Ecological-Project

## Contributors

|  |  |
| --- | --- |
| Name | Organization |
| Debbie Reed | ESMC |
| Cameron Prell | XPansiv |
| Marley Gray | Microsoft |
| Doug Miller | Energy Web Foundation |
| Michelle Lancaster | Microsoft |
| John Lee | Accenture |
| Robert Greenfield | Emerging Impact Group |
| Conor Svensson | Web3 Labs |
| Martin Wainstein | Open Earth Foundation |
| Meerim Ruslanova | Energy Web Foundation |
| Ken Anderson | Hedera Hashgraph |
| Wes Geisenberger | Hedera Hashgraph |

### Taxonomy Formula: [tN{d,t,b}+phEPI+phMBPr]

# Token Specification Summary

## Token Classification

|  |  |  |
| --- | --- | --- |
| Template Type: | SingleToken | This token has no sub or child tokens. |
| Token Type: | NonFungible | This token is not interchangeable with other tokens of the same type as they have different values. |
| Token Unit: | Fractional | This token can be sub-divided or split into smaller units or parts based on a certain number of decimal places. |
| Value Type: | Intrinsic | This token is purely a digital token represents value directly, it represents no external physical form and cannot be a receipt or title for a material item or property. |
| Representation Type: | Common | This token is simply represented as a balance or quantity attributed to an owner address where all the balances are recorded on the same balance sheet, like a bank account. All instances can easily share common properties and locating them is simple. |
| Supply: | Fixed | This token may issue an initial quantity upon creation, tokens cannot be removed or added to the supply. |

This token can represent an Ecological Project, it is a fractional non-fungible token with a quantity of 1 and divisible up to 2 decimal places, meaning it can have more than one owner, but ownership cannot be more than 100%. Each ecological project contains specific project info recorded in its Ecological Project Info property-set as well as a collection or list of Modular Benefit Projects or MBP. Each MBP specifies what type of ecological benefit claims it will be issuing as well as a collection or list of claims it can make. A MPB is meant to be contracted against by a verification contract between the project owner(s) and a verifying organization.

### Example

The token could represent a farm that will be issuing both GHG/Carbon and Water benefit claims based on their sustainable farming practices. The token represents the project on the network and contains detail about the Modular Benefit Projects, Carbon and Water, which is where its benefit claims are posted for verification. A verification contract is used to verify MBP claims that could result in the generation of a Carbon Credit by the verifier that would belong to the owner(s) of the project after issuance.

### Analogies

|  |  |
| --- | --- |
| Name | Description |
| Farm Project | A token representing ownership of an ecological project that will generate modular ecological benefit claims. |
| Solar Farm | A token representing a solar farm that is replacing fossil fuel generated energy and will be issuing carbon benefit claims. |

### Comments

Since this token largely serves as an 'identity' for an ecological project, implementation of this token should consider traditional non-fungible token representation vs. a Distributed Identity (DiD).

# Ecological-Project is:

* Divisible
* Transferable
* Burnable

### It includes the following Property Sets:

* Ecological Project Information
* Modular Benefit Project

# Ecological-Project Details

## Fractional Non-Fungible Token

|  |  |
| --- | --- |
| Type: | Base |
| Name: | Fractional Non-Fungible Token |
| Id: | 8314a797-df3c-409b-835c-0e80af92714f |
| Visual: | &tau<sub>N</sub>{<i>d</i>} |
| Tooling: | tN{d} |
| Version: | 1.0 |

## Definition

Every non-fungible token is unique and some will need to allow for fractional ownership. A non-fungible token is not interchangeable with other tokens of the same class as they typically have different values. A property title is a good example of a non-fungible token where the value of different real estate titles is not equal and freely exchanging them is a bad idea. Some Non-fungible tokens will need to be represented with their own class, meaning it will share no common properties with other tokens from the same template. Other non-fungible tokens can exist within the same class and have some shared property values while also having unique property values between instances.

## Example

Membership, Time Share vacation property.

## Analogies

|  |  |
| --- | --- |
| Name | Description |
| Time Share | The physical property title is split between multiple owners who each own a percentage of the title. |

## Comments

Fractional Non-fungible tokens require additional thought about how these tokens may or may not be grouped together in the same class.

