

Data Exchange JSON Description Document (version 1.0)

Introduction

Definition

The document describes the structure of a data exchange standard, which is represented as a file in JSON format. This document describes the structure of a data exchange standard of the reporting tools for the version of the ETF Reporting Tool released on 28 June 2024. This definition is subject to change during the development of the GHG Inventory reporting tool. The document will be updated as and when there are new changes/updates to the data exchange standard. This document provides a general understanding of the data exchange standard structure.

Version history and applicability

This is version 1.0 of the document. It is applicable to the metadata file for the ETF GHG Inventory reporting tools:

Document version	Date	Applicable Metadata version	Key changes
0.1	2023-09-15	1.17.12	<ul style="list-style-type: none">Initial version
1.0	2024-07-12	1.27.4	<ul style="list-style-type: none">Added grid line descriptions to the country-specific sectionAdded dimension instances to the country-specific sectionChanges to the country-specific nodes, format does not require hierarchical structure anymoreChanges to the grid sectionChanges to the values selected from the drop-down

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1. Background

The GHG Inventory reporting tool should be able to import and export data from the national systems (e.g. national registries) and allow interoperability with the IPCC software.

2. Assumptions

- Metadata JSON is not included in the data exchange JSON, but data exchange JSON is referencing Metadata JSON with internal IDs (int type) and unique identifiers (UID). Internal IDs are used to reduce the file size and improve performance for parsing the JSON;
- As a minimum data exchange file should include a single cell value

3. Approach

The data exchange file is divided into three sections:

- version - is a version information
- country_specific_data - country-specific data
- data - actual values, including comments

Example: High level overview

```

1 {
2   "version": {...},
3   "country_specific_data": {...},
4   "data": {...}
5 }
```

3.1. Version

The "version" section includes minimum information about the metadata used for generating the JSON file and optional information for the data version within the ETF application. See the JSON example below

Example: Version section

```
1 "version": {
2   "metadata_ver": "1.2", // (mandatory) version of the metadata
3   "country": "XYZ", // (mandatory) 3 letter ISO code of the country
4   "data_version": "XYZ-CRT-2024-v0.1", // (optional) data version from an application, if the data version is not provided
5   "metadata_type": "CRT" // (mandatory) constant for ETF application identifier e.g. CRT, NDC, FTC
6 }
```

3.2. Country specific

The "country_specific_data" section includes all the necessary information related to the country. Basically, it is a country-specific delta to the standard metadata (any deviation from the standard metadata is provided in this section). It has the following entities

- variables
- nodes
- grids
- drop_downs
- line_description
- dimension_instances

Example: Country-specific section

```
1 "country_specific_data": {
2   "variables": [...],
3   "nodes": [...],
4   "grids": [...],
5   "drop_downs": [...],
6   "line_description": [...],
7   "dimension_instances": [...]
8 }
```

3.2.1. Variables

The variables section includes all the newly added variables triggered by:

- node customization of the type 1
- customization of the grid lines (add a new row)

Variables are an array of all the new variables. The following attributes are included in the variable entity for Country Specific data:

- uid - [mandatory] unique identifier for the variable (generated by the national registry or pre-created by customization within the reporting tool). The UID is a global unique identifier and can be generated by the application when adding new variables.
- template_variable_uid - [mandatory] reference to the unique identifier of the template variable
- node_uid - [mandatory] reference to the unique identifier of the node, that variable belongs too

Example: Two new variables added based on the template variables

```
1 "variables": [
2   {
3     "uid": "0dfa2385-43c6-470c-b599-e6672321c75e",
4     "template_variable_uid": "8f45eb42-51c7-49e8-842c-394da70924ee",
```

```

5         "node_uid" : "291cfd64-ecff-4b03-9c1a-c1b7ca84a3f5"
6     },
7     {
8         "uid": "62975b0b-5568-4ea5-96cf-5ac56d92b845",
9         "template_variable_uid": "83b2db58-13ec-4b27-b374-781ca0fe13ba",
10        "node_uid": "291cfd64-ecff-4b03-9c1a-c1b7ca84a3f5"
11    }
12 ]

