

Pathways Portal

Data Upload Guide

After you've received the invitation email and created your user account, follow these steps to configure the site for your team. The site contains the following elements:

Team: entity to group users and which can be linked to one or more **models**.

Model: a model in this context is a computer program used to investigate climate change mitigation and/or adaption options as well as other potential targets, like economic targets or energy targets. It can be run using different input assumptions and the inputs and outputs of one model run are collectively referred to as a "scenario". A model's metadata information is maintained by the team that develops it.

Scenario: For each **model**, a series of scenarios can be defined. Scenarios will define specific conditions for the running of the model and can set goals/constraints for when running the model. Each scenario belongs to a single **model** and has its own set of metadata.

Indicator: An indicator is a metric that can be tracked for the various **scenarios**. Indicators can be things like CO₂ emissions, consumption of fuel, etc. Indicators are curated by Pathways Portal admins and have a standard description of what they are. Users have no ability to edit, add and/or delete the indicators. Acknowledging that there might be subtle differences between indicators of different models, there is a way to add "model specific notes" in the system. These notes can be used by modelers to make sure that users of the portal understand model-specific choices for each indicator.

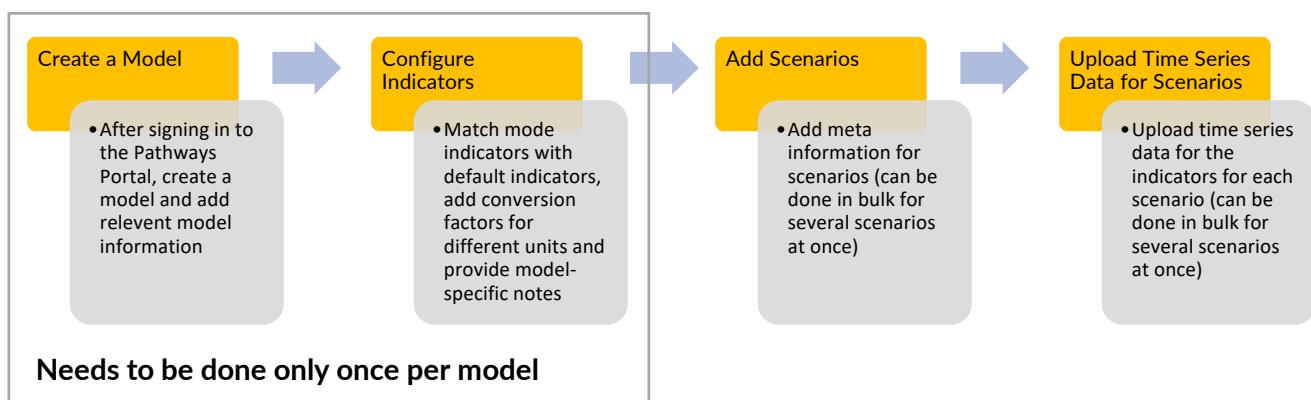
Time Series Data: Each time series set will be related to one **indicator** and one **scenario**. Each set of data will have values for a varying number of years (some might have information for 50 years, others for 100 years). For each row of data, a unit that is valid for the selected indicator should be defined. Each set of data will also be related with a country or region.

Overview

As a scenario exploration tool for a wide variety of models, the Pathways Portal strives to balance two main objectives:

1. **Flexibility** to reflect each model's idiosyncratic characteristics, its specific purposes and strengths in certain areas.
2. **Comparability** to be able to look across results of different models.

To be able to achieve both purposes we settled on a data upload system that starts with a large standardized set of indicators as a basis for comparison. Modelers can add their own specific notes for these indicators. In case a model group has indicators that are not on the system indicators list, they can send the list of these indicators to the portal administrators, who can add them to the system after reviewing the system indicator list.



Steps

[Create a model](#)

[Configure indicators](#)

[Add custom units for entry and model-specific notes](#)

[Adding new indicators](#)

[Add scenarios](#)

[Add scenario meta information](#)

[Adding time series data](#)

[Error messages during upload](#)

[Managing your team](#)

[Feedback](#)

Create a model

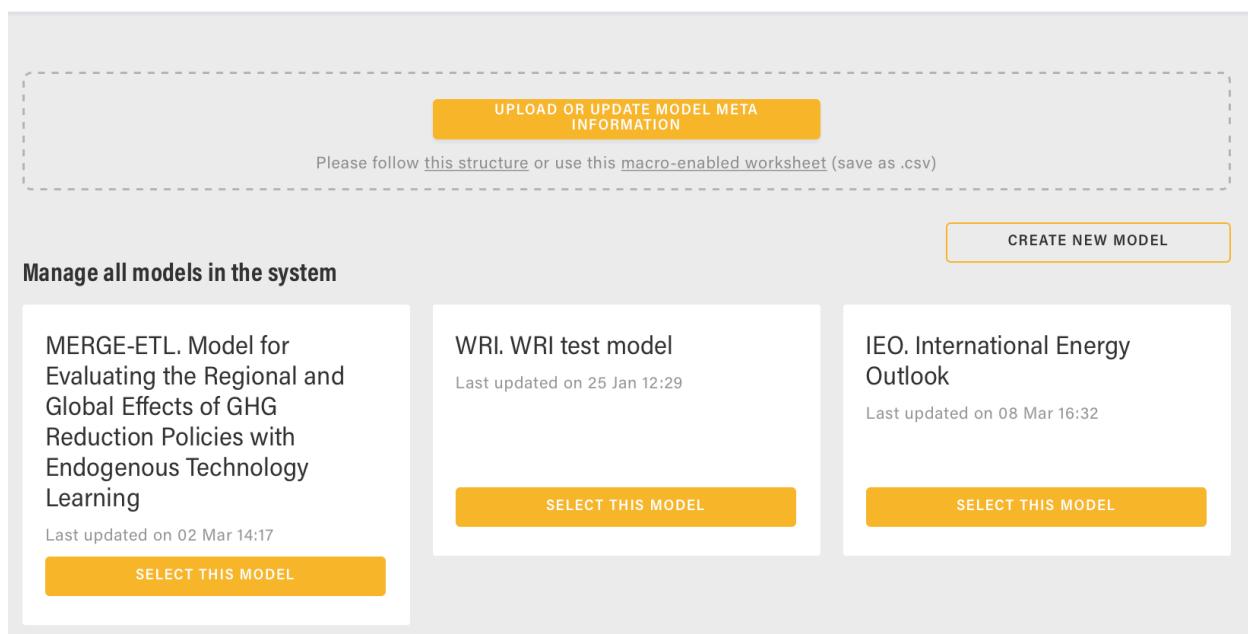
After signing in you would want to create a new model. You can do this in the following ways:

- Through a csv upload using the template provided (recommended)
- Manually by selecting the create new model button.

If you choose to add the model manually you'll be presented with a page containing a series of fields (the same fields are found in the template). Fill out the meta information about the model that is asked and save it.

Pathways Portal

 Sign out



UPLOAD OR UPDATE MODEL META INFORMATION

Please follow [this structure](#) or use this [macro-enabled worksheet](#) (save as .csv)

CREATE NEW MODEL

Manage all models in the system

MERGE-ETL. Model for Evaluating the Regional and Global Effects of GHG Reduction Policies with Endogenous Technology Learning
Last updated on 02 Mar 14:17
[SELECT THIS MODEL](#)

WRI. WRI test model
Last updated on 25 Jan 12:29
[SELECT THIS MODEL](#)

IEO. International Energy Outlook
Last updated on 08 Mar 16:32
[SELECT THIS MODEL](#)

Below is a screenshot of the macro-enabled excel upload file. Column D describes the type of data that needs to be filled for each row. When the Data Type says Picklist, the cell adjacent to that in column F will have a drop-down menu from which multiple selections can be made. It is recommended to fill out as much information as possible on this sheet; it will help users of the Pathways Module find your model and all the fields left empty will appear on the front end as "Not Specified".

After the information has been entered in the macro-enabled excel file save the file as a csv and upload it using the "Upload or Update Meta Information" button. This should create your model.

A	B	C	D	E	F
Category	Indicator	Definition/ Input Explanation	Data Type	Picklist options	Model 1
1 About	Model Abbreviation	What is the model abbreviation?	Text (Alphanumeric)		
2 About	Model Full Name	What is the full model name?	Text (Alphanumeric)		
3 About	Current Version(s)	What is the most recent version of the model?	Text (Alphanumeric)		
4 About	Maintainer Institute	Who is the institute or enterprise responsible for development of the model?	Text (Alphanumeric)		
5 About	Description	Provide a brief overview of the model and its key focus areas.	Text (Alphanumeric)		
6 About	URL	Where can basic model information be accessed?	Text (Alphanumeric)		
7 About	Programming Language	What programming language is used to write and run the model code?	Text (Alphanumeric)		
8 About	License	What is the licensing for using this model?	Text (Alphanumeric)		
9 About	Expertise	What is the skill level required to run the model?	Picklist and Text (Alphanumeric)		
10 About	Platform	Describe the platform(s) that the model runs on.	Text (Alphanumeric)		
11 About	Publications & Notable Projects	What are some studies or notable projects that have used the model?	Text (Alphanumeric)		
12 About	Citation	Is there a preferred citation for referencing the use of this model?	Text (Alphanumeric)		
13 About					

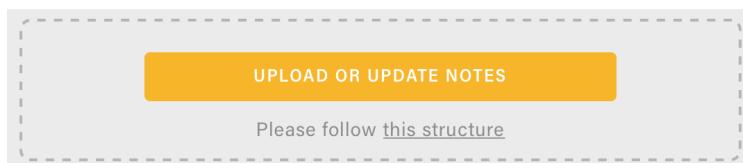
Configure indicators

After you have successfully created your model, you can familiarize yourself with the default indicators on the Pathways Portal. You can do so by clicking at the "Indicators" tab on the model page. Here you can find all indicators that currently exist on the site. They are ordered into overarching categories like "Emissions", which are sub-divided into more detailed sub categories. You can filter the list by categories or use the search function to look for a particular indicator.

Now you have two choices for how to proceed with uploading data. You can either:

1. Use the indicators as they appear in this list and upload data directly for them. **IMPORTANT:** make sure that the **UNIT** of your indicator exactly matches the unit given in the list. Otherwise please convert your data to this unit or use the process explained in further detail in the next section. If you decide to use the indicators without change you can skip straight to the "Add Scenarios" section below.
2. You can add your preferred unit of entry and model-specific notes for indicators if you want to. The next section explains how to do this

Add custom units for entry and model-specific notes



The "Upload or Update Notes" function allows the user to upload a csv file containing the model specific notes, units of entry and the conversion factors for indicators. Click link "this structure" located below the "Upload or Update Notes button" on the "Indicators" page to download the template (a csv file called "notes_upload_template") in which the notes and units' data are to be uploaded.

The fields are, "Model Name", "Default Indicator Name", "Unit of Entry", "Conversion Factor", "Note". The unit of entry and conversion factor need to be provided even if the unit of entry is the same as the default unit (with conversion factor "1"). The "Default Indicator Name" column in the template is also a list of all indicators available indicators on the portal.

NOTE: the unit displayed on the front-end of the Pathways Portal will always be the standardized one. You can enter a custom unit of entry if this makes the upload process easier, but it will always have to be converted to the standardized unit, which is why you will need to supply a conversion factor if you want to do this.