## Dependencies

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Description |
| Base | t | Base Token Definition |

## Incompatible With

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Id |
| Behavior | ~d | d5807a8e-879b-4885-95fa-f09ba2a22172 |

## Influenced By

|  |  |  |
| --- | --- | --- |
| Description | Symbol | Applies To |

## Artifact Files

|  |  |  |
| --- | --- | --- |
| Content Type | File Name | File Content |
| Control | fractional-non-fungible.proto |  |
| Uml | fractional-non-fungible.md |  |

## Code Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Implementation Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Resource Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Location | Description |

# Base Details

|  |  |
| --- | --- |
| Token Name: |  |
| Token Type: | NonFungible |
| Representation Type: | Common |
| Value Type: | Intrinsic |
| Token Unit: | Fractional |
| Symbol: |  |
| Owner: |  |
| Quantity: | 1 |
| Decimals: | 2 |
| Constructor Name: | Constructor |

## Behaviors

## Specification Behavior

# Divisible

### Taxonomy Symbol: d

An ability for the token to be divided from a single whole token into fractions, which are represented as decimal places. Any value greater than 0 will indicate how many fractions are possible where the smallest fraction is also the smallest ownable unit of the token.

### Example

Divisible is common for crypto-currencies or tokens of fiat currency. For example, the US Dollar is divisible to 2 decimal places, where a value like .42 is possible. Bitcoin, is divisible up to 8 decimal places.

### Analogies

|  |  |
| --- | --- |
| Name | Description |
| Analogy 1 | divisible analogy 1 description |

|  |  |
| --- | --- |
| Type: | Behavior |
| Name: | Divisible |
| Id: | 6e3501dc-5800-4c71-b59e-ad11418a998c |
| Visual: | <i>d</i> |
| Tooling: | d |
| Version: | 1.0 |

## Dependencies

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Description |

## Incompatible With

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Id |
| Behavior | ~d | d5807a8e-879b-4885-95fa-f09ba2a22172 |

## Influenced By

|  |  |  |
| --- | --- | --- |
| Description | Symbol | Applies To |

## Artifact Files

|  |  |  |
| --- | --- | --- |
| Content Type | File Name | File Content |
| Control | divisible.proto |  |
| Uml | divisible.md |  |

## Code Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Implementation Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Resource Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Location | Description |

|  |  |
| --- | --- |
| Is External: | True |
| Constructor: |  |

## Divisible responds to these Invocations

### Properties

#### Name: Decimals

Value Description: Set to a number greater than Zero, allowing subdivision

Template Value: 2

### Invocations

#### GetDecimals

Id: 01f7ef04-1215-45f1-b118-12b4a76db9ad

Description: Return the value

##### Request

Control Message: GetDecimalsRequest

Description:

###### Parameters

|  |  |
| --- | --- |
| Name | Value |

##### Response

Control Message: GetDecimalsResponse

Description: Return number of decimal places

###### Parameters

|  |  |
| --- | --- |
| Name | Value |
| Decimals | integer |

#### GetDecimals

Id: 01f7ef04-1215-45f1-b118-12b4a76db9ad

Description: Return the value

##### Request

Control Message: GetDecimalsRequest

Description:

###### Parameters

|  |  |
| --- | --- |
| Name | Value |

##### Response

Control Message: GetDecimalsResponse

Description: Return number of decimal places

###### Parameters

|  |  |
| --- | --- |
| Name | Value |
| Decimals | integer |

## Specification Behavior

# Transferable

### Taxonomy Symbol: t

Every token instance has an owner. The Transferable behavior provides the owner the ability to transfer the ownership to another party or account. This behavior is often inferred by other behaviors that might exist like Redeem, Sell, etc. This behavior is Delegable. If the token definition is Delegable, TransferFrom will be available.