```

3.2.2. Nodes

In the node section, all nodes created by the type 1 and type 2 customization are included. The type 1 customization is a new node (user-specified free text) created from the template node. The type 2 customization is a pre-defined list of nodes that are selected by the user. The type 2 nodes are items in the dropdown list in the agreed reporting tables. There are two types of operations:

- add a new node based on the template
- make a node visible from the pre-defined list of nodes

Both operations can also be triggered by the changes in the version settings. The nodes section is an array with the following attributes:

- uid - [mandatory] unique identifier of the node. For the type 1 customization, the uid is generated when creating a new node. For the type 2 customization, uid is used from the pre-defined list.
- name - [optional/mandatory] name of the node, entered by the user. It is mandatory for the type 1 customization only.
- parent_uid - [optional/mandatory] unique identifier of the parent node. It is mandatory for the type 1 customization and if the node is a root node in the country-specific nodes. The UID could also reference the country-specific node, being not part of the standard metadata.
- template_node_uid - [optional/mandatory] unique identifier of the template node. The uid always comes from the standard metadata.
- order_number - [optional] order of child nodes under the parent node. The order of the JSON will be used if the order is not specified.

Example: Type 2 customization when the node is selected from the pre-defined list

```

1 "nodes": [
2     {
3         "uid": "a2b5241f-b208-4f2c-82cf-3d01c78eb983"
4     }
5 ]

```

Example: Type 2 customization with multi-level can be provided as an array

```

1 "nodes": [
2     {
3         "uid": "a2b5241f-b208-4f2c-82cf-3d01c78eb983"
4     },
5     {
6         "uid": "72d879df-8fb9-466f-b7f3-d8a217b37cbe"
7     }
8 ]

```

Example: Type 1 customization

```

1 "nodes": [
2     {
3         "uid": "291cfd64-ecff-4b03-9c1a-c1b7ca84a3f5",
4         "name": "My other liquid fuels in 1.A.2.g.vii",
5         "parent_uid": "469a14f8-87fd-4702-8d80-d1185ee2b1bc",
6         "template_node_uid": "36fa1fe5-9470-40fd-be75-22c8bc04206d",
7         "order_number": 1
8     }

```

Example: Type 1 customization with multi-level, can be provided as an array

```

1  "nodes": [
2      {
3          "uid": "b4c59c6e-418a-46d8-89d1-ccb319eb07fd",
4          "name": "My 1.A.2.g.viii Other",
5          "parent_uid": "944c1934-2091-45e0-9944-52fadaaea1a5",
6          "template_node_uid": "557b29b1-e19d-468c-8124-107ffdc35eef",
7          "order_number": 1
8      },
9      {
10         "uid": "8abbfe47-79c2-4633-beb2-4beaae5cc7b8",
11         "name": "Liquid fuels",
12         "template_node_uid": "8f9be294-70f0-41ba-831d-b6d7ccdeee9c",
13         "order_number": 1
14     },
15     {
16         "uid": "1ea4850e-ef53-4461-b4c1-abc73a78872e",
17         "name": "Solid fuels",
18         "template_node_uid": "838ee52d-3e78-4809-921e-e40dcdc619d9",
19         "order_number": 2
20     },
21     {
22         "uid": "cd65ab9d-0ada-41b4-b192-426b66ffb09b",
23         "name": "Gaseous fuels",
24         "template_node_uid": "bae9e6b3-00c8-4e74-8a2a-9c50a28614fe",
25         "order_number": 3
26     },
27     {
28         "uid": "3eaf72d9-e59a-427e-98ad-a87752f88782",
29         "name": "Other fossil fuels",
30         "template_node_uid": "50d22c7d-8137-4822-a88e-785b86d44a28",
31         "order_number": 4
32     },
33     {
34         "uid": "cfd16c19-7ff0-4398-a523-5cf938f8830d",
35         "name": "Peat",
36         "template_node_uid": "137c283d-dffc-4063-9522-16a44e02640c",
37         "order_number": 5
38     },
39     {
40         "uid": "ae0d5c70-d8fc-4cb2-b977-2a35bdfc4df2",
41         "name": "Biomass",
42         "template_node_uid": "a78db195-c372-48a4-8ce1-0e4694f70194",
43         "order_number": 6
44     }
45 ]

