criteria, and the 'Last Criteria Update' timestamp is set for the assessment to which the criteria is linked.

   To enrich the criterion, click the details button to the left of the checkmark in the first column. This displays the details of the criterion in the bottom half of the UI.

5. In the bottom half of the horizontal split panel, ten fields can be edited or enriched by the user to further define the criteria. The editable fields are listed and described below:

   - **Name** – Displays the name value assigned to the criterion in the previous step but can be edited here if necessary.
   - **Required** – Select whether the criterion is mandatory for the assessment ('Required') or 'Optional'. If designated as mandatory, the assessment must consider the criteria for the assessment to pass. Optional criteria are evaluated but only displayed as part of the sufficiency panel.
   - **Compliance Type** – Determines which validation type the algorithm will use to evaluate the criterion for an assessment to pass or fail. Listed below are the validation types that can be selected:
     - **Age (XX months)** – When selected, the criterion cannot pass unless the value given for the criterion is less than the value set for the 'Compliance Value'.
     - **Assessment** – Selected when the criterion cannot pass unless a nested assessment is passed. When 'Assessment' is chosen, a mandatory 'Required Assessment' parameter displays from which users can select which assessment (or assessments) must be in a pass state for the criteria to pass.
     - **External** – Selected when the criterion's pass/ fail status is determined by an external validator. When 'External' is chosen, a mandatory 'Code' parameter displays. In this field, enter the code as directed by the connection with the assessor-affiliated organization. Assessments designated as 'External' are identified based on the ID provided from the assessor, and the results are fetched from the individual provider and published. With a valid ID maintained between the ESG Data Management solution and the assessor who sponsors the assessment, the evaluation pulls the data from the assessor and stores it on the data card.
     - **List of Value** – Selected when the value assigned to the criterion should be one of two or more values included in a list of values (LOV). When 'List of Value' is chosen, 'Pass Fail,' 'Sample LOV' (or its replacement LOV), or any other configured LOVs must be selected for the 'Actual Value Type' parameter.
     - **Max** – When selected, the value given to the criterion that allows the criterion to pass can be no greater than the value assigned to the 'Compliance Value' parameter. 'Integer' and 'Double' are valid selections.
     - **Min** – When selected, the value given to the criterion can be no less than the value assigned to the 'Compliance Value' parameter. 'Integer' and 'Double' are valid selections for 'Actual Value Type' when 'Min' is selected.
     - **Not Empty** – Select this option when no specific value is required for the criterion to be validated against. When 'Not Empty' is selected, the user must select a value type that the solution will validate to ensure the field is not empty. When this option is selected, the 'Actual Value Type' parameter becomes mandatory. The valid 'Actual Value Type' selections for this are 'Integer,' 'Text,' and 'Pass Fail.'

- **Actual Value Type** – Enter the type of data that must be entered for the criterion. For instance, for the compliance type 'Age (XX months)', set the 'Actual Value Type' to 'Integer'; this will ensure the value submitted for the criterion is a number that can be evaluated by the validation algorithm. Listed below are the 'Actual Value Type' options that can be selected:
  - **Double** (also referenced in STEP as the 'Number' validation base type) – Allows any numeric characters, including numbers expressed with decimals. Does not allow for fractions.
  - **Integer** – Allows only whole numbers (no decimals or fractions).
  - **Iso Date** – Allows only dates in the YYYY-MM-DD format.
  - **Pass Fail** – If 'List of Value' is chosen for the 'Compliance Type' parameter, 'Pass Fail' allows only the 'Pass' or 'Fail' values. If 'Pass Fail' is selected, add the 'LOV ID' of the value that indicates compliance in the 'Compliance Value' field.
  - **Sample LOV** – If 'List of Value' is chosen for the 'Compliance Type' parameter, the 'Sample LOV' option enables users to select the default LOV, which is 'Yes' and 'No', or to select a customized LOV containing values desired by the customer. If 'Sample LOV' is selected, add the 'LOV ID' of the value that indicates compliance in the 'Compliance Value' field. Additionally, other LOVs can be created and configured to display in the 'Actual Value Type' dropdown.

Note: To add additional LOVs to the 'Actual Value Type' dropdown, an LOV ID of an LOV-validated attribute valid for the 'Criteria' product reference type must be added to the 'Crit Flex Header' LOV (SUS.LOV.CritFlexHeader) LOV.

Values	Value ID
Double	SUS.AT.CritComplianceActualValueDouble
Integer	SUS.AT.CritComplianceActualValueInt
Iso Date	SUS.AT.CritComplianceActualValueIsoDate
Pass Fail	SUS.AT.CritComplianceActualValuePassFail
Sample LOV	SUS.AT.CritComplianceActValueSampLov
Text	SUS.AT.CritComplianceActualValue

  - **Text** – Allows any text value.

Note: The 'Actual Value Type' parameter will only display when specific compliance types are selected in the 'Compliance Type' parameter. Those compliance types are: Age (XX months), List of Value, Max, Min, and Not Empty.

- **Compliance Value** – Enter the value that must be met for the criterion to pass. Note, this parameter will only display when specific compliance types are selected in the 'Compliance Type' parameter.
- **Code** – Add a value to this field that matches the criteria with data provided by external authorities. Becomes mandatory when the 'Compliance Type' is set to 'External'.
- **Description** – Add text that describes the criterion.

- **Usage** – Add text that describes how the criterion is applied.
- **Theme / Topic** – Add any additional text not covered by the previous two parameters to describe the criterion.
- **Required Assessment** – Only displays when the ‘Compliance Type’ is set to ‘Assessment’. This means that the criterion can only pass if associated assessments have passed. In this field, click the ‘+’ button to enter a Node Picker dialog. In the Node Picker, select one or more assessments that must be in a passed state for the criterion to pass.

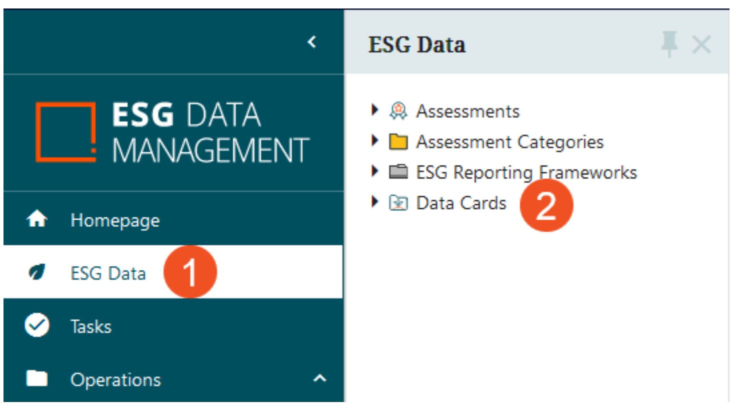
Creating Data Cards

Data cards are compliance objects that can be structured in many ways to fit the customer's requirements. A data card is a grouping of data that is then assessed by linking the card to one or more assessments. Based on the criteria in the assessment, the data card is either compliant with the assessment (pass), or non-compliant (fail). Data cards can be linked to data already existing in a linked PIM system, or to data created within the ESG Data Management tool. Data cards can be linked to:

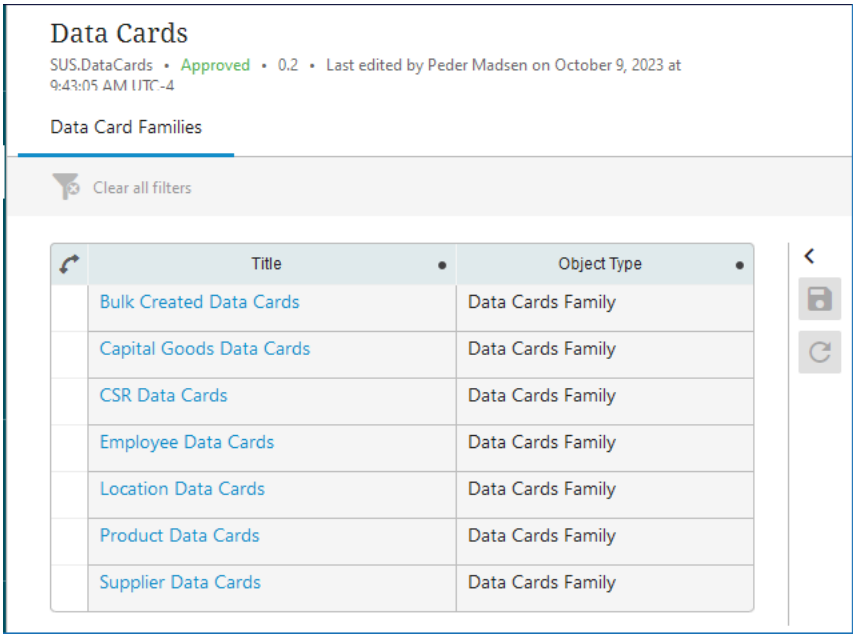
- Products
- Suppliers
- Locations
- Multiples of each
- Multiples of all

To create a new data card, follow the instructions described below.

1. In the Global Navigation Panel, click on 'ESG Data' and then 'Data Cards'.



2. On the 'Data Cards' screen that displays, all data card families included in the ESG Data Management tool, both pre-configured and customer-created, are listed.



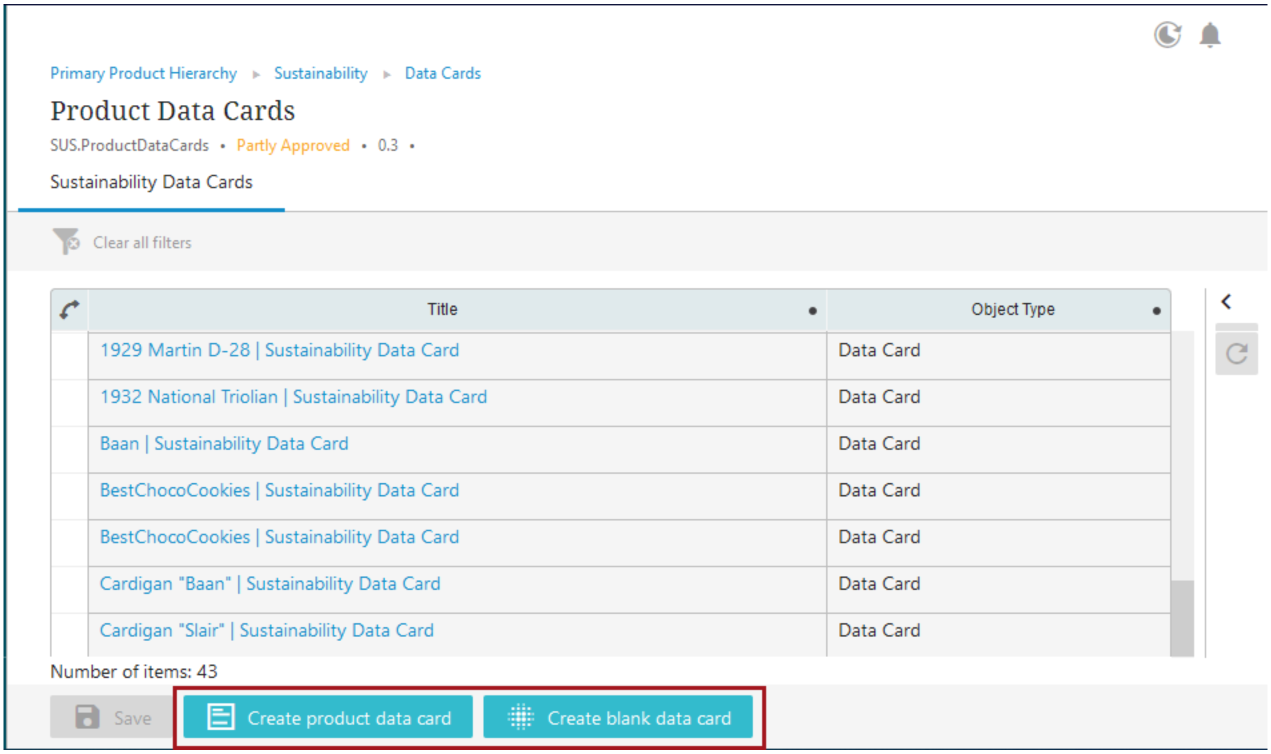
The pre-configured data card families are:

- Bulk Created Data Cards
- Capital Goods Data Cards
- CSR Data Cards
- Employee Data Cards
- Location Data Cards
- Product Data Cards
- Supplier Data Cards

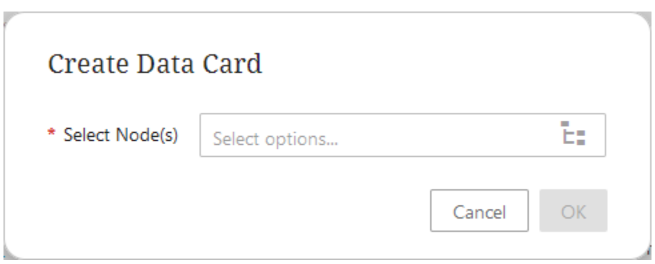
Data card families can be created and removed, as needed, in the STEP Workbench. If any of these families are not required for a given implementation, they can be removed.