### Example

### Analogies

|  |  |
| --- | --- |
| Name | Description |
| Analogy 1 | transferable analogy 1 description |

|  |  |
| --- | --- |
| Type: | Behavior |
| Name: | Transferable |
| Id: | af119e58-6d84-4ca6-9656-75e8d312f038 |
| Visual: | <i>t</i> |
| Tooling: | t |
| Version: | 1.0 |

## Dependencies

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Description |

## Incompatible With

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Id |
| Behavior | ~t | a4fa4ca8-6afd-452b-91f5-7103b6fee5e5 |

## Influenced By

|  |  |  |
| --- | --- | --- |
| Description | Symbol | Applies To |
| If the token is Delegable, TransferFrom should be enabled. | g | [ ] |
| If Compliance is present, a CheckTransferAllowed request has to be made and verified before a Transfer request or a TransferFrom request. | c | [ ] |
| If issuable is present, an AcceptTokenRequest from the token issuer, in response to a RequestTokens, has to be made and verified before a Transfer request. | i | [ ] |

## Artifact Files

|  |  |  |
| --- | --- | --- |
| Content Type | File Name | File Content |
| Control | transferable.proto |  |
| Uml | transferable.md |  |

## Code Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Implementation Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Resource Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Location | Description |

|  |  |
| --- | --- |
| Is External: | True |
| Constructor: |  |

## Transferable responds to these Invocations

#### Transfer

Id: 5d4b8f10-7857-4a2f-9b8c-d61e367a6bcc

Description: >A transfer request will invoke a transfer from the owner of the token to the party or account provided in the To field of the request. For fungible or dividable non-fungible tokens, this request may also include value in the Amount field of the request to transfer more than one token of the class in a single request.

##### Request Message:

TransferRequest

Description: The request

###### Request Parameters

|  |  |
| --- | --- |
| Name | Value |
| To | AccountId to transfer ownership to. |
| Quantity | Number of tokens to transfer. |

##### Response Message

TransferResponse

Description: The response

###### Response Parameters

|  |  |
| --- | --- |
| Name | Value |
| Confirmation | A confirmation receipt or error may be returned to the owner based on the outcome of the transfer request. |

#### TransferFrom

Id: 516b4e2f-4a14-4c4f-a6f2-1419d4af35c6

Description: >A transfer request will invoke a transfer from the owner of the token to the party or account provided in the To field of the request. For fungible or dividable non-fungible tokens, this request may also include value in the Amount field of the request to transfer more than one token of the class in a single request.

##### Request Message:

TransferFromRequest

Description: The request

###### Request Parameters

|  |  |
| --- | --- |
| Name | Value |
| From | AccountId to transfer ownership from. |
| To | AccountId to transfer ownership to. |
| Quantity | Number of tokens to transfer. |

##### Response Message

TransferFromResponse

Description: The response

###### Response Parameters

|  |  |
| --- | --- |
| Name | Value |
| Confirmation | A confirmation receipt or error may be returned to the owner based on the outcome of the transfer from request. |

## Specification Behavior

# Burnable

### Taxonomy Symbol: b

A token class that implements this behavior will support the burning or decommissioning of token instances of the class. This does not delete a token, but rather places it in a permanent non-use state. Burning is a one way operation and cannot be reversed. This behavior is Delegable. If the token definition is Delegable, BurnFrom will be available.

### Example

When a token is used in a certain way, you may want to remove it from circulation or from being used again. Since the ledger doesn't allow for deletions, burning a token essentially 'deletes' the token from being used, but not from history.

### Analogies

|  |  |
| --- | --- |
| Name | Description |
| Oil Barrels | If you mint a new token for each barrel of oil created, you may transfer ownership several times until the barrel is refined. The refining process should burn the barrel of oil to remove it from circulation. |
| Redeem | A token that is a coupon or single use ticket, should be burned when it is redeemed. |

|  |  |
| --- | --- |
| Type: | Behavior |
| Name: | Burnable |
| Id: | 803297a1-c0f9-4898-9d44-29c9d41cca97 |
| Visual: | <i>b</i> |
| Tooling: | b |
| Version: | 1.0 |

## Dependencies

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Description |

## Incompatible With

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Id |

## Influenced By

|  |  |  |
| --- | --- | --- |
| Description | Symbol | Applies To |
| Delegable or not, will determine if the BurnFrom Control will be available in the implementation. | g | [ ] |
| If Compliance is present, a CheckBurnAllowed request has to be made and verified before a Burn request or a BurnFrom request. | c | [ ] |