```

Example: Type 1 and Type 2 customization

```

1  "nodes": [
2      {
3          "uid": "a2b5241f-b208-4f2c-82cf-3d01c78eb983",
4      },
5      {
6          "uid": "291cfd64-ecff-4b03-9c1a-c1b7ca84a3f5",
7          "name": "My other liquid fuels in 1.A.2.g.vii",

```

```

8     "parent_uid": "469a14f8-87fd-4702-8d80-d1185ee2b1bc",
9     "template_node_uid": "36fa1fe5-9470-40fd-be75-22c8bc04206d",
10    "order_number": 1
11  }
12 ]

```

Example: Different combination

```

1  "nodes": [
2    {
3      "uid": "a2b5241f-b208-4f2c-82cf-3d01c78eb983"
4    },
5    {
6      "uid": "291cfd64-ecff-4b03-9c1a-c1b7ca84a3f5",
7      "name": "My other liquid fuels in 1.A.2.g.vii",
8      "parent_uid": "469a14f8-87fd-4702-8d80-d1185ee2b1bc",
9      "template_node_uid": "36fa1fe5-9470-40fd-be75-22c8bc04206d",
10     "order_number": 1
11   },
12   {
13     "uid": "b4c59c6e-418a-46d8-89d1-ccb319eb07fd",
14     "name": "My 1.A.2.g.viii Other",
15     "parent_uid": "944c1934-2091-45e0-9944-52fadaaea1a5",
16     "template_node_uid": "557b29b1-e19d-468c-8124-107ffdc35eef",
17     "order_number": 1
18   },
19   {
20     "uid": "8abbfe47-79c2-4633-beb2-4beaae5cc7b8",
21     "name": "Liquid fuels",
22     "template_node_uid": "8f9be294-70f0-41ba-831d-b6d7ccdeee9c",
23     "order_number": 1
24   },
25   {
26     "uid": "1ea4850e-ef53-4461-b4c1-abc73a78872e",
27     "name": "Solid fuels",
28     "template_node_uid": "838ee52d-3e78-4809-921e-e40dc619d9",
29     "order_number": 2
30   },
31   {
32     "uid": "cd65ab9d-0ada-41b4-b192-426b66ffb09b",
33     "name": "Gaseous fuels",
34     "template_node_uid": "bae9e6b3-00c8-4e74-8a2a-9c50a28614fe",
35     "order_number": 3
36   },
37   {
38     "uid": "3eaf72d9-e59a-427e-98ad-a87752f88782",
39     "name": "Other fossil fuels",
40     "template_node_uid": "50d22c7d-8137-4822-a88e-785b86d44a28",
41     "order_number": 4
42   },
43   {
44     "uid": "cfd16c19-7ff0-4398-a523-5cf938f8830d",
45     "name": "Peat",
46     "template_node_uid": "137c283d-dffc-4063-9522-16a44e02640c",
47     "order_number": 5
48   },
49   {
50     "uid": "ae0d5c70-d8fc-4cb2-b977-2a35bdfc4df2",
51     "name": "Biomass",

```

```

52         "template_node_uid": "a78db195-c372-48a4-8ce1-0e4694f70194",
53         "order_number": 6
54     }
55 ]

```

3.2.3. Grids

The grid section describes the country-specific customization (delta) for the grid changes/amendments. The following operations could trigger amendments:

- Type 1 customization of nodes
- Customization of the data entry grids (adding new rows)
- Selection of the drop-down item(s) in the grid line
- Changes in the visibility of rows due to the version settings

Grids are an array of grid definitions and has the following structure:

- node_uid - [mandatory] unique identifier of the node where the grid is attached
- group - [mandatory] group of lines within the grid and has the following attributes:
 - uid - [mandatory] reference to the line (row) global unique identifier
 - variable_uid - [mandatory] unique identifier of the variable attached to the line
 - template_group_uid - [mandatory] reference to the template group uid identifier
 - dimension_instances_uid - [mandatory] reference to the unique identifier of dimension instance. In the case of country-specific dimension instances, it should be specified in the dimension instance section
 - group - [optional] nested set of lines (rows) within the group

Example: New data entry grid created by the node type 1 customization

```

1  "grids": [
2      {
3          "node_uid": "b4c59c6e-418a-46d8-89d1-ccb319eb07fd",
4          "group":
5          [
6              {
7                  "line_uid": "878f2dcc-9492-446c-abb5-551a2f8dcde4",
8                  "variable_uid": "354b392b-c78b-4037-8afc-4434ed4bbf92",
9                  "template_line_uid": "1821891a-f0a0-4c1d-b6c0-6cc635c18729",
10                 "dimension_instance_uid": "bd14a760-252e-445f-800d-b51ce873081a",
11                 "group":
12                 [
13                     {
14                         "line_uid": "222a9253-8280-4343-b795-19100fd4e38b",
15                         "variable_uid": "3c55f658-d53e-470d-ac79-0d909ddb3b08",
16                         "dimension_instance_uid": "ab5a5265-aa71-4e75-967f-ee21ba26c0b9",
17                         "template_line_uid": "1cf372a5-09df-41e7-bdfc-90e65dc8be5e"
18                     },
19                     {
20                         "line_uid": "cf1d67c9-244c-4bb3-ac0a-208886f9e384",
21                         "variable_uid": "b4f09ec9-a069-4ace-8274-a4687a5629f2",
22                         "dimension_instance_uid": "a1e8f520-c25b-4841-b4e2-875840f26b64",
23                         "template_line_uid": "28f05720-0b7c-42ca-b193-829a4ed88e6f"
24                     },
25                     {
26                         "line_uid": "24051697-22dc-4a2f-af84-749f91a101e3",
27                         "variable_uid": "f6829492-a9aa-434c-abc0-f8cf859abc08",
28                         "dimension_instance_uid": "63e593a7-da10-4736-b027-61a2ce311c04",