- **Model Name:** In this field, enter exactly the same abbreviation of the model name which has been entered in the "**Model Abbreviation**" field while creating the model. If the Model Name does not match, the system will not accept the data and give an error message saying, "The Model Doesn't Exist"
- **Default Indicator Name:** In this field enter the name of the indicator for which specific notes or unit conversion factors have to be uploaded
- **Unit of Entry:** In this field, enter the unit (Model Unit) in which the original data is available. If the data is available in the same unit as the standardized unit, enter the standardized unit

- **Conversion Factor:** In this field, enter a factor of conversion which when multiplied by the model unit results in the standardized unit. If the data is available in the same unit as the standardized unit, enter the conversion factor as 1. For example, if the original unit in which energy data is available is “TWh”, the standardized unit is “EJ” and the conversion factor will be 0.0036. For converting non-CO₂ greenhouse gases to CO₂e please use IPCC AR4 (2007) guidelines for the 100-yr global warming potential; CH₄: 25, N₂O: 298.
- **Note:** In this optional field, you can enter a note for a particular indicator to explain particular modeling choices for this indicator.

You can either empty the pre-filled “Default Indicator Name” column and just have indicators which have notes and/or conversion factors or find the indicators in the column and have notes and/or conversion factors against them.

Once the upload file is ready, click on the “Upload or Update Notes” button and upload the file. You can also drag and drop the file into the field shown above. For larger files the upload can take a while. Please do not close the browser window while the upload is in process even if the site seems unresponsive for a while.

Adding new indicators

If there is an indicator that is used by a model but is not present in the system indicators list, please use the following convention and send the portal administrators an email with the csv file:

Pathways Portal indicator naming scheme:
 “<Category>|<Subcategory>|<Name>”
 E.g. “Energy|Final Energy|Electricity”

Categories are fixed within the system and the available options are:

- Emissions
- Climate and Health Impacts
- Population and Economy
- Energy
- Electricity
- Industry
- Buildings
- Transportation
- Agriculture, Land Use and Forestry
- Policy
- Technology
- Financial

Before you request a new indicator, we strongly encourage you to check whether a similar indicator already exists. If you do decide to add a new indicator, please try to fit it within one of the available categories and sub-categories.

Add scenarios

Information for scenarios consists of two sets of data:

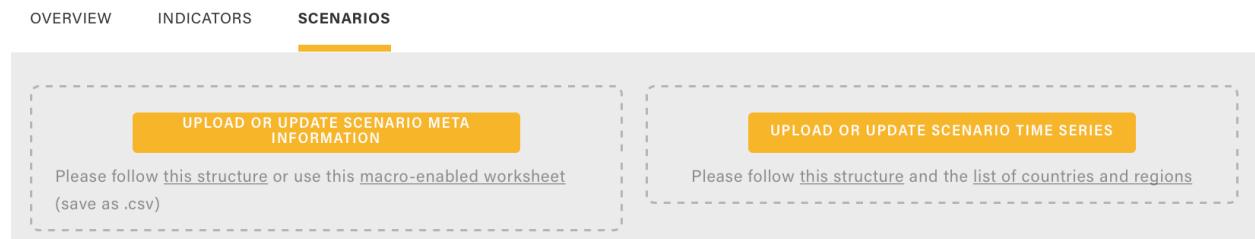
1. Meta Information: this is information about the scenario as a whole. E.g., what regions and gases are covered, what policies and technologies are included, who is the contact point for the scenario and where it is published (if available)
2. Time Series: these are the numeric outputs of the model for a set of indicators over the range of time given by the model.

Add scenario meta information

You also need to add scenarios, and meta information about those scenarios, to your model before you can upload time-series data. Again, you can complete this en masse using a csv upload (recommended), following the structure and the abbreviations used in the template that will be provided. If you want to view or edit any of the meta information data for your scenario, just click the edit button in the row for that scenario.

Home > Global Change Assessment Model

 Sign out



The screenshot shows the 'SCENARIOS' tab selected in the navigation bar. Below it, there are two main sections: 'UPLOAD OR UPDATE SCENARIO META INFORMATION' and 'UPLOAD OR UPDATE SCENARIO TIME SERIES'. Each section contains a yellow button with its respective title and a note below it. The notes provide instructions for file structure and mention macro-enabled worksheets.

OVERVIEW INDICATORS SCENARIOS

UPLOAD OR UPDATE SCENARIO META INFORMATION

Please follow [this structure](#) or use this [macro-enabled worksheet](#) (save as .csv)

UPLOAD OR UPDATE SCENARIO TIME SERIES

Please follow [this structure](#) and the [list of countries and regions](#)

The scenario meta information upload is very similar to the model meta information upload. The more information you do add the easier it will be for people to find and use your scenarios in the front-end application. All the fields left empty will appear on the front-end as "Not Specified". As for the model meta information upload, there are a series of standard labels in Column D of the upload template that you can use to describe your scenarios (starting in Column F). When the Data Type (Column D) says Picklist, the cell adjacent to that in column E will have a drop-down menu from which multiple selections can be made. Once done, **save the excel workbook as a csv** to be able to upload it directly. Again, please make sure you delete all the empty "scenario" columns. For instance, if you have only 2 scenarios, please delete the columns "Scenario 3", "Scenario 4", and so on before uploading.