## Artifact Files

|  |  |  |
| --- | --- | --- |
| Content Type | File Name | File Content |
| Control | burnable.proto |  |
| Uml | burnable.md |  |

## Code Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |
| SourceCode | Open Zeppelin | EthereumSolidity | https://github.com/OpenZeppelin/openzeppelin-contracts/blob/master/contracts/token/ERC20/ERC20Burnable.sol |

## Implementation Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Resource Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Location | Description |

|  |  |
| --- | --- |
| Is External: | True |
| Constructor: |  |

## Burnable responds to these Invocations

#### Burn

Id: f063dcaa-49f9-4c49-bf0f-2766301e1033

Description: A request to burn a token instance(s) in the class by the owner of the token instance(s). Optional Quantity field in the request.

##### Request Message:

BurnRequest

Description: The request to Burn or Retire tokens.

###### Request Parameters

|  |  |
| --- | --- |
| Name | Value |
| Quantity | The number of tokens to burn, might not apply to the implementation. |

##### Response Message

BurnResponse

Description: The response from the request to burn.

###### Response Parameters

|  |  |
| --- | --- |
| Name | Value |
| Confirmation | A confirmation receipt or error may be returned to the invoker based on the outcome of the burn request |

#### BurnFrom

Id: 49b53152-3360-426f-9e0a-24a0b4e7c881

Description: Requires Delegable. A request to burn token instance(s) in the class by a party or account that has allowance to do so. Requires a From and Quantity fields in the request.

##### Request Message:

BurnFromRequest

Description: The request to Burn or Retire tokens.

###### Request Parameters

|  |  |
| --- | --- |
| Name | Value |
| From | AccountId from which tokens are burnt |
| Quantity | The number of tokens to burn, might not apply to the implementation. |

##### Response Message

BurnFromResponse

Description: The response from the request to burn.

###### Response Parameters

|  |  |
| --- | --- |
| Name | Value |
| Confirmation | A confirmation receipt or error may be returned to the invoker based on the outcome of the burn from request |

## Specification Property Set

## Ecological Project Information

|  |  |
| --- | --- |
| Type: | PropertySet |
| Name: | Ecological Project Information |
| Id: | 7abf2f84-e6a4-4fe2-844b-f9a209fda611 |
| Visual: | &phi;<i>EPI</i> |
| Tooling: | phEPI |
| Version: | 1.0 |

## Definition

A token class that implements this property set will have standard information used by a Ecological Project, including a verified link to the project's data, the country in which it resides and its scale.

## Example

An ecological project may have many required and optional properties, this property set is where these properties can be defined.

## Analogies

|  |  |
| --- | --- |
| Name | Description |

## Dependencies

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Description |
| PropertySet | phVL | The verified link is included in this property set. |

## Incompatible With

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Id |

## Influenced By

|  |  |  |
| --- | --- | --- |
| Description | Symbol | Applies To |
| Roles should be used to control what accounts can set the EPI Property. | r | [ ] |

## Artifact Files

|  |  |  |
| --- | --- | --- |
| Content Type | File Name | File Content |
| Control | ecological-project-info.proto |  |
| Uml | ecological-project-info.md |  |

## Code Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Implementation Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Resource Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Location | Description |

|  |  |
| --- | --- |
| Property Set Representation Type | Description |
| Common | This property set's value is common or shared for all token instances in the class. Meaning all tokens in the class will share the same value of the property set. |

## Properties

### Property Name: EcologicalProjectInfo

Property Value Description: Contains the values for the properties.

Template Value is set to:

## EcologicalProjectInfo responds to these Invocations

## Properties

### Property Name: EcologicalProjectInfo

Property Value Description: Contains the values for the EcologicalProjectInfo.

Template Value is set to:

## EcologicalProjectInfo responds to these Invocations

## Properties

### Property Name: Country

Property Value Description: Alpha 3 ISO 3166 international standard country code www.iban.com/country-codes

Template Value is set to:

## Country responds to these Invocations

### Property Name: ProjectScale

Property Value Description: Numeric or enum based on size, micro, small, medium or large.