```

```
29         "template_line_uid": "78961df2-9796-408b-a1c2-6866dfb6bcf2"
30     },
31     {
32         "line_uid": "597b5890-6b49-4097-af76-5148875419d5",
33         "variable_uid": "692d6a1d-ac45-4a70-877c-a8293fa097c3",
34         "dimension_instance_uid": "c4df9fa7-6190-45c9-874e-21974f993c98",
35         "template_line_uid": "52389ce7-0f8e-4e54-8f68-9dfa34de064f"
36     },
37     {
38         "line_uid": "67cf482c-532b-428e-9e86-640f78fdaccc",
39         "variable_uid": "496f7d86-adc8-4d76-afdc-f22ad7313c2b",
40         "dimension_instance_uid": "d6c03823-72cc-4452-b408-bda89df70674",
41         "template_line_id": "112b2e17-607e-4a50-bd91-8cd27aff58d7"
42     },
43     {
44         "line_uid": "bebeb2e3-a989-4a64-b1b8-13c42618f23b",
45         "variable_uid": "55181b63-2204-4575-9229-54e54834e0dc",
46         "dimension_instance_uid": "45c71671-09e9-44b5-aff3-8e2dfde2dc32",
47         "template_line_uid": "1b3305ae-f16f-4b33-8e4e-5388f9ff6afd"
48     }
49 ]
50 },
51 {
52     "line_uid": "01ce5e9c-7d71-4ae1-9092-04e72bfce69d",
53     "variable_uid": "dc737430-456d-4faa-b423-bcd0d72d973f",
54     "dimension_instance_uid": "6cd99f19-3646-43b2-9ac9-2d75cd0c6ea1",
55     "template_line_uid": "92cd1243-8a1f-46c1-9d3f-1675401e79e2",
56     "group":
57     [
58         {
59             "line_uid": "697c6e38-aec7-48b8-9c5d-cca6e746d981",
60             "variable_uid": "29bc843f-7079-4ef2-87a9-5c7718957a11",
61             "dimension_instance_uid": "18732aba-9096-408e-a358-ed28919beb55",
62             "template_line_uid": "a846a5a0-a6eb-4f01-b056-6df8e75f6db4"
63         },
64         {
65             "line_uid": "4fa5019f-9c7d-40e6-939c-1bdbceccc38f1",
66             "variable_uid": "f99e61ac-2db2-4edc-a9cc-e19fe3084579",
67             "dimension_instance_uid": "326649d5-d94e-4408-afa8-702718b88ac6",
68             "template_line_uid": "a28aa3f8-a647-471f-8f5b-2ce96cf37d92"
69         },
70         {
71             "line_uid": "dbfc20fb-5d84-45b6-9d49-ccf918cff419",
72             "variable_uid": "e757f72f-efbd-4573-beeb-3359bab66532",
73             "dimension_instance_uid": "723aa4c6-e6e8-4e94-b96f-5e65b3714a02",
74             "template_line_uid": "3d250e56-e233-4a55-9589-dea67758a459"
75         },
76         {
77             "line_uid": "f992c6b7-2728-4059-ada6-f6ce4c34cc23",
78             "variable_uid": "5867d69b-ae5e-47a8-a67c-cafe333d3c65",
79             "dimension_instance_uid": "8310d316-75bc-4ea8-bd08-0ec60c710c23",
80             "template_line_uid": "68cafe84-4660-4749-b871-7d30d4b47c1a"
81         },
82         {
83             "line_uid": "740030d3-8381-44c6-bb10-a65c4f228dd2",
84             "variable_uid": "02221921-edb0-4057-a4a3-11b81d3d0669",
85             "dimension_instance_uid": "5ecf49c8-f9a1-43ae-a4e4-9dc16fb9fa69",
86             "template_line_uid": "ae0f5d7d-cfb2-4b58-97db-d7d264705e36"
```



```

87         },
88         {
89             "line_uid": "3eba98b9-4dab-41c6-8326-c7611dd2ec12",
90             "variable_uid": "e97fce2b-944c-4e37-bf1a-0fdd1c3f3b0c",
91             "dimension_instance_uid": "78a32929-8a58-4191-8c5d-018f6ef9b039",
92             "template_line_uid": "5cb3462a-d999-4807-8c1c-2fc4a788221e"
93         }
94     ]
95 },
96 {
97     "line_uid": "b3354d9f-47f0-4a76-8496-cdecfe6bc527",
98     "variable_uid": "ff014665-8ad6-4e3e-ae19-b44dab74f1be",
99     "dimension_instance_uid": "85bfaed4-af88-48d8-bf76-ed82c1419e60",
100    "template_line_uid": "e76666eb-956a-4f21-8b91-6418a4f131bd"
101 }
102 ]
103 }
104 ]

```

3.2.4. Drop-downs

As part of the application functionalities, users are able to extend the existing drop-down items with country-specific items. In this case, the amendment of the country-specific drop-down is stored in this section. Only the drop-down with the attribute "**is_extendable**" set to **_true_** can have amendments. Currently, only adding items is possible. The following attributes are defined:

- id - [mandatory] identifier of the drop-down list which should be amended
- name - [optional] name of the drop-down list
- items - [mandatory] array of the new items added to the list and has the following attributes:
 - name - [mandatory] new item name

Example: Amendment to the existing drop-down

```

1  "drop_downs": [
2      {
3          "id": 17,
4          "name": "DESCRIPTION",
5          "items":
6          [
7              {
8                  "name": "My new description"
9              }
10         ]
11     }
12 ]

```

Line descriptions

In this section, the user can specify a description within the data entry grid. For example, the variables under the node "1.B.2. Oil and natural gas" should be specified in the country-specific section under the line description. It requires a "variable_uid" and the "description" itself.