A	B	C	D	F
Category	Indicator	Definition/ Input Explanation	Data Type	Scenario 1
2 Scenario context	Model Abbreviation	What is the model abbreviation?	Text (Alphanumeric)	
3 Scenario context	Scenario Name	What is the scenario name?	Text (Alphanumeric)	
4 Scenario context	Scenario Year	In which year was the scenario created?	Text (Alphanumeric)	
5 Scenario context	Category	What category does this scenario fit under?	Picklist	
6 Scenario context	Purpose/Objective	What was the original purpose or objective of the scenario? Why was it created?	Text (Alphanumeric)	
7 Scenario context	Description	What is a description of the scenario?	Text (Alphanumeric)	
8 Scenario context	Reference	Was the scenario used in a publication? Provide reference	Text (Alphanumeric)	
9 Scenario context	URL	Is the scenario originally available online? Provide URL.	Text (Alphanumeric)	
10 inputs	Policy Coverage	What policies are covered by the scenario?	Picklist	
11 inputs	Technology Coverage	What technologies are covered by the scenario?	Picklist	
12 inputs	Socioeconomics	Which socio-economic assumptions were used for this scenario? If one of the shared socio-economic pathways (SSPs) was used, please specify which one.	Text (Alphanumeric)	
13 inputs	Climate Target	What climate targets are included in this scenario (e.g. 450 ppm, 2 DC, etc.)? Optional: in what year does the target have to be achieved? Is overshoot allowed?	Text (Alphanumeric)	
14 inputs	Other Target	Is there another target type included in the scenario? E.g. energy access, poverty alleviation	Text (Alphanumeric)	

After you have prepared the file for meta-information and saved it as csv you can upload it by dragging and dropping it into the “Upload or update scenario meta information” box. When the file has been uploaded without problems you will see a message in a small green box in the bottom right corner of your browser window stating “File has been queued for processing. Please refresh.” Once you refresh your browser window you should be able to see the scenario appear in the list.

Adding time series data

Once the scenario meta information and team indicators has been added, you can upload time series for scenarios on the scenario page. The data must be available in a certain format to be uploaded. Click [here](#) or on the link “this structure” located below the “Upload of Update Scenario Time Series” button on the “Scenarios” Page to download the template (a csv file called “time_series_values_upload_template”) in which the data should be uploaded. The template is divided into two sections which are the meta information section and the time series section.

The information section contains five fields namely “Model”, “Scenario”, “Region”, “Default Indicator Name” and “Unit of Entry”.

- **Model Name:** This field must contain exactly the same abbreviation of the model name which has been entered in the “Model Abbreviation” field while creating the model. If the Model Name does not match, the system will not accept the data and give an error message saying, “The Model Doesn’t Exist”
- **Scenario:** This field must contain names of the scenario corresponding to the time series
- **Region:** This field must contain the region corresponding to the time series
- **Default Indicator Name:** This field must contain the name of the indicator corresponding to the time series. The names of the indicators are curated by the system administrators and cannot be changed. A list of available indicators can be found on the “Indicators” page in the portal.
- **Unit of Entry:** This field must contain the unit (Model Unit) in which the original data is available. If the data is available in the same unit as the standardized unit, enter the standardized unit

The time series section must contain the data corresponding to the indicators in the information section. The column names (years and time intervals between them) should be changed to match with the model data.

You can upload multiple scenarios in a single file. Please follow the structure provided and remember to be consistent with the scenario name used in the meta information and the time series csv data. Please keep in mind to not have any commas (thousand separators) in the time series data as it will throw a format error. Decimal points are accepted (but not as a thousand separator). Please see screenshot for further clarification.

Where the upload file allows to specify a country/region, please make sure to use names of regions and countries exactly as presented in the reference list. The link is provided next to the structure link. New geographical entities may only be added by system administrators, which is why the system will fail with “Location does not exist” if the name you specified does not match.