3. Click the data card family relevant to the kind of data card to be created. For this example, a product data card will be created; to do so, click on the 'Product Data Cards' data card family.

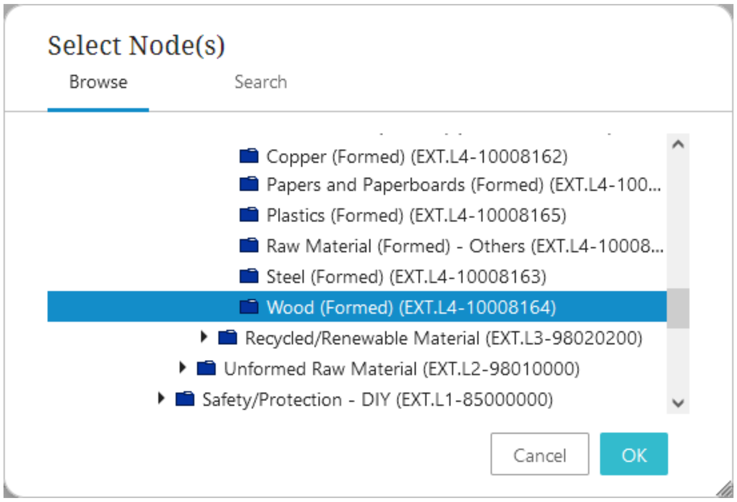
4. On the ‘Product Data Cards’ screen that displays, a list of all existing product data cards is shown. At the bottom of the screen are two buttons related to creating data cards: ‘Create product data card’ and ‘Create blank data card’.



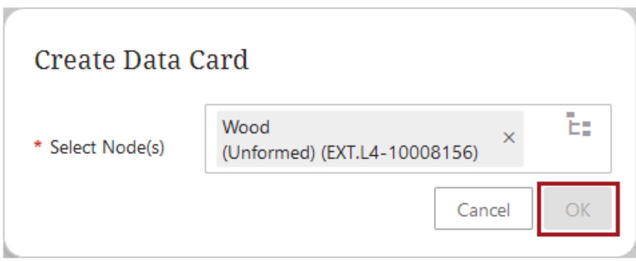
- ‘Create [product / supplier] data card’ – If the information to be assessed exists in STEP, in this case product information, click the ‘Create product data card’ button. It should be noted that the ‘Create [product / supplier] data card’ button will only display if the data card is created in either the ‘Product Data Cards’ or ‘Supplier Data Cards’ groups. When the button is clicked, a ‘Create Data Card’ dialog displays. Click the node picker button inside the field.



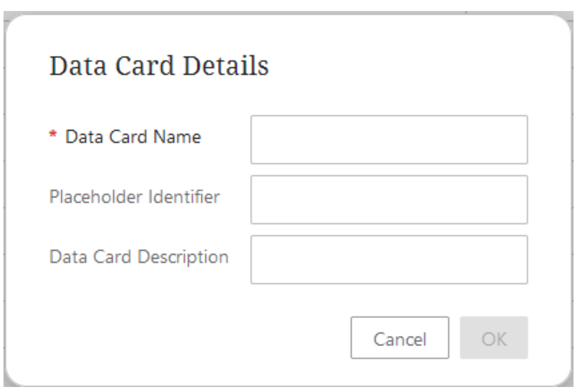
In the node picker dialog that displays (called ‘Select Node(s)’), browse the hierarchy or search for the object to be linked to the data card, and then click ‘OK’.



On the ‘Create Data Card’ dialog, if the correct object is showing in the ‘Select Node(s)’ field, click ‘OK’.



- **‘Create blank data card’** – If there is no existing product- or supplier-related system data that can be used to populate a data card, click the ‘Create blank data card’ button. A ‘Data Card Details’ dialog displays three parameters, one of which is mandatory.



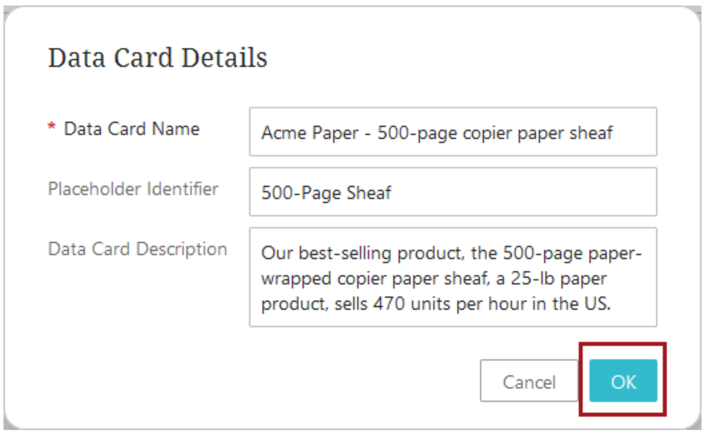
Populate the fields with the requested information.

Data Card Name (mandatory) – When exporting data cards from a workflow task list screen, the data card names are included in the export while the IDs are not. Therefore, when creating a blank data card, users must enter content in the name field. If eventually the name value must be different, users can return to the data card later to revise the name.

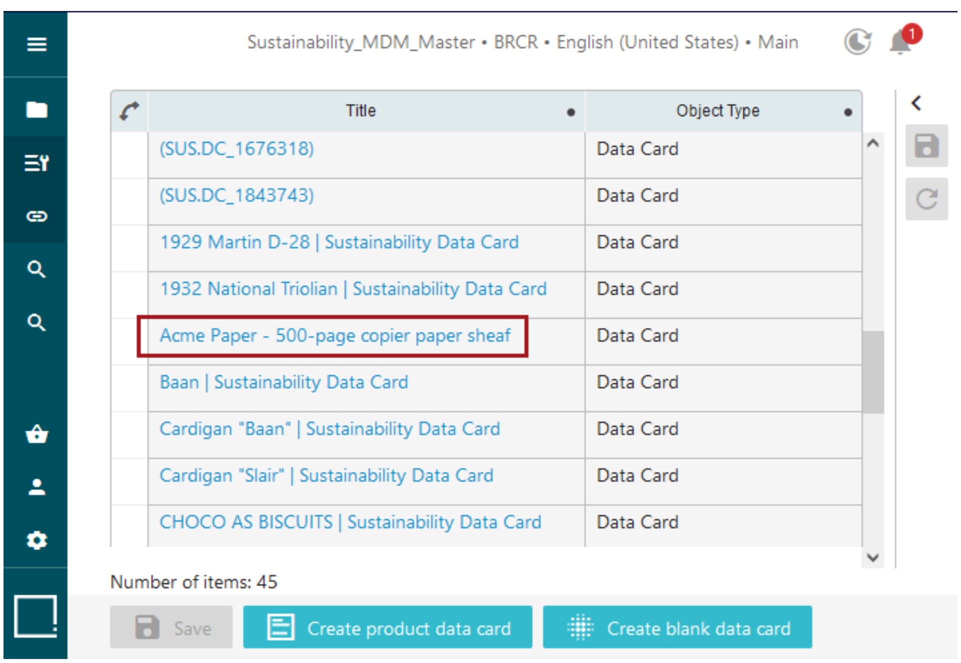
Placeholder Identifier (optional) – If creating a data card for an object that is not in the linked PIM system but will be, assign a name to the data card that is associated with the soon-to-be accessible object here.

Data Card Description (optional) – Text that briefly describes what objects are linked to the data card and / or details of related sustainability data.

With the requested data added, click 'OK'.



5. Whether creating a product (or other type of) data card or a blank data card, the newly created data card will display in the list of data cards specific to the data card family selected in step three (3).



6. To enrich the data card and link assessments (and their criteria) to it, click on the relevant data card to open it. The data card details page displays three tabs of information: ‘Basic Information’, ‘Compliance’, and ‘Data Card Profile’.

   ‘Basic Information’ tab

   This tab contains informational fields that can be filled out or that allow users to select values.

   Name – the name of the data card. The name assigned to the data card should reflect the object being assessed. In this example, it is Acme Paper’s paper product.

   > **Data Card Description** – a description of the data card. Allows for up to 300 characters.
   >
   > **Placeholder Identifier** – if there is no connection to a PIM system that will automatically provide an identifier, users can add a placeholder identifier here.
   >
   > **Performed Assessments** – will display the number of assessments linked to the data card. When building a data card for the first time, this parameter will display no information.
   >
   > **Pass Rate** – will display a percentage of the number of passed assessments out of the total number of linked assessments.
   >
   > **Origin** – if applicable, users can click the ‘Plus” button (‘+’) to select a country of origin for the object associated with the data card that will be assessed.
   >
   > **Multi Domain Reference** – connects the data card to other related data cards in the system.

   ‘Compliance’ tab

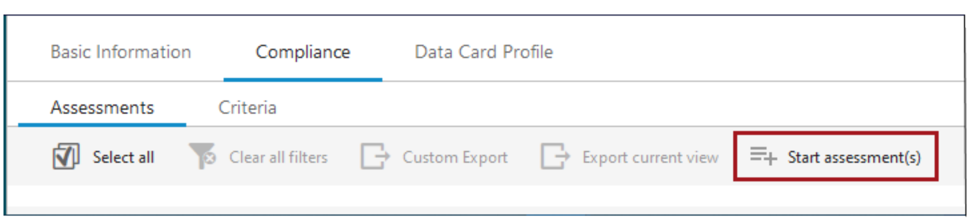
   This tab enables users to link assessments and displays all linked assessments and criteria. Sub-tabs are available on the ‘Compliance’ tab that enable users to initiate evaluations of data cards.

   ‘Data Card Profile’ tab

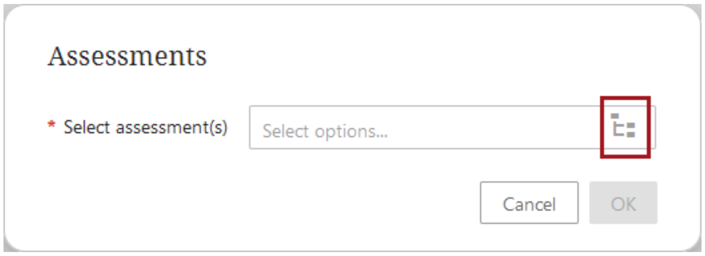
   This tab shows a visual representation of the data card and any other data cards, referenced assessments, and referenced products, suppliers, and / or locations connected to it.

7. On the ‘Basic Information’ tab, fill out as much information in the available fields as required to appropriately enrich the data card.

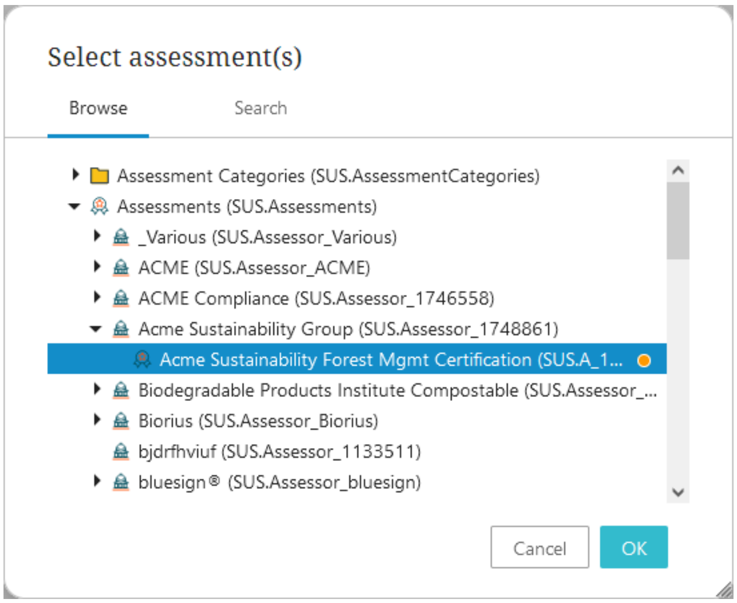
8. On the ‘Compliance’ tab, click the ‘Start assessment(s)’ button from the toolbar.