Example of a line description

```

1  "line_description": [
2      {
3          "variable_uid": "6ec8f630-3736-4c45-b5aa-c73127710b55",
4          "description": "Oil produced"

```

```
5     }
6   ]
```

Dimension Instances

In some data entry grids of NDC, country-specific dimension instances will be required for creating country-specific grid lines. An example is a node with "Policy and measure" for the expected and achieved years. The dimension instances used in the data entry grid lines should be referenced in the grid section. Here is an example of the dimension instances section:

Example of the new dimension instances used for the data entry grids

```
1  "dimension_instances":
2  [
3    {
4      "uid": "6fd1632c-502e-8f48-8945-a9cabd5c4826",
5      "name": "2021 Achieved"
6    },
7    {
8      "uid": "613eb7ce-314d-aa4d-a14e-825eb51ddb19",
9      "name": "2027 Expected"
10   }
11  ]
```

3.3. Data

The "data" section currently has two sections:

- values to the variables
- node comments

3.3.1. Values to the variables

Values is an array of values grouped by the inventory year and has the following structure:

Example: Values grouped by the inventory year

```
1  {
2    "inventory_year": "1990", // text value specifies the year
3    "values": [...] // array of values entity
4  }
```

3.3.1.1. Values entity

Each value has the following attributes. See the comments below

Example: Values under the inventory year

```
1  {
2    "variable_uid": "58c4792c-4e8a-473b-a6ca-0fc09ba1ef47", // [mandatory], reference to the variable unique id
3    "value":      // [optional] actual value of the cell
4    {
5      "type":      // [mandatory] type of the value, can be only within the following four types
6      [
7        "NK",      // Notation Key
8        "number",  // number
9        "text",    // text
10       "drop_down" // drop down selection
11     ],
```

```

12     "value": 128 // [mandatory] value itself, can be text or number, in case of drop down type and multi sel
13 },
14 "comments":      // [optional] comments section to the value
15 [
16     {
17         "comment": "my user comment",           // [mandatory] text of the comment
18         "time_stamp": "01/12/2023 16:43:23", // [optional] time stamp of the comment
19         "type":                                     // [mandatory] type of the comment, can have the following type
20         [
21             "official_comment",                 // default comments
22             "NK_explanation",                     // Notation Key explanation for NE and IE (only if the cell val
23             "Allocation_by_IPCC",               // Notation key explanation only for IE (only if the cell value
24             "Allocation_by_Party"              // Notation key explanation only for IE (only if the cell value
25         ]
26     }
27 ],
28 "agg_disabled": false                          // [optional] Specifies if the user disabled formula for the va
29 }

```

Note: If the [optional] fields are not specified, it is ignored during the import

3.3.1.2. Notation keys

Notation keys are represented by the bit flag. The coding of notation keys is represented by 4 bytes (long integers). Each bit represents one of the notation keys used by the reporting tools. In this case, we can have 32 combinations using bits. The following presentation of notation keys allows easy aggregation of notation keys and tests the value using the bit mask.

ID	Key	Value	Type	Reporting tool
1	empty	0	Null	CRT
2	C	1	Notation Key	CRT
3	CR	2	EF Information | Method	CRT
4	CS	4	EF Information | Method	CRT
5	D	8	EF Information | Method	CRT
6	GCV	16	Calorific Value	CRT
7	IE	32	Notation Key	CRT
8	IO	64	Notation Key	CRT
9	M	128	EF Information | Method	CRT
10	NA	256	Notation Key	CRT
11	NCV	512	Calorific Value	CRT
12	NE	1024	Notation Key	CRT
13	NO	2048	Notation Key	CRT
14	.....	.....	<i>Reserved</i>	.....
15	OTH	8192	EF Information | Method	CRT
16	PS	16384	EF Information	CRT

17	R	32768	Notation Key	CRT
18	RA	65536	Methods	CRT
19	T1	131072	Method	CRT
20	T1a	262144	Method	CRT
21	T1b	524288	Method	CRT
22	T1c	1048576	Method	CRT
23	T2	2097152	Method	CRT
24	T3	4194304	Method	CRT
25	FX	8388608	Notation Key	CRT
26	.....	.....	<i>Reserved</i>	.....
.....	.....	.....	<i>Reserved</i>	.....