Make sure that there aren’t any blank rows (blank cells are acceptable) in the time series section because having blank rows will not be accepted by the system and an **error message** will be displayed.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
1	AEO	Scenario	Region	Default Indicator Name	Unit of entry	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
2	AEO	Reference	United State Emissions GHG Emissions by Sector Industry	Mmt CO2	1438	1436	1446	1485	1522	1541	1549	1554	1566	1572	1570	1565	1565	1565	
3	AEO	Reference	United State Emissions GHG Emissions by Sector Transportation	Mmt CO2	1864	1866	1865	1877	1879	1872	1866	1854	1838	1818	1794	1771	1750	1750	1750
4	AEO	Reference	United State Emissions GHG Emissions by Sector Electricity	Mmt CO2	1919	1785	1787	1785	1820	1820	1776	1715	1692	1677	1659	1633	1633	1633	1633
5	AEO	Reference	United State Buildings Emissions By Sub-Sector Residential	Mmt CO2	1041	977	993	990	995	986	961	932	918	909	901	890	880	880	880
6	AEO	Reference	United State Buildings Emissions By Sub-Sector Commercial	Mmt CO2	917	878	879	870	876	873	854	829	818	811	804	795	795	795	795
7	AEO	Reference	United State Population and Economy Population by age Aged 15+ Millions		256.7	259.3	261.9	264.3	266.8	269.3	271.7	274.1	276.6	279	281.2	283.5	283.5	283.5	
8	AEO	Reference	United State Population and Economy Population by age Aged 65+ Millions		48	49.6	51.3	53	54.8	56.7	58.5	60.5	62.4	64.2	66.2	68	68	68	
9	AEO	Reference	United State Population and Economy GDP PPP	Billion US 2009\$	16397	16652	17114	17499	17817	18236	18734	19221	19650	20127	20558	20906	211	211	
10	AEO	Reference	United State Energy Final Energy Use by Sector Industry	quadrillion Btu	31.01	30.85	31.37	32.36	33.21	33.64	34.18	34.77	35.33	35.64	35.74	35.79	35.79	35.79	35.79
11	AEO	Reference	United State Energy Final Energy Use by Sector Transportation	quadrillion Btu	27.95	28.27	28.48	28.64	28.63	28.53	28.42	28.27	28.04	27.76	27.43	27.1	26	26	26
12	AEO	Reference	United State Energy Final Energy Use by Sector Electricity	quadrillion Btu	38.19	37.53	37.57	37.87	38.26	38.41	38.55	38.67	38.86	38.95	38.89	38.71	38.71	38.71	38.71
13	AEO	Reference	United State Buildings Energy Use By Sub-Sector Residential	quadrillion Btu	20.54	20.01	20.27	20.38	20.37	20.24	20.12	20.02	19.96	19.91	19.85	19.76	19.76	19.76	19.76
14	AEO	Reference	United State Buildings Energy Use By Sub-Sector Commercial	quadrillion Btu	17.96	17.82	17.83	17.78	17.78	17.77	17.75	17.71	17.71	17.7	17.67	17.67	17.6	17.6	17.6
15	AEO	Reference	United State Energy Primary Energy Use Coal	quadrillion Btu	15.47	13.93	14.12	14.13	14.82	15.24	14.94	14.45	14.22	13.88	13.47	13.01	13.01	13.01	13.01
16	AEO	Reference	United State Energy Primary Energy Use Gas	quadrillion Btu	28.19	28.59	28.77	29.02	28.76	28.22	28.09	28.07	28.23	28.67	29.14	29.57	29	29	29
17	AEO	Reference	United State Energy Primary Energy Use Oil	quadrillion Btu	36.57	36.89	37.21	37.8	37.98	37.85	37.81	37.76	37.62	37.38	37.03	36.7	36.7	36.7	36.7
18	AEO	Reference	United State Energy Primary Energy Use Other Renewables	quadrillion Btu	2.64	3.04	3.34	3.58	3.72	4.2	4.83	5.64	6.07	6.17	6.2	6.24	6	6	6
19	AEO	Reference	United State Energy Primary Energy Use Biomass	quadrillion Btu	2.92	2.76	2.74	2.77	2.81	2.82	2.84	2.86	2.89	2.91	2.91	2.9	2.9	2.9	2.9
20	AEO	Reference	United State Energy Primary Energy Use Nuclear	quadrillion Btu	8.34	8.34	8.28	8.15	8.05	7.97	8.08	8.11	8.14	8.15	8.09	8	8	8	8
21	AEO	Reference	United State Energy Primary Energy Use Hydro	quadrillion Btu	2.36	2.5	2.51	2.71	2.91	2.94	2.94	2.94	2.94	2.95	2.95	2.95	2.95	2.95	2.95

Note: The data upload is not completed until a green box saying, "x records saved" (x is the number of records in the data file) appears in the bottom right corner of your screen. Depending on the size of the file, the might need to be refreshed a until before it appears.

Once the data has been uploaded you can preview the data by clicking the scenario and then clicking on the available indicators there. You can also download the time series for the whole scenario by clicking the "Download Time Series" button in the top right of the page. Once you are done uploading your data it will be reviewed by admins to make sure it has been uploaded correctly and then will be published on the front-end of the site.

Home > Annual Energy Outlook 2017

Sign out

OVERVIEW INDICATORS SCENARIOS

Electricity|GHG Emissions by Gas|CO2

Category	Subcategory	Default Unit	Description	Edit metadata	Edit note
Electricity	GHG Emissions by Gas	Mt CO2e/yr	Carbon dioxide emissions form the electricity sector		

Time Series (8)

Country	Scenario	2016	2017	2018	2019	2020
United States	Reference-No CPP (1785.0	1787.0	1781.0	1825.0	1836.0
United States	Reference (2017)	1785.0	1787.0	1785.0	1820.0	1820.0
United States	Low oil and natural gas	1784.0	1770.0	1818.0	1869.0	1870.0
United States	Low Oil Price (2017)	1785.0	1770.0	1797.0	1827.0	1824.0
United States	Low Macroeconomic	1785.0	1769.0	1772.0	1792.0	1788.0

Error messages during upload

If you experience errors during csv upload, you will see error messages on your screen explaining which rows have errors and a description of the error. There will also be some instructions to help you resolve the error as necessary.

Managing your team

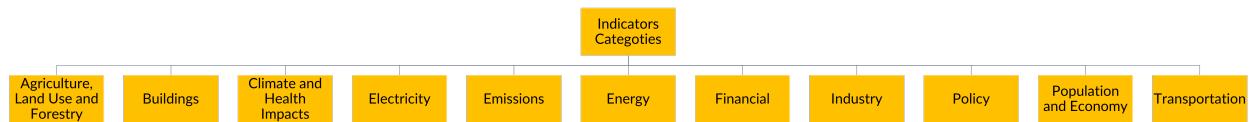
You can invite new members to your team by email. Once they leave the team, simply use the trash can icon to remove them. Note, this removes them from your team; it does not remove the user account altogether.