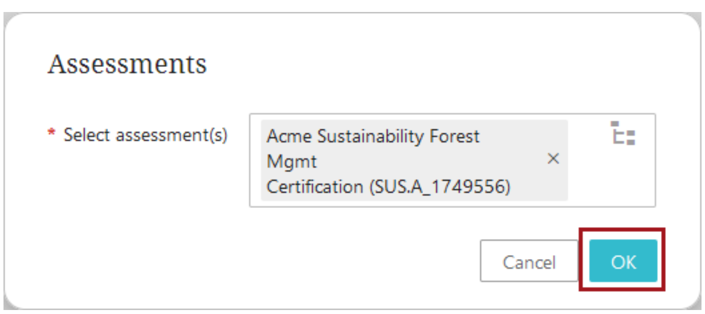
9. On the ‘Assessments’ dialog that displays, click the Node Picker button that displays at the right inside the field.



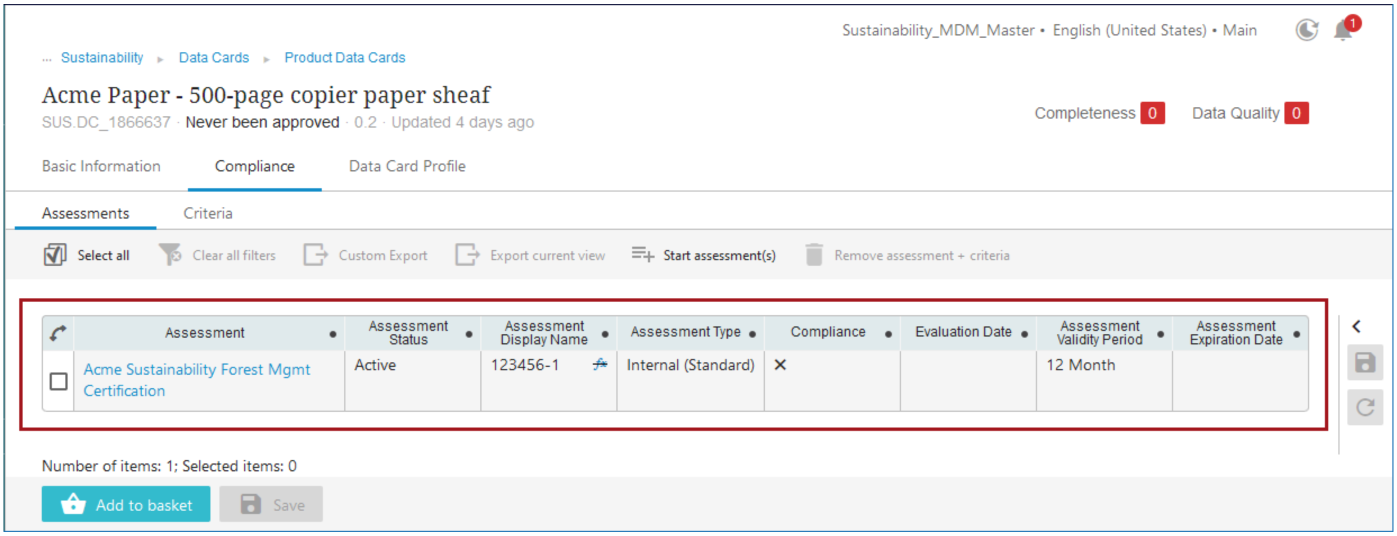
10. In the ‘Select assessment(s)’ dialog that displays, navigate to the assessment (or assessment category) to be linked to the data card. In this example, the ‘Acme Sustainability Forest Mgmt Certification’ assessment is selected. Click ‘OK’. It should be noted that if an assessment category is selected here, then all assessments within the assessment category are linked to the data card, but the assessment category itself is not.



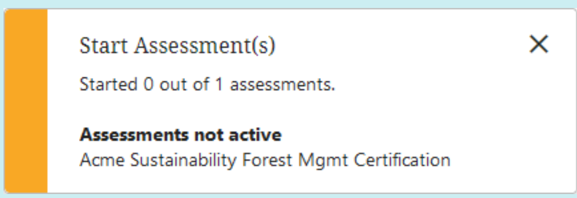
11. The ‘Assessments’ dialog displays again, showing the selected assessment in the ‘Select Assessment(s)’ field. Click ‘OK’ to link the selected assessment to the data card.



12. The linked assessment displays. Additionally, all criteria linked to the assessment are now also linked to the data card.



13. If more assessments or assessment categories must be linked, repeat steps 8 through 11.

> **Note:** If the assessment being linked has not moved through the 'Assessment Management' workflow, it will be in 'inactive' status and cannot be linked to a data card. If this is the case, the system will display this error, or one like it:
>
> 
>
>
> To successfully link the inactive assessment to the data card, be sure to progress the assessment through the final validation stage of the workflow.

Sufficiency and Data Quality

Data cards feature the data quality and sufficiency functionality included with STEP. These metrics, displayed in the upper right-hand corner of the data card, allow users to view whether the data card is properly enriched and if linked assessments have been passed.

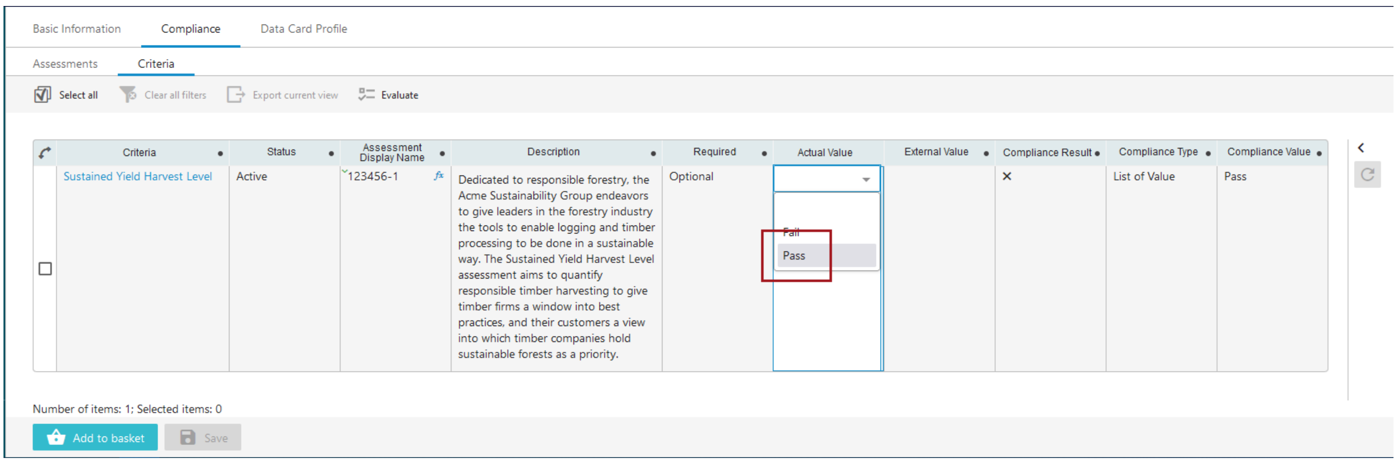
For more information on sufficiencies and data quality, refer to the Sufficiency Scores for Product Data Quality and Completeness topic in the Data Governance documentation.

Evaluating Data Cards

When all required assessments have been linked, users can evaluate the data cards. This means that the assessments linked to the data card will be validated by means of the criteria contained within the assessment.

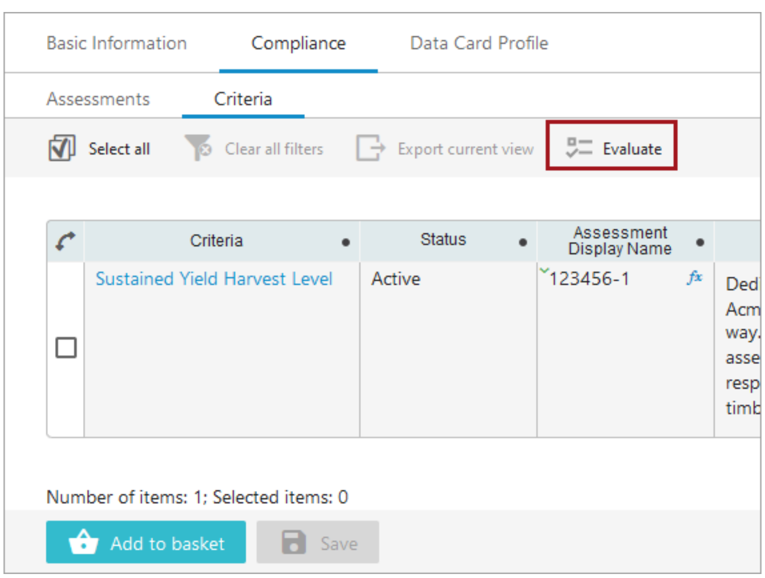
To evaluate the data card, follow the steps listed below:

1. Click the 'Criteria' tab. On this tab, all criteria linked to all of the assessments linked to the data card will display in the table. In this step, the ESG Compliance Officer will review all criteria and assign values to each where appropriate. In this example, the 'Sustained Yield Harvest Level' criterion is assigned a 'Pass' value by the ESG Compliance Officer.



> **Note:** If the 'Compliance Type' for the criterion is set to 'External' or 'Nested', users do not need to add values for 'Actual Value'.

2. With the criteria fully populated, click the 'Evaluate' button to assess whether the criteria conform to their configured requirements.



A data card's assessment's criteria, specifically those that have either 'Internal (Standard)' or 'Internal (Or-condition)' selected for the 'Assessment Type' parameter, are evaluated internally based on which 'Compliance Type' has been configured for the criteria. Below is a list of compliance types and how the evaluation algorithm will validate the criteria that make up the assessment:

- **Not Empty** – checks that a value is given to a criterion but does not validate further.
- **Min** – checks that the value given to the criterion is at least as high or higher than the value set for the 'Compliance Value' parameter.
- **Max** – checks that the value given to the criterion is at least as low as or lower than the value set for the 'Compliance Value' parameter.
- **Age (XX months)** – checks that the value given to the criterion is at least as low as or lower than the value set for the 'Compliance Value' parameter.
- **List of Value** – checks that the value given to the criterion is equal to the value set for the 'Compliance Value' parameter.

When a criterion's 'Compliance Type' is set to 'Nested' or 'External', the data card evaluation validates based on different factors.

- **Nested** – If an assessment is 'Nested', it cannot enter a 'Pass' state unless another assessment (or assessments) has also been passed.
- **External** – If an assessment is set to 'External,' the assessment cannot enter a 'Pass' state until an external validation requirement has been met.

If the criterion has passed its configured metric based on the values assigned to the criterion by the ESG Compliance Officer, the value for the row in the 'Compliance' header will display a checkmark. If the criterion does not pass, an 'X' will display in the row for the 'Compliance' header.