Example: Combination of notation keys "NA, NE" would be $256 + 1024 = 1280$

3.1.2. Node comments

The following JSON entity is used for the node comments. See comments for details:

Example: Node comments details

```

1      "node_comments":           // [optional] array of comments to the node
2      [
3          {
4              "id": 298,         // [mandatory] ID of the node
5              "comments":       // [mandatory] array of comments to the node, as for each year node can h
6              [
7                  {
8
9                      "text": "Contains diesel fuel, biodiesel, motor gasoline and propane (LPG). ...", //
10                     "years": // [mandatory] array of years selected by the user to provide comments
11                     [
12                         1990,
13                         1991
14                     ]
15                 }
16             ]
17         }
18     ]

```

Appendix I: Examples

Example: Single record with version and data excluding country-specific

```

1  {
2      "version":
3      {
4          "metadata_ver": "1.2",
5          "country": "XYZ",
6          "data_version": "XYZ-CRT-2024-v0.1",

```

```

7     "metadata_type": "CRT"
8   },
9   "data":
10  {
11    "values":
12    [
13      {
14        "inventory_year": "1990",
15        "values":
16        [
17          {
18            "variable_uid": "711ab9da-13cd-44d8-b8f4-33a954171186",
19            "value":
20            {
21              "type": "number",
22              "value": 0.07237267865
23            },
24            "agg_disabled": true
25          }
26        ]
27      }
28    ]
29  }
30 }

```

Example: Range of data

```

1  {
2    "version": {
3      "metadata_ver": "1.2", // version of the metadata (mandatory)
4      "country": "XYZ", // 3 ISO code of the country (optional if not specified will be imported based on the use
5      "data_version": "XYZ-CRT-2024-v0.1", // data version from an application (optional if not specified will be
6      "metadata_type": "CRT" // const for application metadata: CRT, NDC, FTC (mandatory)
7    },
8    "country_specific_data": [ // this is a section describing country specific data
9      {
10     "variables": [ // list of new variables added for the country specific data (free text Type 1 customization
11       {
12         "uid": "58c4792c-4e8a-473b-a6ca-0fc09ba1ef47", // unique identifier for the new variable
13         "template_variable_uid": "825df06d-464b-4c24-8edb-e2dfd667d982", // reference to the parent variable,
14       },
15       {
16         "uid": "2fe4ef85-4507-4d63-8a68-e464e8327ef7",
17         "template_variable_id": "c284b0a8-63ea-4119-8dc5-a25251e116ff"
18       }
19     ]],
20     "nodes": [ // section for country specific nodes
21       { // example of CS node with a custom name free text type 1 customization
22         "uid": "a5c56262-5627-46ce-9326-022a1429c0b1", // newly generated unique identifier for the node
23         "name": "My Category", // name of the new node
24         "parent_uid": "7b5916c0-1fc6-4260-a8c8-dea8b9532939", // reference as a unique identifier to the parent
25         "template_node_uid": "955916c6-3fc7-5262-f8f6-faa8b9532945", // reference to the template node UID that
26         "order_number": 1 // order number, used in case several nodes are added, only present order of appearance
27       },
28       { // example of CS Node selected from drop down list (drop down type 2 customization) and second level
29         // customization can be with custom child nodes of free text type 1 customization
30         "uid": "e2408408-8059-4fa0-a698-fd790440531a"
31       },
32       // here goes multi level customization of type 1 customization
33     ]
34   }
35 }