Feedback

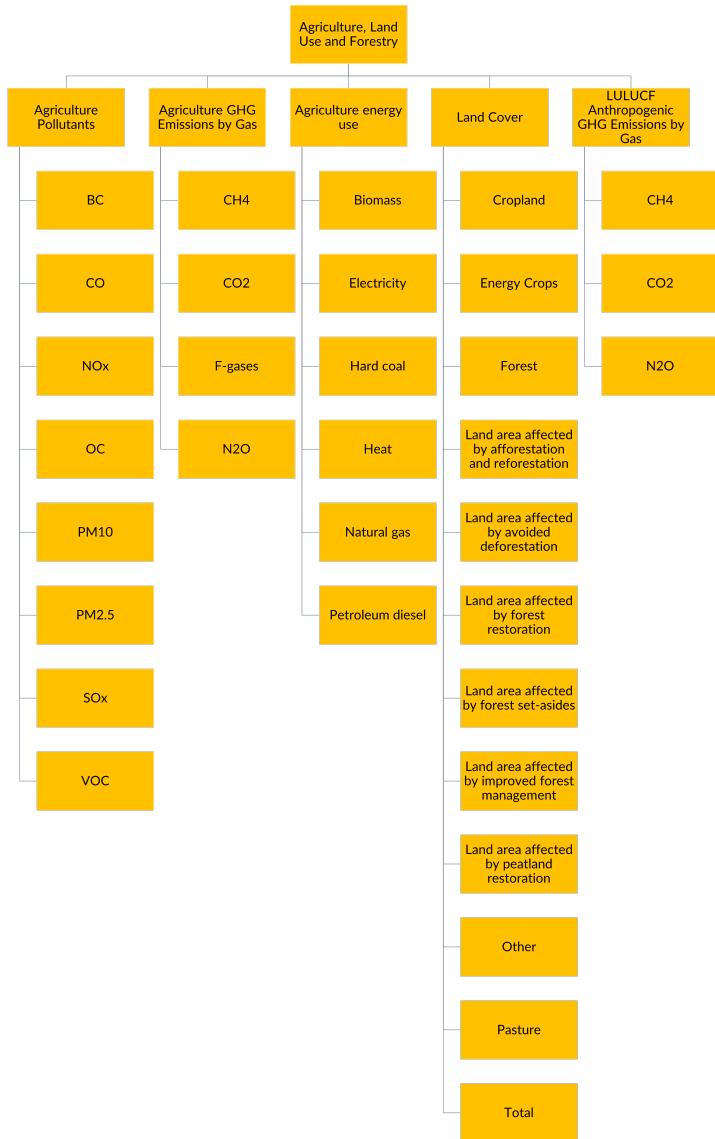
Please let us know if you have any feedback on the Pathways Portal. You can get in touch with Roman Hennig (roman.hennig@wri.org). We look forward to hearing your thoughts.