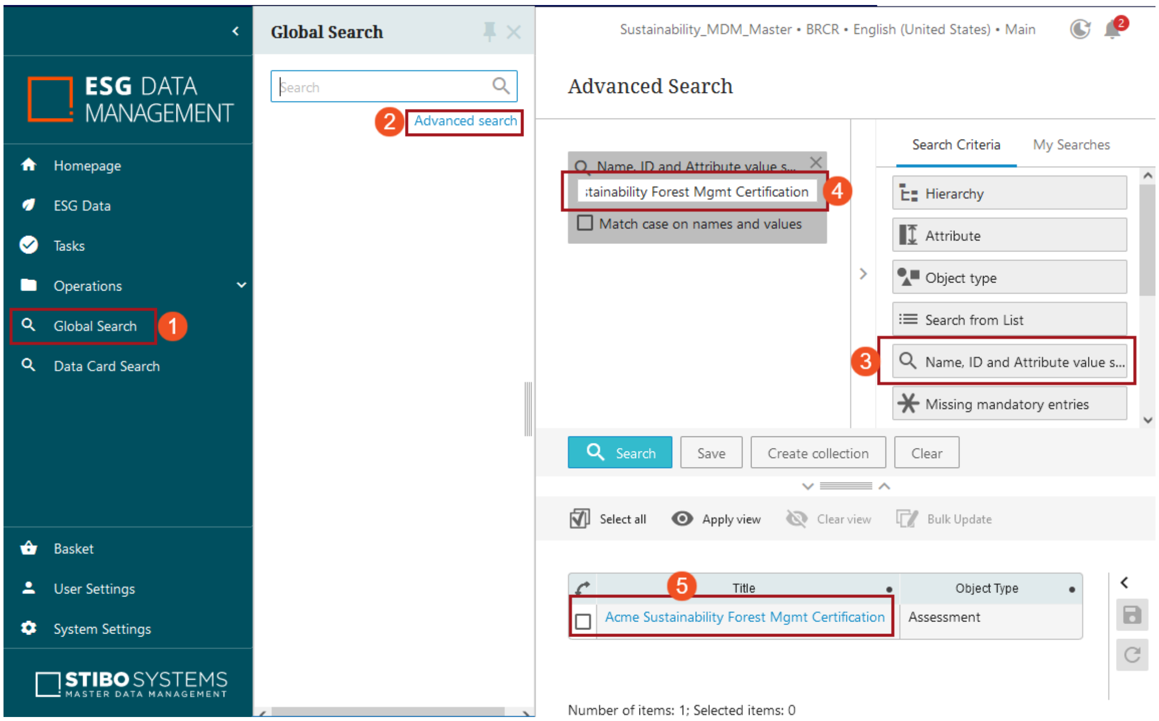
Maintenance of the ESG Data Management Solution

Throughout the life of an ESG Data Management implementation, data associated with the various compliance objects that power the ESG Data Management solution will change. For instance, certification requirements from assessors will evolve, and those updates should be reflected in the assessments and criteria housed in STEP. This section describes how users can revisit existing compliance objects for updates, additions, archiving, and deletions.

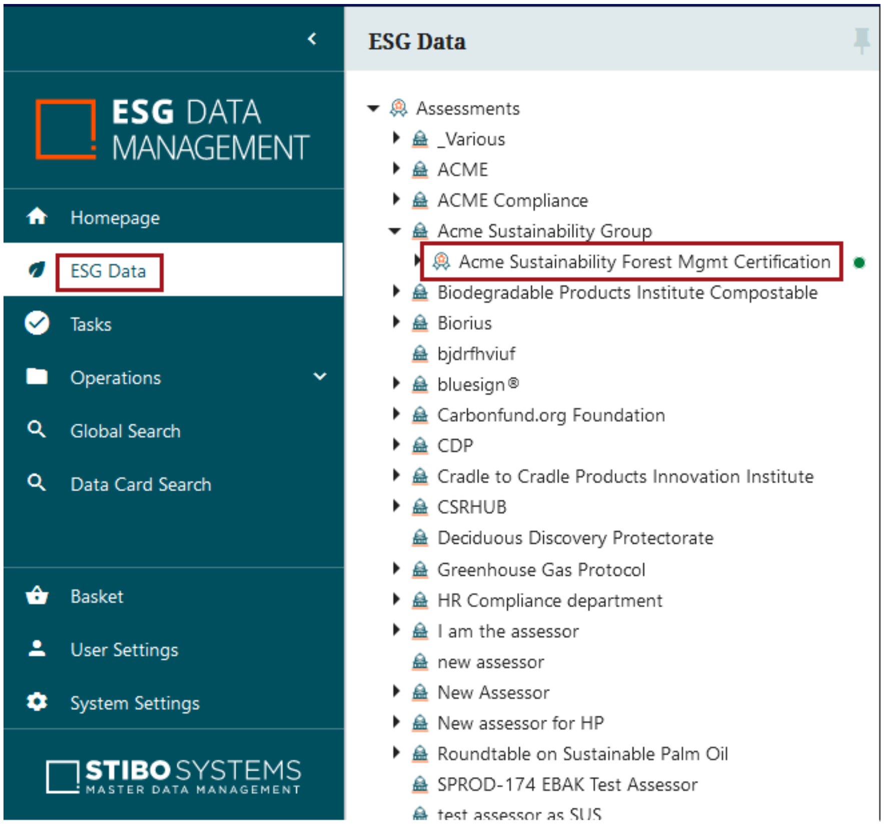
Maintaining Assessments

To begin a maintenance effort on a given assessment, users can locate the assessment through a variety of methods:

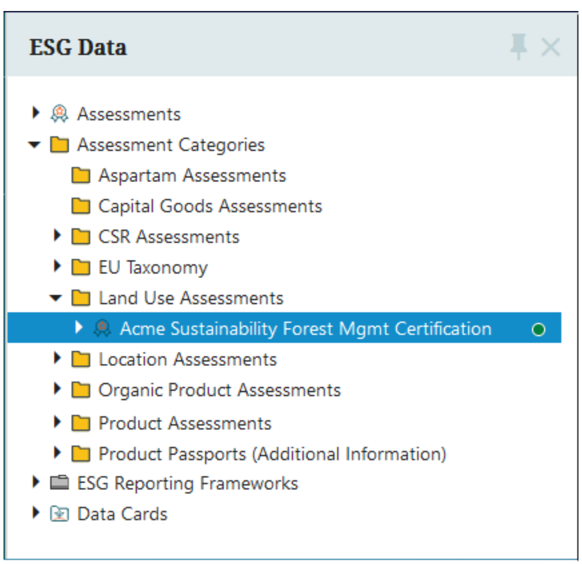
Search – Users can click 'Global Search' in the Global Navigation Panel, and then 'Advanced search' in the 'Global Search' column that displays to bring up an Advanced Search screen. By adding a 'Name, ID and Attribute value search' criterion and inputting the name of the assessment in the criterion's field, the search results will include the relevant assessment.



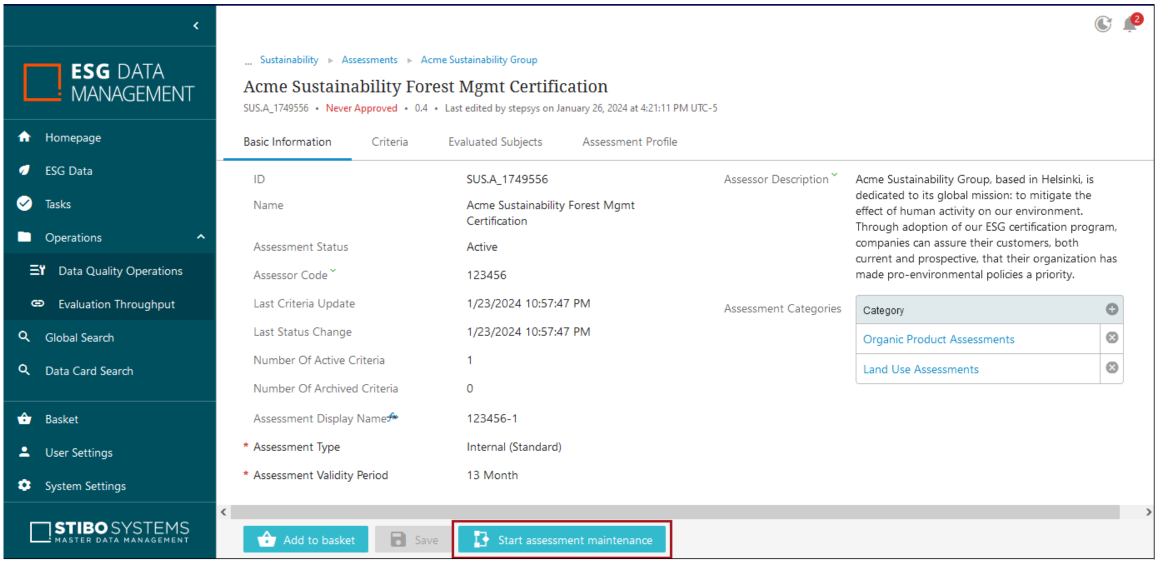
Navigate – Users can navigate to the assessment in the hierarchy to locate the relevant assessment.



Users can also organize their assessments in an ‘Assessment Categories’ to locate assessments more quickly. This can be done by editing the assessment on its assessment screen to add the assessment to the desired category or categories. Additionally, users can connect a data card to all assessments in an assessment category by linking the assessment category to a data card.



Once the assessment has been located and accessed, click the ‘Start assessment maintenance’ button located at the bottom of the screen.

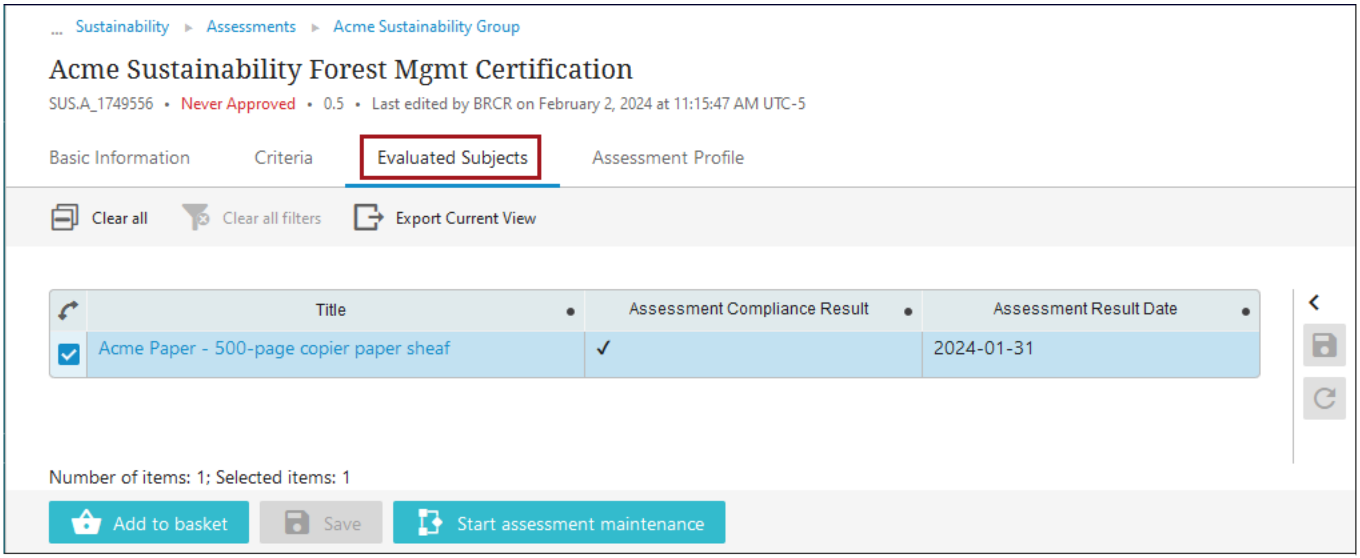


Clicking ‘Start assessment maintenance’ executes the following actions:

- Enters the assessment into the ‘Assessment Maintenance’ state of the ‘Assessment Management’ workflow.
- Sets the status of the assessment and all linked active criteria to ‘Inactive,’ which allows the user to make edits to the assessment.
- Sets the status for all criteria linked to the assessment to ‘Inactive’.
- Stays on the ‘Basic Information’ tab of the assessment screen and enables the user to edit the fields that were previously read-only.
- Sets the time stamp for the ‘Last Status Change Date’ parameter to the current time.