Template Value is set to:

## ProjectScale responds to these Invocations

## Properties

### Property Name: Country

Property Value Description: Alpha 3 ISO 3166 international standard country code www.iban.com/country-codes

Template Value is set to:

## Country responds to these Invocations

### Property Name: ProjectScale

Property Value Description: Numeric or enum based on size, micro, small, medium or large.

Template Value is set to:

## ProjectScale responds to these Invocations

### Property Name: EcologicalProjectInfo

Property Value Description: Contains the values for the EcologicalProjectInfo.

Template Value is set to:

## EcologicalProjectInfo responds to these Invocations

## Properties

### Property Name: Country

Property Value Description: Alpha 3 ISO 3166 international standard country code www.iban.com/country-codes

Template Value is set to:

## Country responds to these Invocations

### Property Name: ProjectScale

Property Value Description: Numeric or enum based on size, micro, small, medium or large.

Template Value is set to:

## ProjectScale responds to these Invocations

## Properties

### Property Name: Country

Property Value Description: Alpha 3 ISO 3166 international standard country code www.iban.com/country-codes

Template Value is set to:

## Country responds to these Invocations

### Property Name: ProjectScale

Property Value Description: Numeric or enum based on size, micro, small, medium or large.

Template Value is set to:

## ProjectScale responds to these Invocations

## Properties

### Property Name: EcologicalProjectInfo

Property Value Description: Contains the values for the EcologicalProjectInfo.

Template Value is set to:

## EcologicalProjectInfo responds to these Invocations

## Properties

### Property Name: Country

Property Value Description: Alpha 3 ISO 3166 international standard country code www.iban.com/country-codes

Template Value is set to:

## Country responds to these Invocations

### Property Name: ProjectScale

Property Value Description: Numeric or enum based on size, micro, small, medium or large.

Template Value is set to:

## ProjectScale responds to these Invocations

## Properties

### Property Name: Country

Property Value Description: Alpha 3 ISO 3166 international standard country code www.iban.com/country-codes

Template Value is set to:

## Country responds to these Invocations

### Property Name: ProjectScale

Property Value Description: Numeric or enum based on size, micro, small, medium or large.

Template Value is set to:

## ProjectScale responds to these Invocations

### Property Name: EcologicalProjectInfo

Property Value Description: Contains the values for the EcologicalProjectInfo.

Template Value is set to:

## EcologicalProjectInfo responds to these Invocations

## Properties

### Property Name: Country

Property Value Description: Alpha 3 ISO 3166 international standard country code www.iban.com/country-codes

Template Value is set to:

## Country responds to these Invocations

### Property Name: ProjectScale

Property Value Description: Numeric or enum based on size, micro, small, medium or large.

Template Value is set to:

## ProjectScale responds to these Invocations

## Properties

### Property Name: Country

Property Value Description: Alpha 3 ISO 3166 international standard country code www.iban.com/country-codes

Template Value is set to:

## Country responds to these Invocations

### Property Name: ProjectScale

Property Value Description: Numeric or enum based on size, micro, small, medium or large.

Template Value is set to:

## ProjectScale responds to these Invocations

### Specification (Sub) Property Set

## Verified Link

|  |  |
| --- | --- |
| Type: | PropertySet |
| Name: | Verified Link |
| Id: | ce1ca787-d018-4eb2-90e7-03b8876197bf |
| Visual: | &phi;<i>VL</i> |
| Tooling: | phVL |
| Version: | 1.0 |

## Definition

A token class that implements this property set will have a verified link or field with a Read/Query and Set control. The verified link can be an embedded signed URL or a traditional 3 part link with a link path (url, etc.) a signed path and a public key to verify the link path.

## Example

Storing an authentic reference to another object or artifact, where the link is digitally signed by it's setter and optionally may include hash values for data at the endpoint.