Appendix: Pathway Portal Indicators' Tree Diagrams

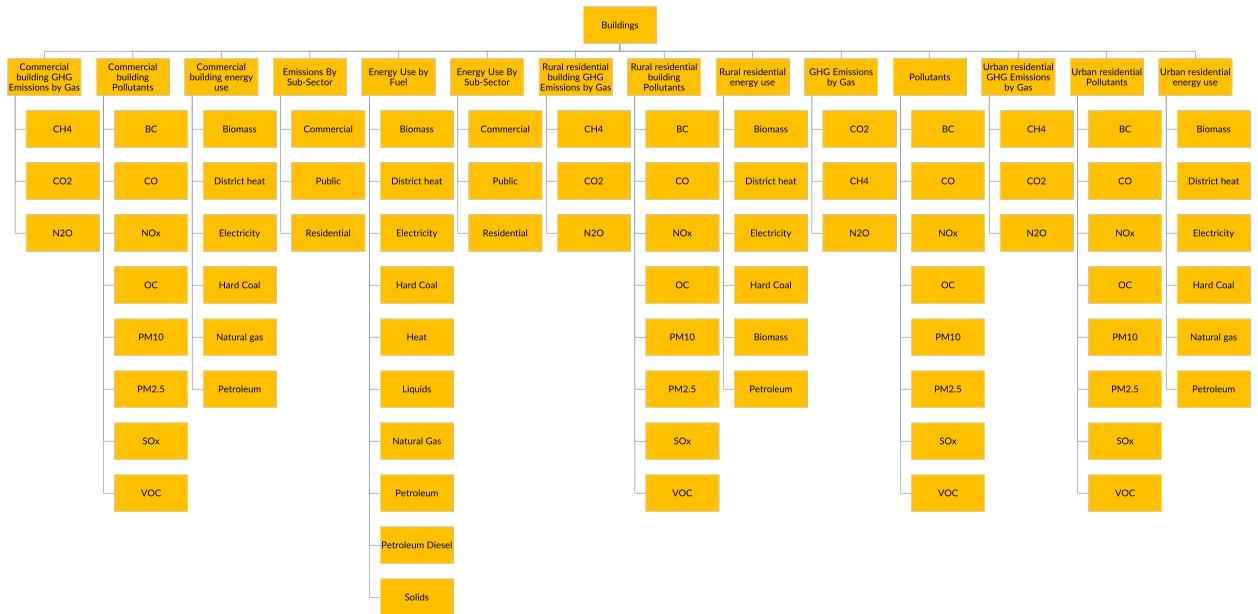
Indicator Categories



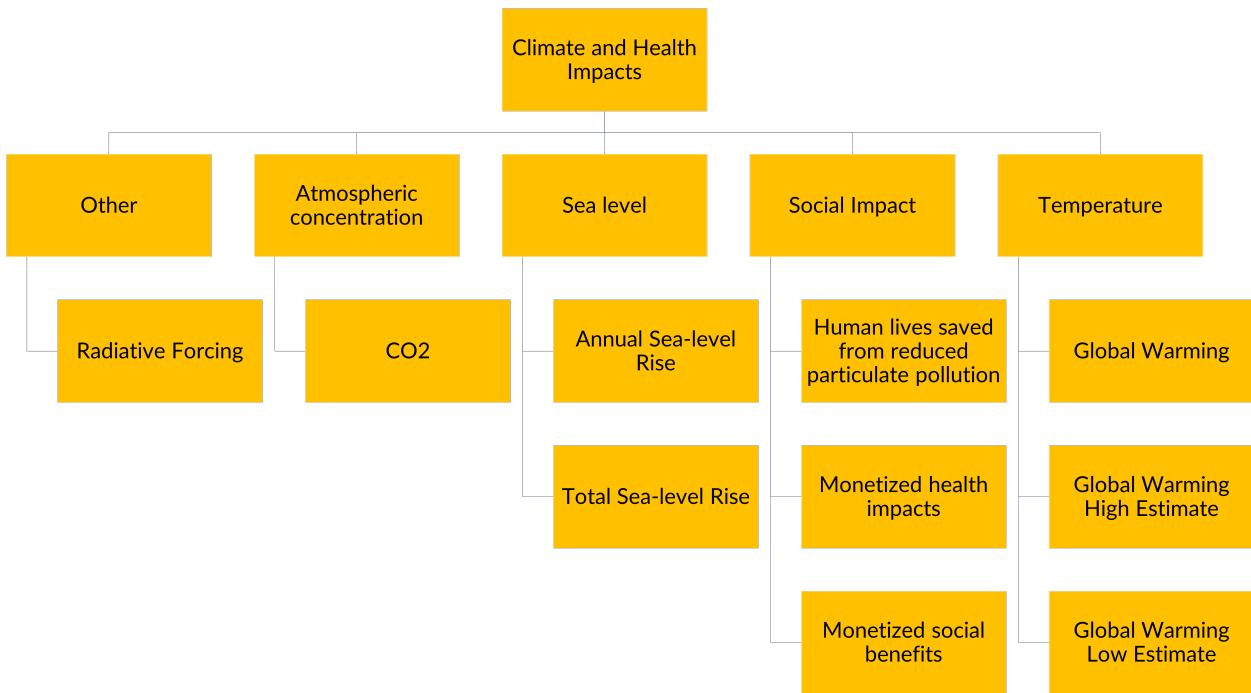
Agriculture, Land Use and Forestry