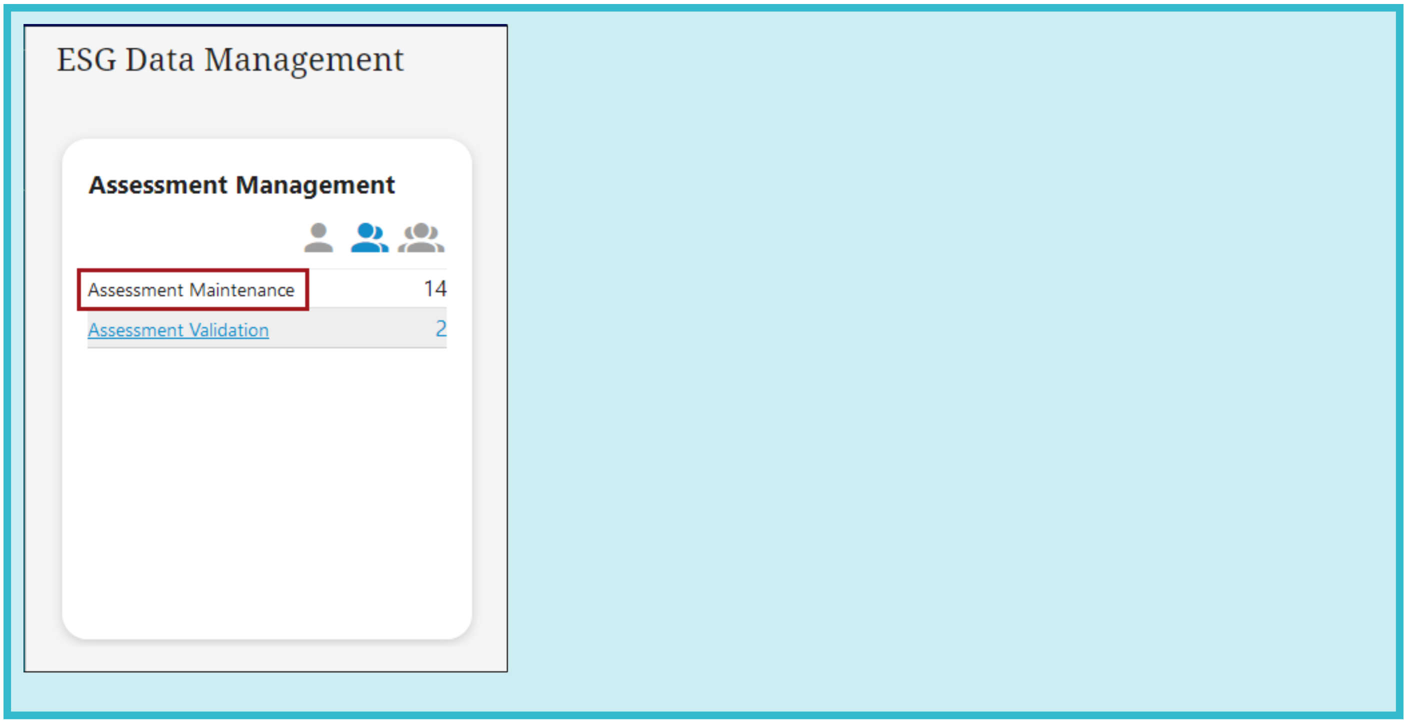
There are four tabs on each assessment. The first two tabs, ‘Basic Information’ and ‘Criteria’, were described in the ‘Creating Assessments’ topic. The third and fourth tabs, ‘Evaluated Subjects’ and ‘Assessment Profile’, are described below.

Evaluated Subjects – On this tab, data cards with a link to the assessment are listed in a tabular format.



Assessment Profile – On this tab, the relationships between the assessment and interlinked data cards and disclosures are displayed in a visual depiction of a network with the various objects displaying color-coded chips, each with a live link to the object listed within the chip. Links between data cards and assessments are established when linking an assessment to a data card. The relation between an assessment and a disclosure is established from the disclosure.

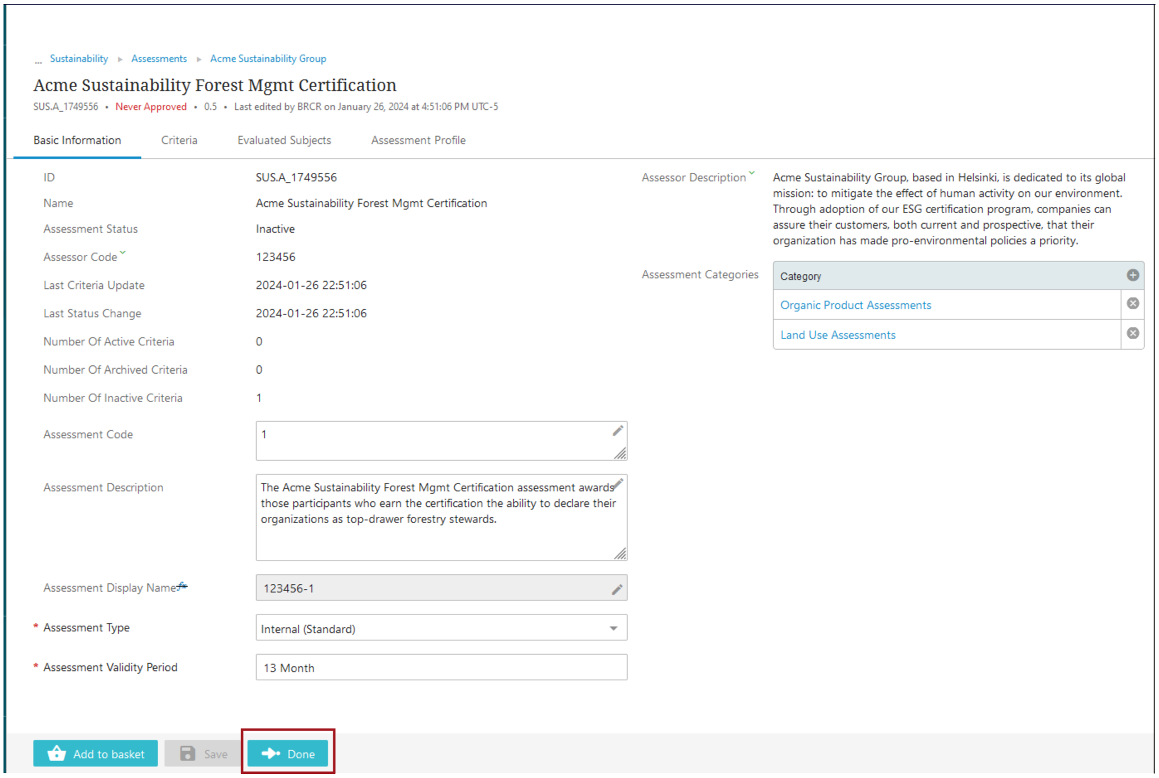
Note: At this stage, any maintenance work done on the assessment until it has been validated should be done by accessing the assessment through the Status Selector widget on the homepage.



Accessing the assessment through the homepage Status Selector widget is required so the submit buttons (Done, Validated, Rework) used to transition the assessment to the next workflow state, are available to the user.

When all needed updates to the assessment have been completed:

- Click ‘Save.’
- Click ‘Done.’



Clicking ‘Done’ sends the assessment into the ‘Assessment Validation’ state of the ‘Assessment Management’ workflow.

Additionally, when the user clicks the ‘Done’ button, several checks are run on the assessments and the criteria linked to the assessments. Listed below are examples of the automated checks being performed as part of the validation:

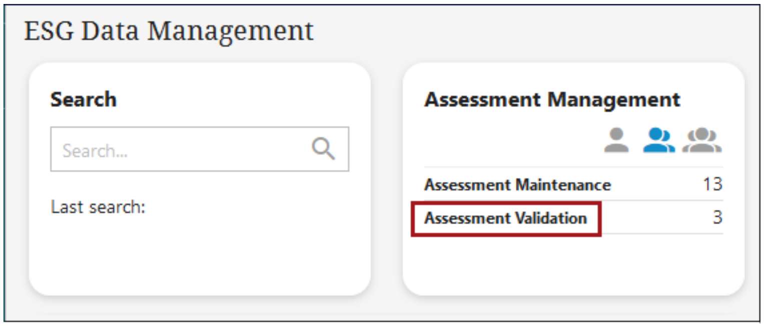
- Linked criteria are checked for missing mandatory information
- Assessments are checked for at least one criterion which has not been archived
- Nested assessments are checked to ensure they have at least one criterion pointed to a nested assessment
- External assessments are checked to ensure it has at least one criterion designated as ‘External’

If errors are found, the UI will display an error notification to the user and the assessment will stay in Assessment Maintenance.

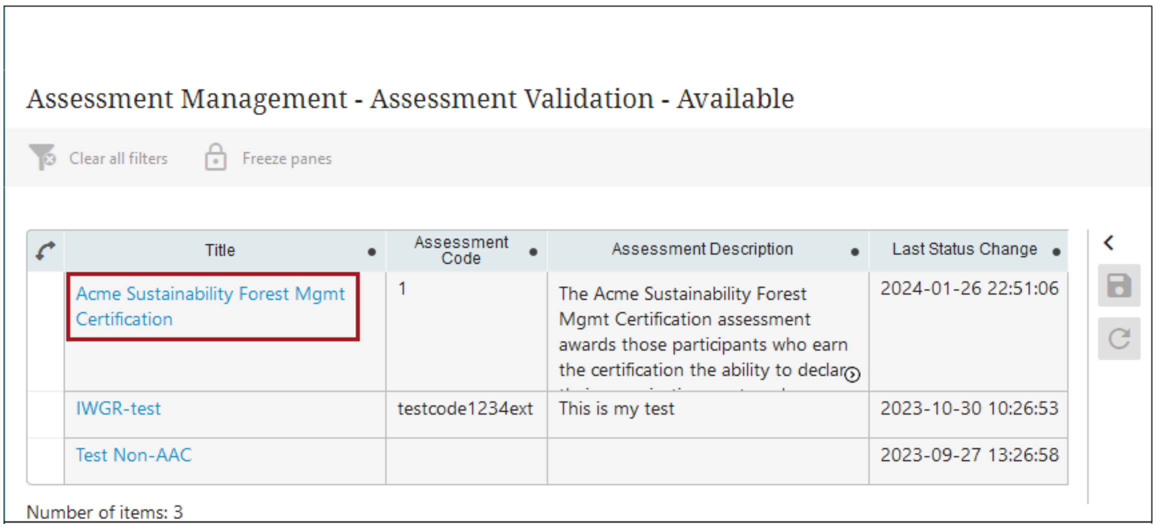
Assessment Validation

The ‘Assessment Validation’ state of the ‘Assessment Management’ workflow is where the ESG Compliance Officer user can either approve the assessment by marking it as validated or return the assessment into the ‘Assessment Maintenance’ state to be reworked.