## Analogies

|  |  |
| --- | --- |
| Name | Description |
| Signed Reference | A token implementing this property set may have multiple types of related data that is stored elsewhere. This data is accessed following the link that is digitally signed by the setter and may include proofs or hash values of the data stored for integrity checks. |

## Dependencies

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Description |

## Incompatible With

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Id |

## Influenced By

|  |  |  |
| --- | --- | --- |
| Description | Symbol | Applies To |
| Roles should be used to control what accounts can set the Link Property. | r | [ ] |

## Artifact Files

|  |  |  |
| --- | --- | --- |
| Content Type | File Name | File Content |
| Control | verified-link.proto |  |
| Uml | verified-link.md |  |

## Code Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Implementation Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Resource Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Location | Description |

|  |  |
| --- | --- |
| Property Set Representation Type | Description |
| Common | This property set's value is common or shared for all token instances in the class. Meaning all tokens in the class will share the same value of the property set. |

## Properties

### Property Name: VerifiedLink

Property Value Description: Contains a Verified Link to the project's data.

Template Value is set to:

## VerifiedLink responds to these Invocations

## Specification Property Set

## Modular Benefit Project

|  |  |
| --- | --- |
| Type: | PropertySet |
| Name: | Modular Benefit Project |
| Id: | 81871dc0-6948-4cd9-8724-f96cb90ac2c8 |
| Visual: | &phi;<i>MBP</i> |
| Tooling: | phMBP |
| Version: | 1.0 |

## Definition

A token class that implements this property set will be able to have a climate project's modular benefits defined. A climate project produces one or more climate benefits that are measured and then tokenized as value, i.e a carbon offset credit. Because a climate project can have multiple climate benefits, they are often tracked and verified independently. For example a carbon removal and a water use benefit for a single project.

## Example

A climate project that can generate climate benefit claims can output multiple benefits, where each benefit can be independently verified, potentially by different verifiers. So a climate project will need to be able to identify the portion of their project that will need to be verified for a type of benefit and can have multiple benefits associated with it. So a MBP will have a unique identifier, which is a sub-identifier of the climate project, a verified link to any MRV data as well a geographic location to be verified for that benefit.

## Analogies

|  |  |
| --- | --- |
| Name | Description |
| Carbon Dioxide Removal Benefit Project | Big forest with lots of new trees being planted. |
| Water Use Benefit Project | Low water or reclamation benefit. |

## Comments

Not all climate project will have multiple benefits to be verified.

## Dependencies

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Description |

## Incompatible With

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Id |

## Influenced By

|  |  |  |
| --- | --- | --- |
| Description | Symbol | Applies To |
| Roles should be used to control what accounts can add and remove benefit claims. | r | [ ] |

## Artifact Files

|  |  |  |
| --- | --- | --- |
| Content Type | File Name | File Content |
| Control | modularbenefitproject.proto |  |
| Uml | modularbenefitproject.md |  |

## Code Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Implementation Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Resource Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Location | Description |

|  |  |
| --- | --- |
| Property Set Representation Type | Description |
| Common | This property set's value is common or shared for all token instances in the class. Meaning all tokens in the class will share the same value of the property set. |

## Properties

### Property Name: ModularBenefitProjects

Property Value Description: Contains a collection of Modular Benefit Project property sets.

Template Value is set to:

## ModularBenefitProjects responds to these Invocations

## Properties

### Property Name: ModularBenefitProjects

Property Value Description: A collection of ModularBenefitProject.

Template Value is set to:

## ModularBenefitProjects responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

### Property Name: ModularBenefitProjects

Property Value Description: A collection of ModularBenefitProject.

Template Value is set to:

## ModularBenefitProjects responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: ModularBenefitProjects

Property Value Description: A collection of ModularBenefitProject.

Template Value is set to:

## ModularBenefitProjects responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

### Property Name: ModularBenefitProjects

Property Value Description: A collection of ModularBenefitProject.

Template Value is set to:

## ModularBenefitProjects responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

## Properties

### Property Name: Id

Property Value Description: A string of text or possibly numeric value that represents the Modular Benefit Project's unique Id.

Template Value is set to:

## Id responds to these Invocations

### Property Name: TargetedBenefitType

Property Value Description: A value from a specific list (enum, number, etc) that sets the benefit type. For example, GHG, Water, etc.

Template Value is set to:

## TargetedBenefitType responds to these Invocations

### Property Name: Developers

Property Value Description: The Id or public key for the benefit developer.