```

```

33         "uid": "7102c424-19fa-4a92-9e13-0a948373d48c",
34         "name": "Child 1 of My Category",
35         "template_node_uid": "7e98cbcd-3926-4169-a663-91b2a666907f",
36         "order_number": 1
37     },
38     { // example of CS Node selected from drop down list type 2 customization
39         "uid": "e942b4ef-c776-48f2-8b07-514f96a7aca0"
40     }
41 ],
42 "grid" : [
43     {
44         "node_uid" : "6e1e8e18-1485-45fd-a8db-08f4095019bb",
45         "group" : [
46             {
47                 "line_id" : 12, // reference to the line_id within the data entry grid
48                 "variable_uid" : "27110a50-3acc-49e2-9df3-4c16771c061c", // "variable_uid" can be used in case of
49                 "dimension_instance_uid": "8ca492bb-eb18-41d3-a82e-05be05481a85", //dimension instance uid only if
50                 "template_line_uid" : "dbe42e8b-55de-433f-a795-8968bf0ea6a1" // reference to the template line, if
51             }
52         ]
53     }
54 ],
55 "drop_down" : [
56     {
57         "id": 17, // unique id or name of the dropdown
58         "name": "DESCRIPTION", // unique name or id of the dropdown
59         "items": // list of new items used by the country
60             [
61                 {
62                     "name": "My new description" // provide a new name for the CS item
63                 }
64             ]
65     }
66 ]
67 }
68 ],
69 "data": // section for data
70 {
71     "values": [ // array of values
72         {
73             "inventory_year": 1990, // inventory year
74             "values": [
75                 { // example of a record using number value and aggregation (formula) is disabled
76                     "variable_uid": "d5a75a60-0d90-465c-90ef-0d8565ca8627",
77                     "value" :
78                     {
79                         "type":"number", // one of the types to be specified
80                         "value": 0.07237267865 // actual value
81                     },
82                     "agg_disabled": true
83                 },
84                 { // example of a record with string value (mostly used in the documentation boxes)
85                     "variable_uid": "85034749-7cda-44d2-a861-91231255a80e",
86                     "value" :
87                     {
88                         "type":"text", // one of the types to be specified
89                         "value": "My documentation box text" // actual value
90                     }
91                 }
92             ]
93         }
94     ]
95 }

```

```

91     },
92     { // example of just newly added variable as part of CS data
93       "variable_uid": "58c4792c-4e8a-473b-a6ca-0fc09ba1ef47", // use UID instead of ID, as variable doe
94       "value" :
95       {
96         "type":"NK", // one of the types to be specified
97         "value": 1024 // actual value
98       },
99       "comments": [
100        {
101          "comment": "my user comment for NE notation key explanation", // comment body
102          "time_stamp" : "01/12/2023 16:43:23", // time stamp of the comment [optional]
103          // below is a types of comments available for CRT
104          "type" : "NK_explanation" // Notation Key explanation for NE and IE
105        }
106      ]
107     },
108     { // example of all fields that can be provided in values (so far that we know)
109       "variable_uid": "58c4792c-4e8a-473b-a6ca-0fc09ba1ef47", // [mandatory]
110       "value": // [optional]
111       {
112         "type":["NK","number","text", "drop_down"], // one of the types to be specified
113         "value": 128 // actual value
114       },
115       // section for comments
116       "comments": [
117         {
118           "comment": "my user comment", // comment body
119           "time_stamp" : "01/12/2023 16:43:23", // time stamp of the comment [optional]
120           // below is a types of comments available for CRT
121           "type" : ["party_comment", "user_comment", "official_comment", // default comments
122                   "NK_explanation", // Notation Key explanation for NE and IE
123                   "Allocation_by_IPCC", "Allocation_by_Party" // Notation key explanation only for IE
124         ]
125         }
126       ],
127       "agg_disabled": false // flag if the value should not be aggregated and used as is [optional]
128     }
129   ]
130 }
131 ],
132 "node_comments": [
133   {
134     "id": 298,
135     "comments": [
136       {
137         "text": "Contains diesel fuel, biodiesel, motor gasoline and propane (LPG). Biodiesel has a 5% fo
138         "years": [1990, 1991]
139       },
140       {
141         "text": "Contains Ethanol and the 95% biogenic portion of Biodiesel.",
142         "years": [1993]
143       }
144     ]
145   }
146 ]
147 }
148 }

```