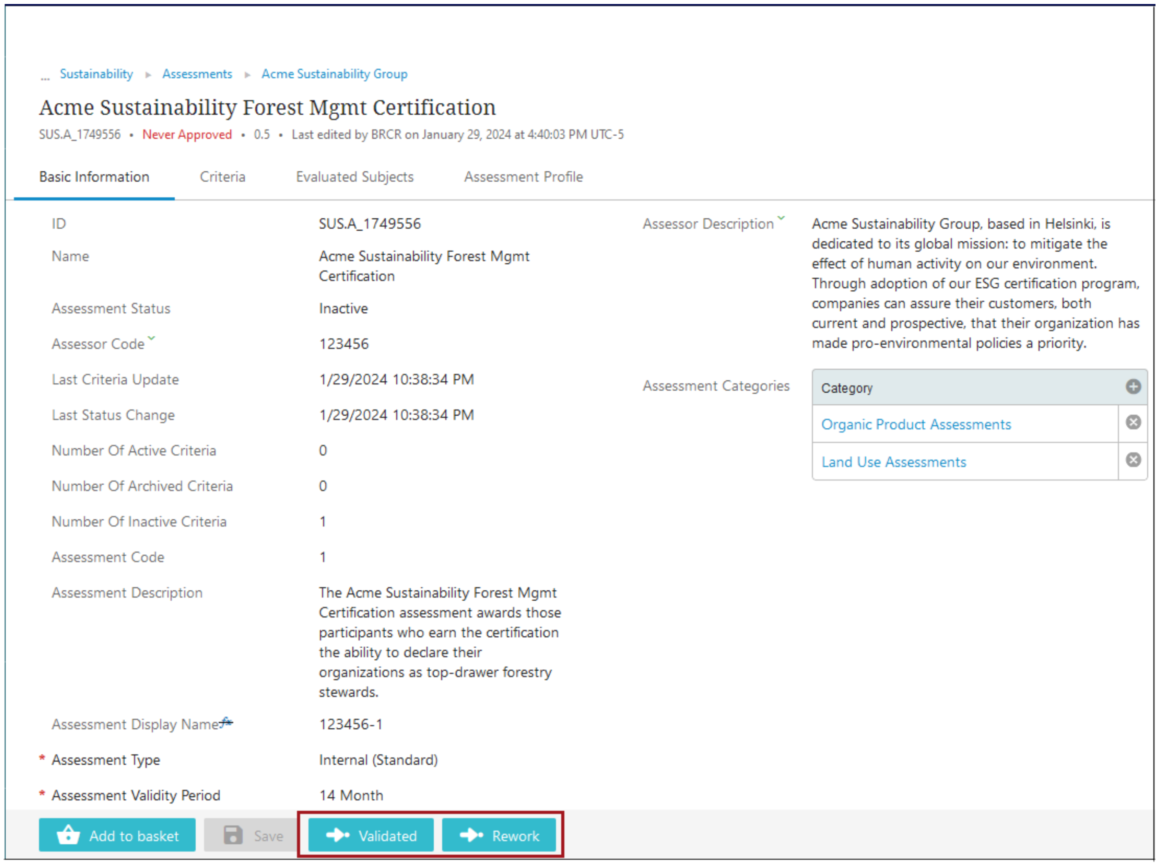
To open the assessment, first navigate to the homepage, and then click on the ‘Assessment Validation’ state in the ‘Assessment Management’ workflow status selector widget.



Click the title of the assessment to be validated.



On the assessment's screen, the ESG Compliance Officer user reviews the assessment and can click either the 'Validated' or 'Rework' buttons.



- 'Validated' – Clicking this button performs a validation on the assessment to ensure it fulfills the linked criteria's requirements.
- 'Rework' – Clicking this button sends the assessment back to the 'Assessment Maintenance' state of the 'Assessment Management' workflow so that additional changes can be made.

If the assessment is accepted, the following actions are performed automatically:

- The status of the assessment and all inactive criteria are changed to "Active" status
- The 'Last Status Change Date' timestamp is updated for the assessment
- The 'Last Criteria Update' timestamp is updated for the assessment
- Assessment statistics are generated
- All data cards linked to the assessment are re-evaluated. In other words, the 'Compliance' value, criteria changes, and completeness and data quality metrics are recalculated. The re-evaluation is handled by an event processor to avoid performance issues. If the number of linked data cards is high, the event processor may need additional time to recalculate the metrics for all objects, hence the metrics value change may not be instantaneous. Re-evaluation events are generated on all data cards that use the validated assessment.

When the re-evaluation event is processed, the 'Compliance' value on the assessment references and the 'Compliance Result' on criteria references are re-evaluated for the activated assessments / criteria.

Maintaining Criteria

As assessments change, so do the various metrics the assessments measure against. These changes require users to make updates to ensure assessments are evaluating the right information. The steps to reopen and make amendments to criteria are listed and described below.

Editing Criteria

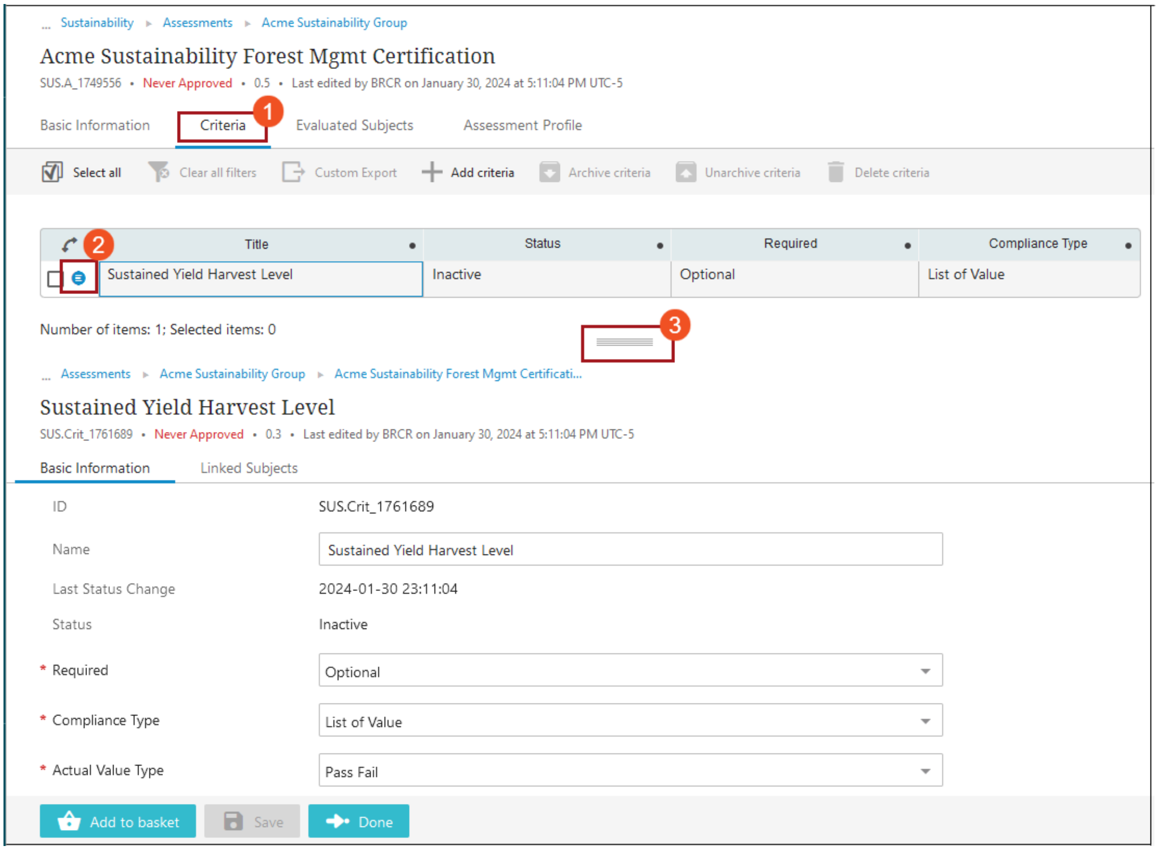
To edit a criterion, enter the assessment to which it is linked into the 'Assessment Management' workflow. Review the steps to move an assessment into the workflow in the Creating Criteria topic in this documentation.

When an assessment is moved into the 'Assessment Management' workflow, three actions are performed automatically:

- The assessment is entered into the 'Assessment Maintenance' state of the 'Assessment Management' workflow
- The status of the assessment changes from 'Active' to 'Inactive'
- The status of the active criteria linked to the assessment changes from 'Active' to 'Inactive'

With these steps completed, the criteria can then be updated.

Users can find the criteria by clicking the 'Criteria' tab (1) on the relevant assessment, and then its various data fields by clicking the details button beside the checkbox (2) in the very first cell of the table. Click and drag the drag handle (3) to bring the details page into view.

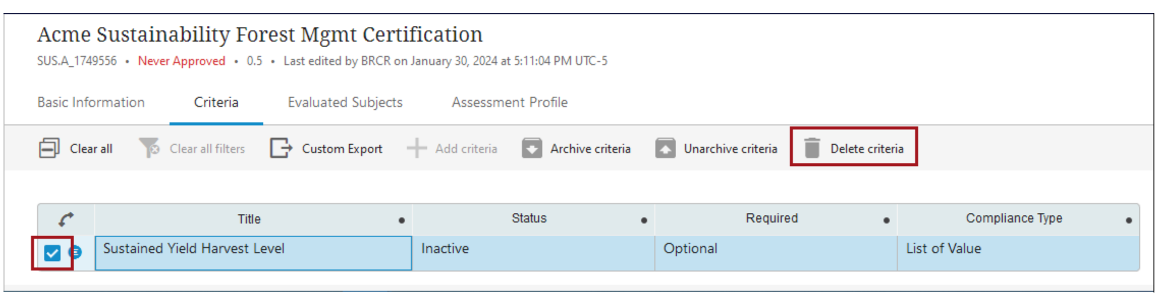


Deleting, Archiving, and Unarchiving Criteria

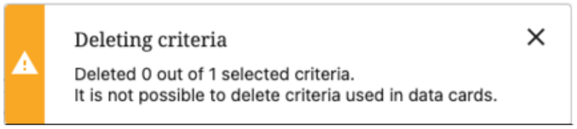
Provided the assessment to which the relevant criteria are linked is in the ‘Assessment Maintenance’ state of the ‘Assessment Management’ workflow, users can delete, archive, and unarchive criteria as best meets their requirements.

Delete

To delete criteria, click the checkbox for the criterion to be deleted, then click the ‘Delete criteria’ button.



If criteria are being used in an active data card, a warning notification will display letting the user know why the attempted deletion did not happen.

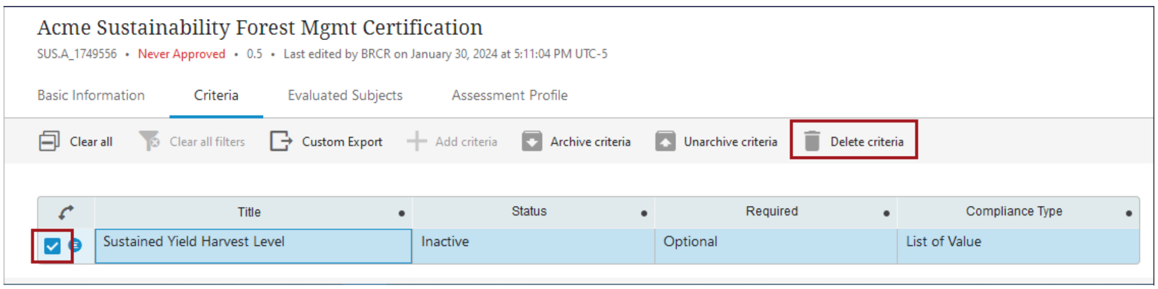


If the criteria must be deleted, first unlink the criteria-linked assessment from its data card, then delete.

Archive

If criteria should no longer be part of an assessment's evaluation but should be retained, those criteria can be archived. Archiving criteria retains the values stored for the criteria on data cards while the criteria results are ignored during assessment evaluations.

To archive criteria, first click the checkbox for the criteria to be archived, then click the 'Archive criteria' button.



Note: Only inactive criteria may be archived.

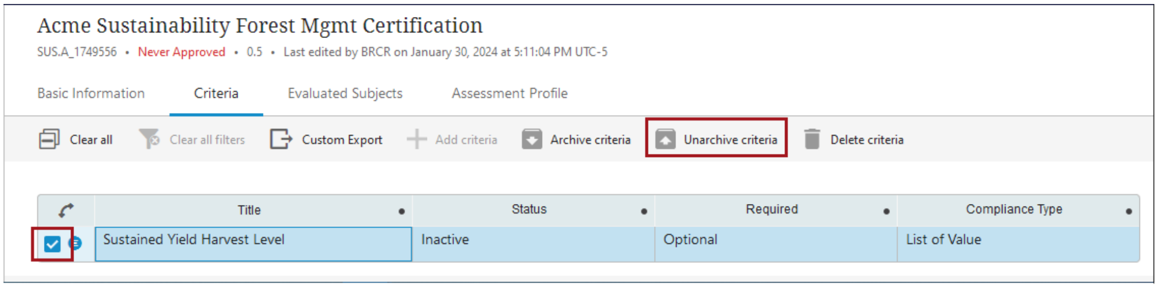
Archiving criteria prompts the system to perform the four following tasks automatically:

- Changes the status of the criteria from 'Inactive' to 'Archived'
- The 'Last Status Change Date' timestamp is updated for the criteria
- The 'Last Criteria Update' timestamp is updated for the criteria

Unarchive

If criteria were previously archived but should now be included in the evaluation of the assessments once more, the criteria can be brought out of 'Archived' status, or 'unarchived.' Unarchiving criteria prompts the system to include the criteria during assessment evaluations.