Template Value is set to:

## Developers responds to these Invocations

### Property Name: Sponsors

Property Value Description: The Id or public key for the benefit sponsor.

Template Value is set to:

## Sponsors responds to these Invocations

### Specification (Sub) Property Set

## Geographic Location

|  |  |
| --- | --- |
| Type: | PropertySet |
| Name: | Geographic Location |
| Id: | 7a768ba8-b87f-4ffe-aed6-ce0121617baf |
| Visual: | &phi;<i>GL</i> |
| Tooling: | phGL |
| Version: | 1.0 |

## Definition

A token class that implements this property set will have geographic data indicating the tokens or token related location. It contains a GNSS point value for simple location and a collection of Geographic Areas for more complex projects that may have multiple parcels of land involved in the same project.

## Example

A climate project that can generate climate benefit claims, like a carbon credit, is based of land use, i.e. forestry or agricultural practices, the project's geographic location will need to be recorded. A token should expose this property to allow for the verification of geographic uniqueness for the project to prevent the creation of a geographic parcel from being defined twice.

## Analogies

|  |  |
| --- | --- |
| Name | Description |
| Great Southern Forest | Big forest with lots of new trees being planted. |

## Comments

Not all climate project will require geographic data, or only require a simple GNSS point instead of an area defined.

## Dependencies

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Description |

## Incompatible With

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Id |

## Influenced By

|  |  |  |
| --- | --- | --- |
| Description | Symbol | Applies To |
| Roles should be used to control what accounts can set the Geolocation Property. | r | [ ] |

## Artifact Files

|  |  |  |
| --- | --- | --- |
| Content Type | File Name | File Content |
| Control | geolocation.proto |  |
| Uml | geolocation.md |  |

## Code Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Implementation Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Resource Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Location | Description |

|  |  |
| --- | --- |
| Property Set Representation Type | Description |
| Common | This property set's value is common or shared for all token instances in the class. Meaning all tokens in the class will share the same value of the property set. |

## Properties

### Property Name: GeographicLocation

Property Value Description: Contains a Geographic Location, that contains a simple GPS and Areas.

Template Value is set to:

## GeographicLocation responds to these Invocations

### Specification (Sub) Property Set

## Ecological Claim

|  |  |
| --- | --- |
| Type: | PropertySet |
| Name: | Ecological Claim |
| Id: | 9bbcac72-ba95-4d73-ad95-d96275a4924f |
| Visual: | &phi;<i>EC</i> |
| Tooling: | phEC |
| Version: | 1.0 |

## Definition

This property set includes the information about a ecological project's ecological benefit claims, when the claim is for and the data to be used to verify the claim.

## Example

An ecological project produces benefit claims for reporting periods that need to be verified. This claim property has a unique id, contains the date range for the claim as well as a verified link to the data to verify the claim that is usually hosted by the project developer.

## Analogies

|  |  |
| --- | --- |
| Name | Description |

## Dependencies

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Description |
| PropertySet | phVL | The verified link is included in this property set. |
| PropertySet | phDR | The date range is included in this property set. |
| PropertySet | phCB | The co-benefits property set is included in this property set. |

## Incompatible With

|  |  |  |
| --- | --- | --- |
| Artifact Type | Symbol | Id |

## Influenced By

|  |  |  |
| --- | --- | --- |
| Description | Symbol | Applies To |
| Roles should be used to control what accounts can create a Claim. | r | [ ] |

## Artifact Files

|  |  |  |
| --- | --- | --- |
| Content Type | File Name | File Content |
| Control | ecological-claim.proto |  |
| Uml | ecological-claim.md |  |

## Code Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Implementation Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Platform | Location |

## Resource Map

|  |  |  |  |
| --- | --- | --- | --- |
| Map Type | Name | Location | Description |

|  |  |
| --- | --- |
| Property Set Representation Type | Description |
| Common | This property set's value is common or shared for all token instances in the class. Meaning all tokens in the class will share the same value of the property set. |

## Properties

### Property Name: EcologicalClaims

Property Value Description: Contains a list, collection or array of Ecological Claim.

Template Value is set to:

## EcologicalClaims responds to these Invocations