To unarchive criteria, first click the checkbox for the criteria to be unarchived, then click the 'Unarchive criteria' button.



- Changes the status of the criteria from 'Archived' to 'Inactive'
- The 'Last Status Change Date' timestamp is updated for the criteria
- The 'Last Criteria Update' timestamp is updated for the criteria

The unarchived criteria will be considered as part of an assessment once the assessment is moved from the ‘Assessment Maintenance’ state to the ‘Assessment Validation’ state in the ‘Assessment Management’ workflow.

Maintaining Data Cards

A data card may be changed for several reasons. As examples, a user may amend a data card to:

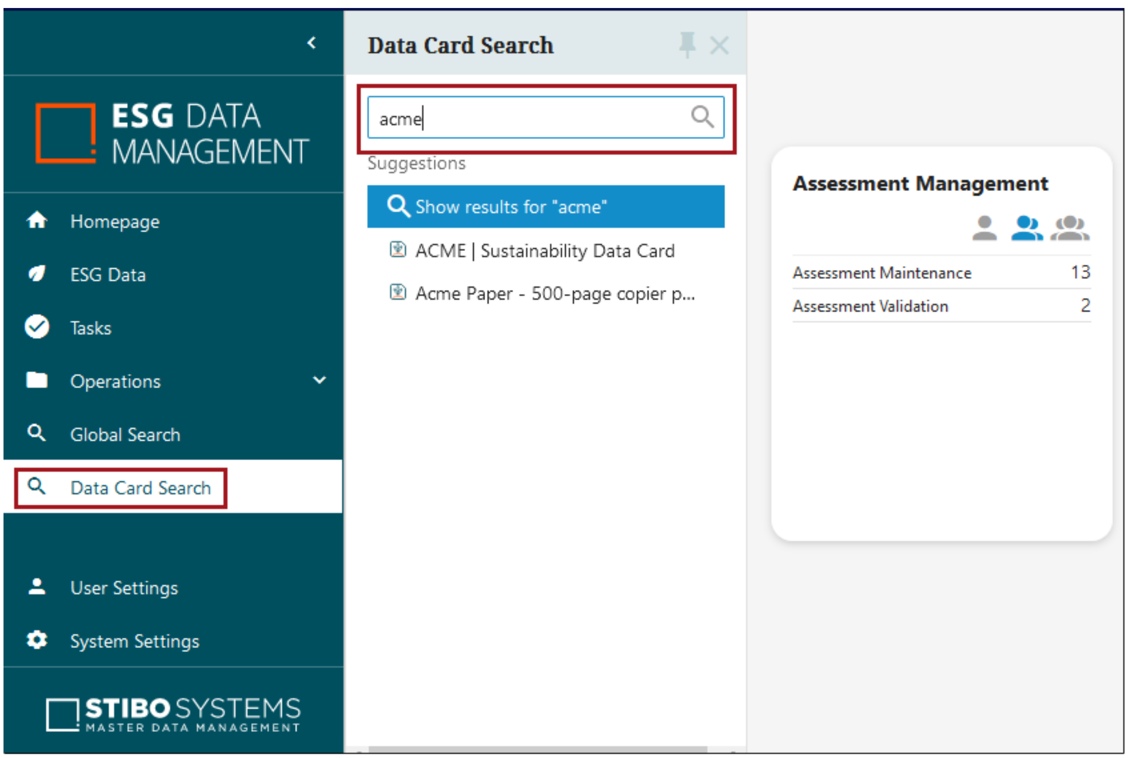
- add new objects to the data card
- add new assessments to the data card
- remove existing assessments from the data card

The updates listed above trigger the data completeness and quality metrics recalculation.

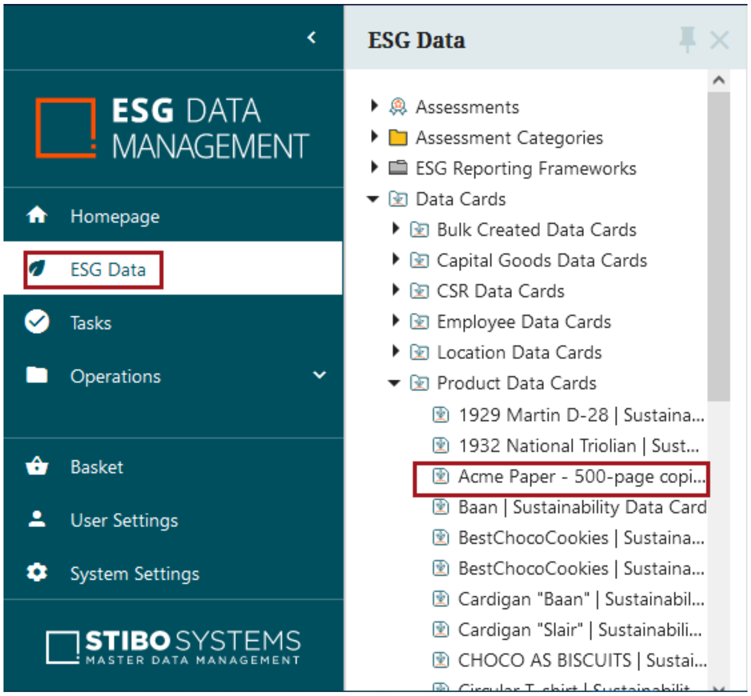
There are other, more minor changes that can be made on a data card which do not require the re-evaluation (for example, name or description modification).

To begin a maintenance effort on a data card, users can locate the data card through one of two methods:

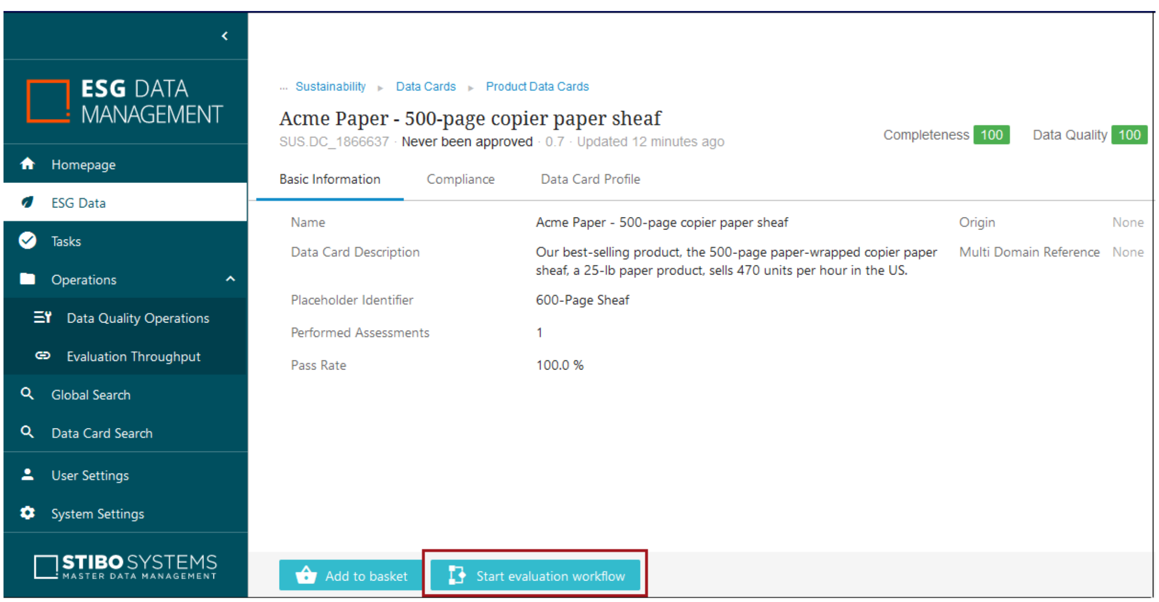
- **Search** – Users can click 'Data Card Search' in the Global Navigation Panel, and then add a search term into the search field. As characters are added, the typeahead functionality displays results that conform to the typed search term.



- Navigate – Users can navigate to the data card in the hierarchy.



Once the data card has been located and accessed, click the 'Start evaluation workflow' button located at the bottom of the screen.



Clicking 'Start evaluation workflow' executes the following actions:

- Enters the data card into the ‘Evaluation’ state of the ‘Data Card Evaluation’ workflow.
- Stays on the ‘Basic Information’ tab of the data card screen and enables the user to edit the fields that were previously read-only.

> **Note:** At this stage, any maintenance work done on the data card prior to being validated should be done by accessing the data card through the Status Selector widget on the homepage, or by clicking ‘Tasks’ in the Global Navigation Panel and then clicking the relevant workflow and workflow state. Accessing the data card through the homepage Status Selector widget is required so that the submit buttons—Done, Validated, Rework—used to transition the data card to the next workflow state are available to the user.

Data card maintenance options

When the data card is in the ‘Evaluation’ state of the ‘Data Card Evaluation’ workflow, users can take several actions, some of which are only available while the data card is in the workflow. Below is a description of those actions organized by the available tabs.

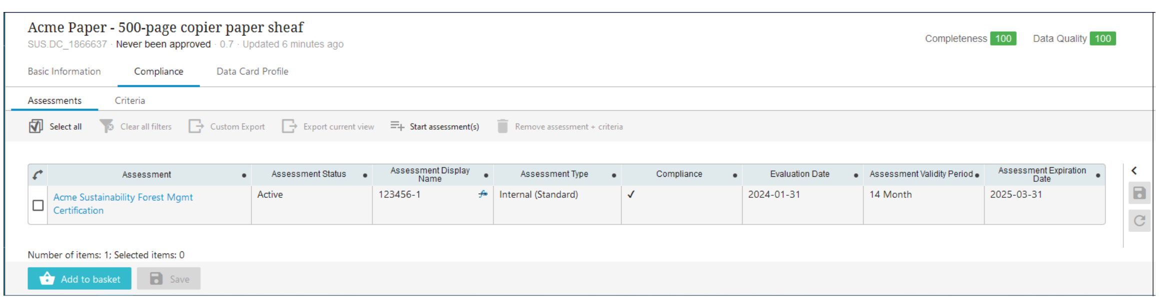
Basic information tab options

On this tab, users can amend and otherwise enrich the ‘Name,’ ‘Data Card Description,’ and ‘Placeholder Identifier’ fields, or set the country of origin for the data card or link additional data cards to the data card by clicking the ‘+’ for the ‘Multi Domain Reference’ parameter and selecting a data card from the node picker dialog that displays.

Compliance tab options

The ‘Compliance’ tab features two sub-tabs: 'Assessments' and 'Criteria.'

On the ‘Assessments’ sub-tab, the linked assessments are displayed.

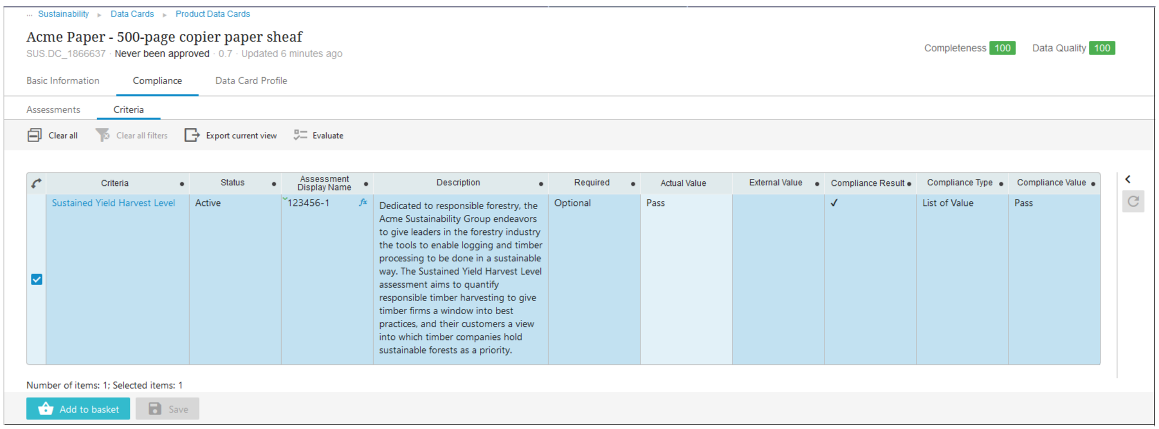


In the toolbar, several actions are displayed:

- **Clear all** – Clears all selections in the table.
- **Clear all filters** – Removes any applied filters to display all linked assessments.

- **Custom Export** – Allows users to configure an export of the criteria to a spreadsheet. For more information on the Custom Export functionality, refer to the Custom Export Action topic in the Web User Interfaces documentation.
- **Export current view** – Initiates an export of all selected records as they are currently being viewed in the table.
- **Start assessment(s)** – Allows users to link one or more assessments to the data card.
- **Remove assessment + criteria** – After selecting assessments to be removed, click this button to unlink the assessment and all its linked criteria from the data card. This also deletes all maintained values set for the 'Actual Value' header on the criteria.

On the 'Criteria' sub-tab is where the ESG Compliance Officer or other relevant users can assign the appropriate value to the 'Actual Value' header for all linked criteria.



The actions available in the toolbar are:

- **Select all** – Selects all listed criteria.
- **Clear all filters** – Any filters applied to the table are cleared to show all linked criteria.
- **Export current view** – Active when one or more criteria are selected, this action exports all displayed information in the table to a spreadsheet. For more information on exporting content in the Web UI, refer to the Export Current View Action topic in the Web User Interfaces documentation.
- **Evaluate** – Initiates the evaluation process to validate the pass / fail status of the criterion.

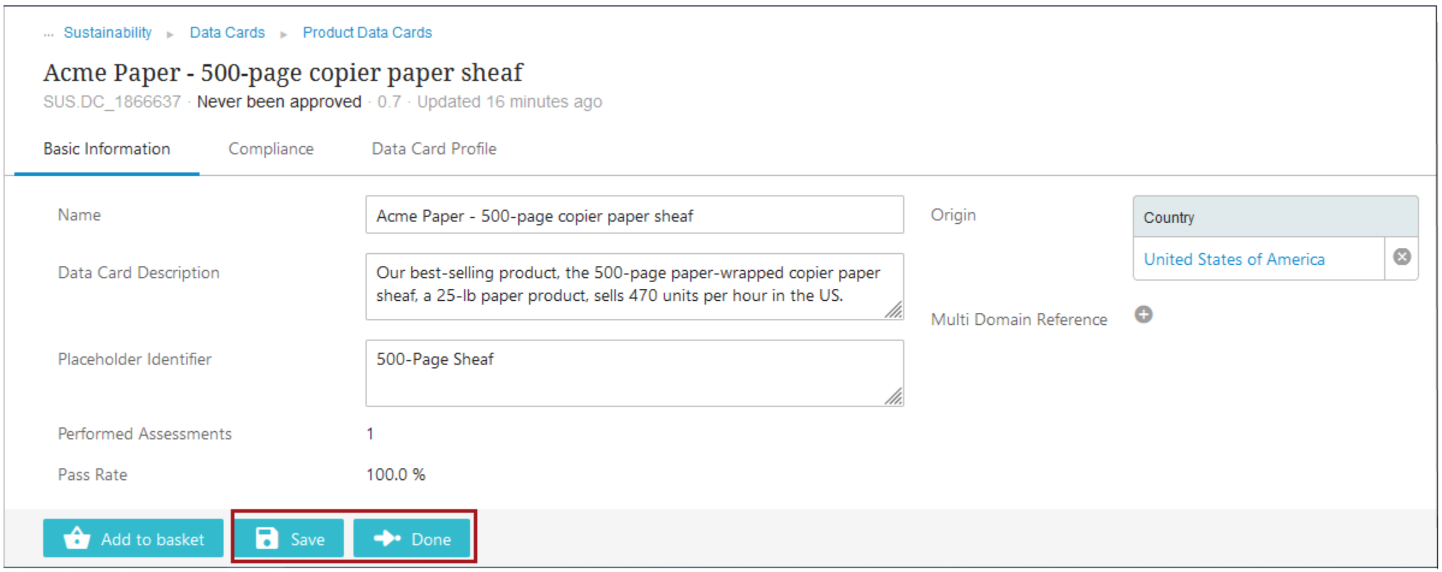
The 'Data Card Profile' tab displays the relationships between the data card and various compliance objects like data cards, assessments, criteria, geo-locations, suppliers, and products. These connections are displayed visually as a network with the various objects displayed as color-coded chips, each with a live link to the object listed within the chip. The links shown in this diagram are created in the following ways:

- **Assessment links** – established by assigning an assessment
- **Criteria links** – established through linking an assessment with the linked criteria

- **Data card links** – established through the 'Multi Domain Reference'
- **Geo-location links** – established through 'Origin'
- **Supplier / Product links** – established by creating a data card with connections to suppliers and / or products

When all needed updates to the data card have been completed:

- Click 'Save'
- Click 'Done'

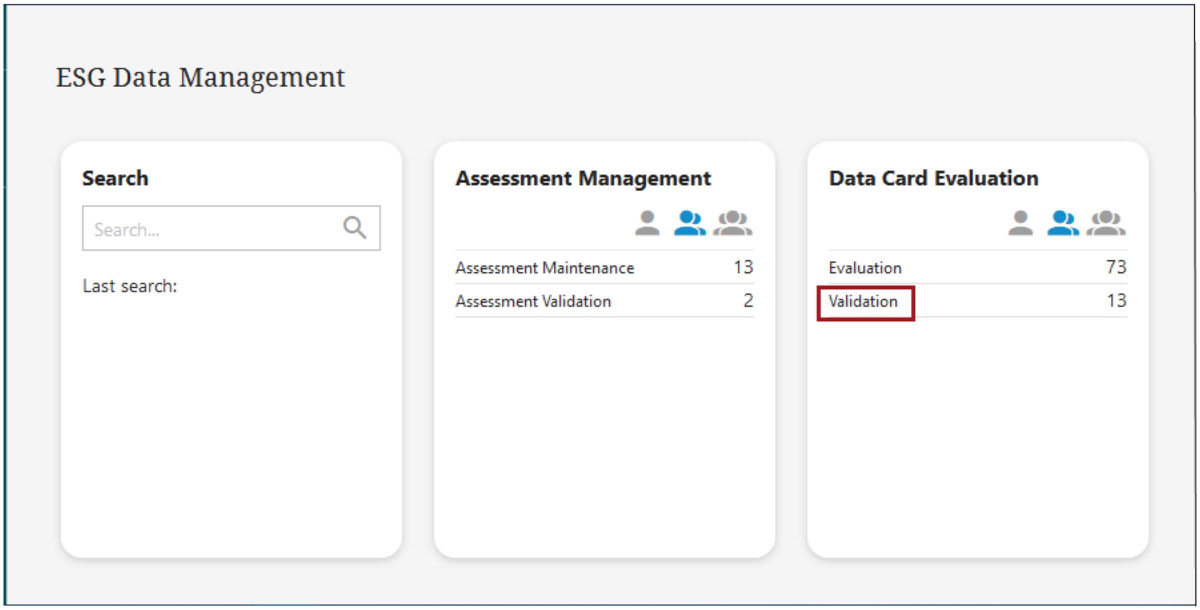


Clicking 'Done' sends the data card into the 'Validation' state of the 'Data Card Evaluation' workflow.

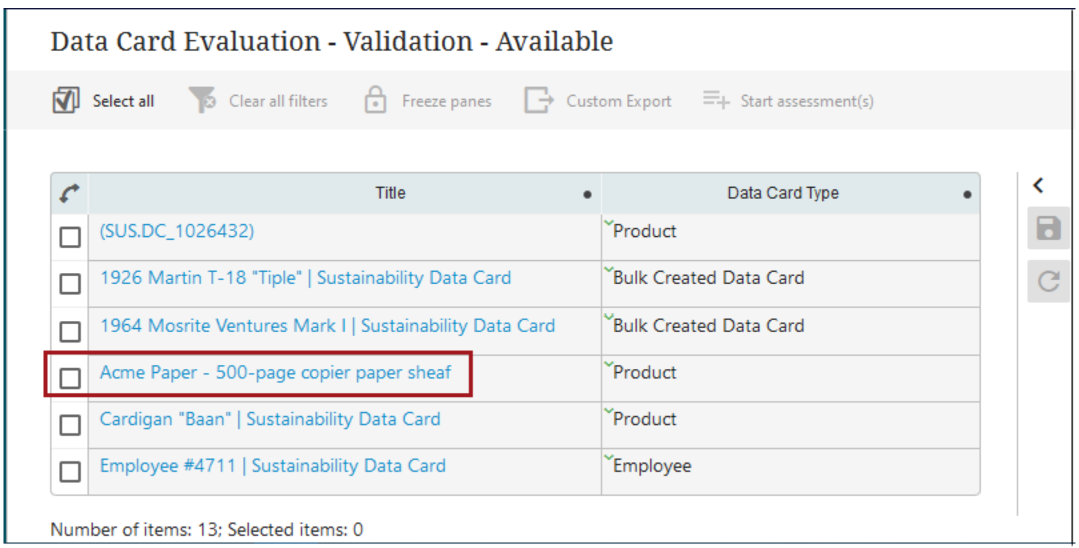
Data Card Validation

When the data card is sent into the 'Validation' state of the 'Data Card Evaluation' workflow, several automated validation steps are taken. In the 'Validation' state, the ESG Compliance Officer user can either approve the data card by marking it as validated or return the data card to the 'Evaluation' state to be reworked.

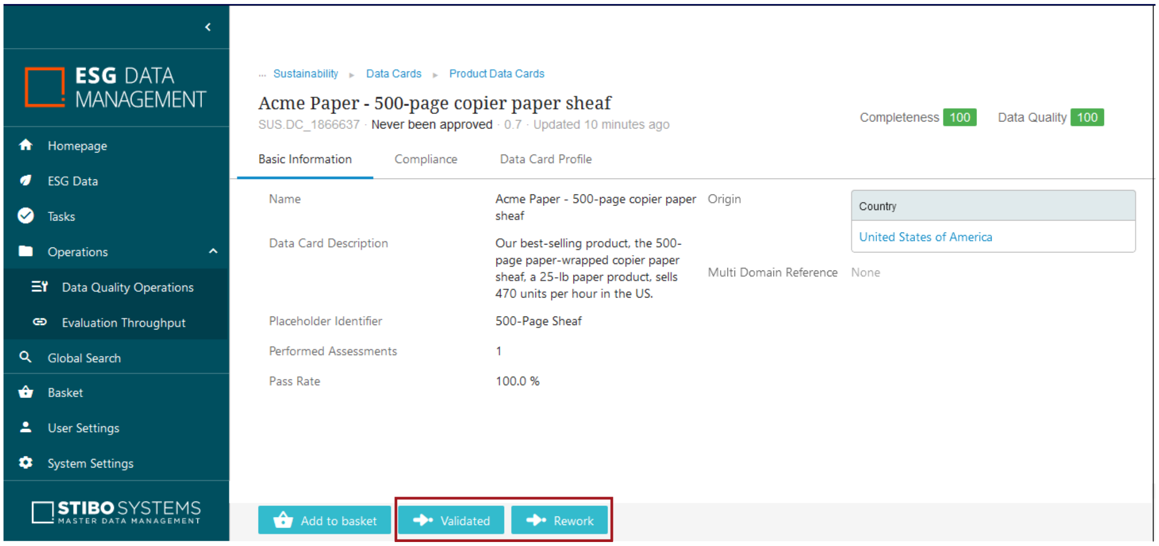
To access the data card, first navigate to the homepage, and then click on the 'Validation' state in the 'Data Card Evaluation' workflow status selector widget.



Click the title of the data card to be evaluated.



On the ‘Data Card’ screen, the ESG Compliance Officer reviews the data card following its updates and can click either the ‘Validated’ or ‘Rework’ buttons.



- **Validated** – Clicking this button validates that the ESG Compliance Officer has reviewed the data card and has determined that the data card's information and the assessments and data cards linked to it are accurate. This removes it from the workflow.
- **Rework** – Clicking this button sends the data card back to the 'Evaluation' state of the 'Data Card Evaluation' workflow so additional changes can be made.

When the user clicks the 'Validated' button, the ESG Data Management solution enables the ESG Sustainability Officer to set a time stamp on the data card as to when it was validated.