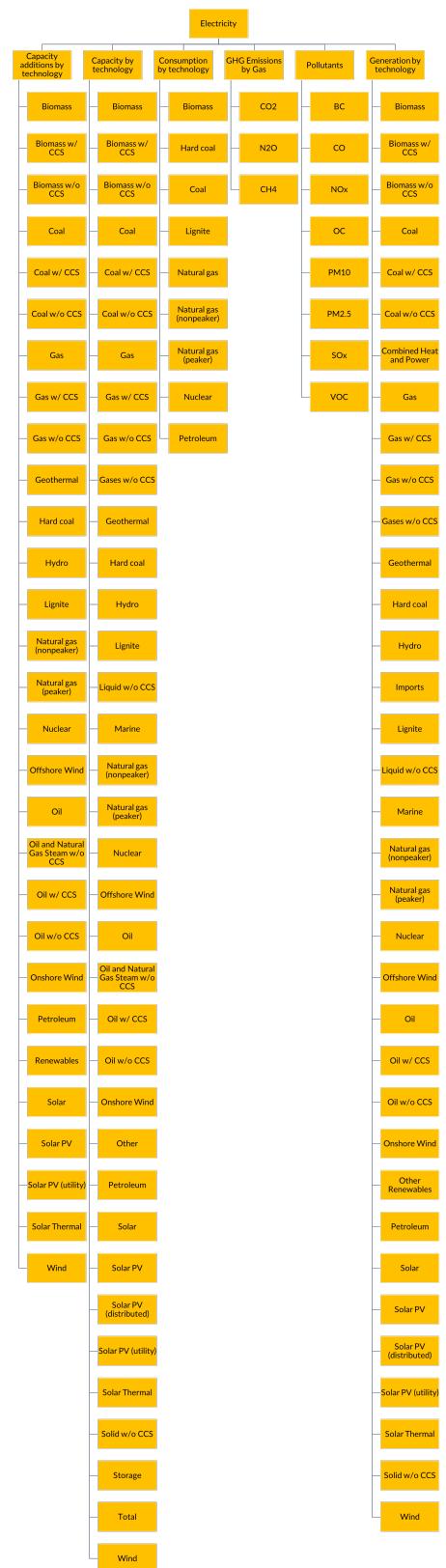
Buildings



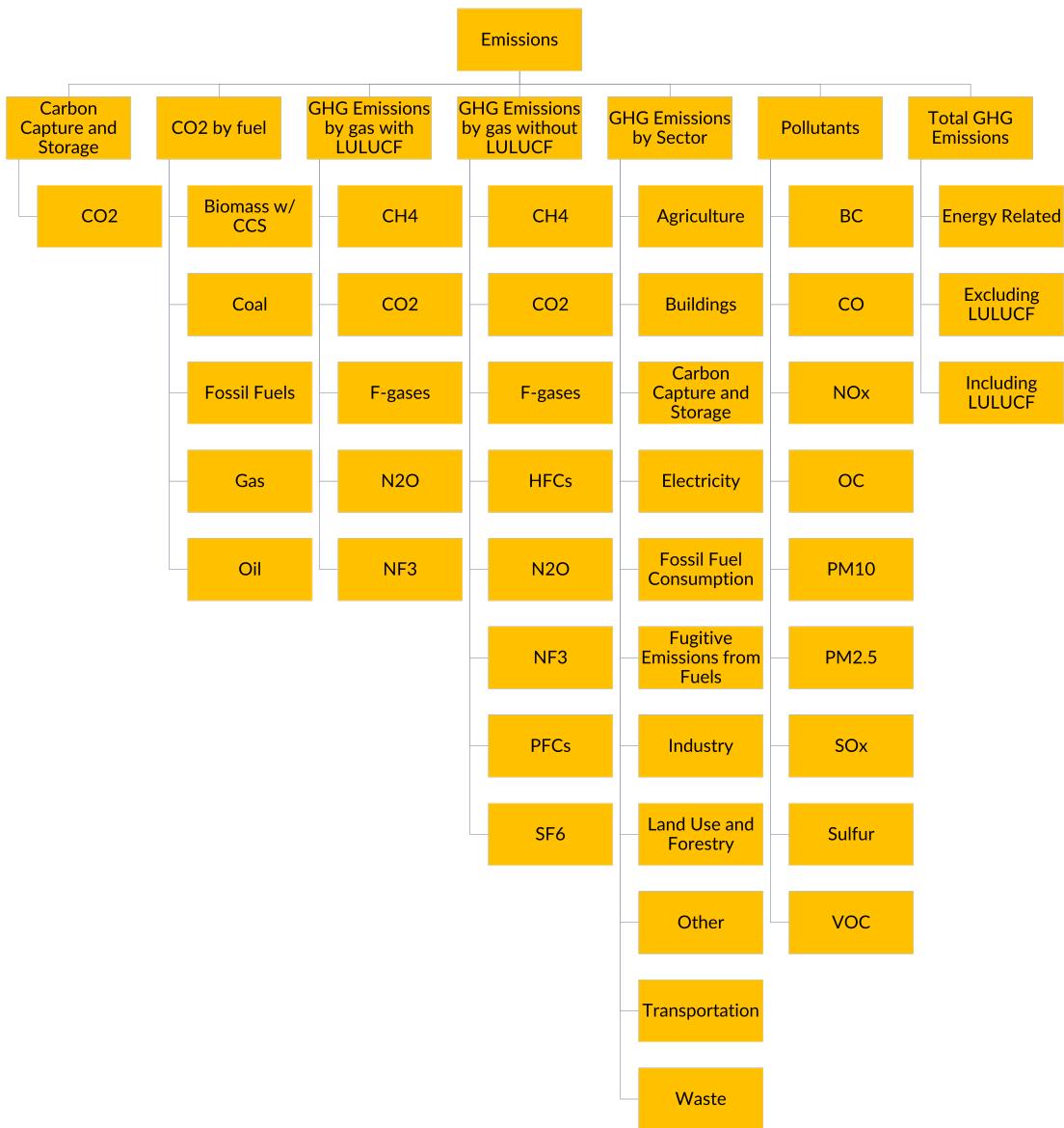
Climate and Health Impacts



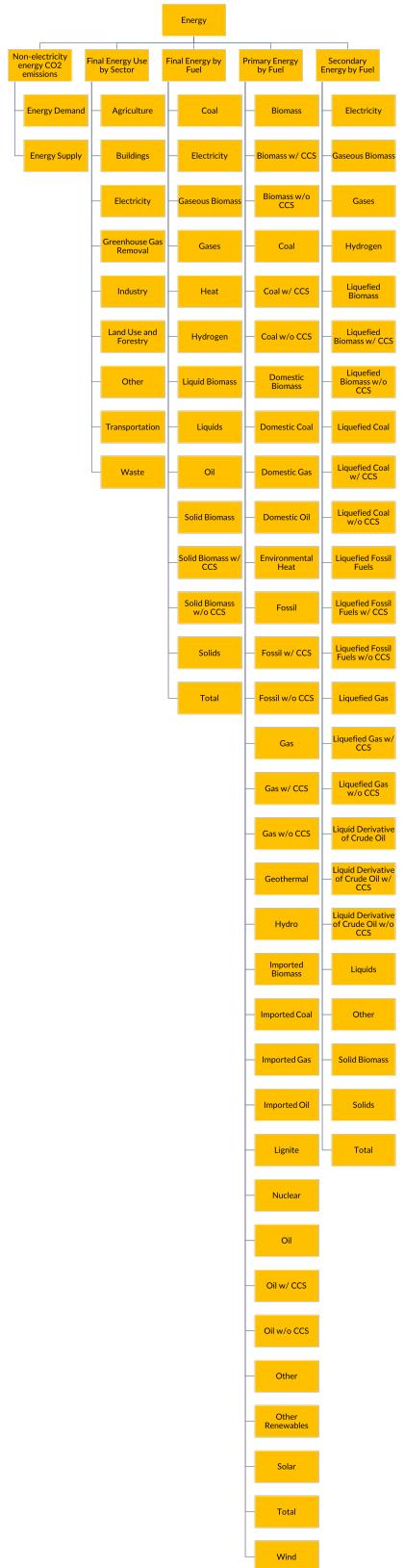
Electricity



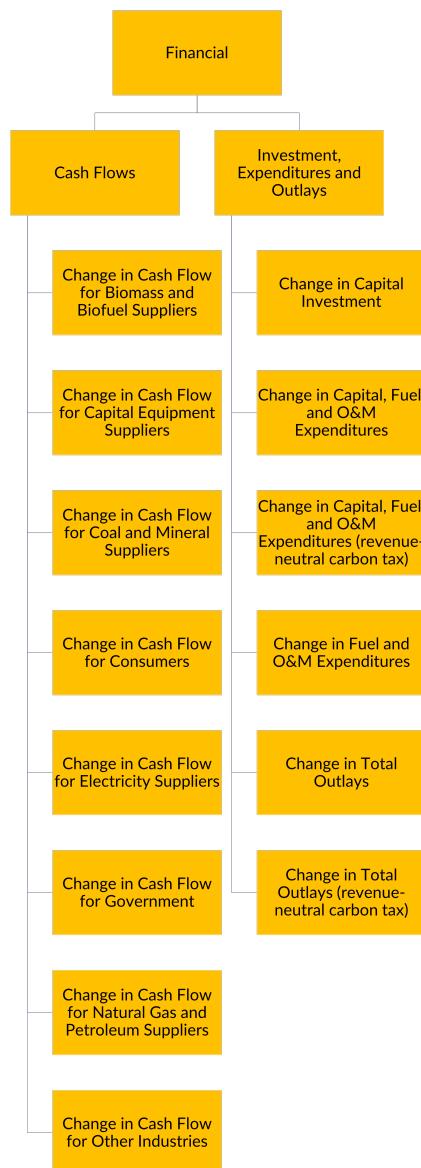
Emissions



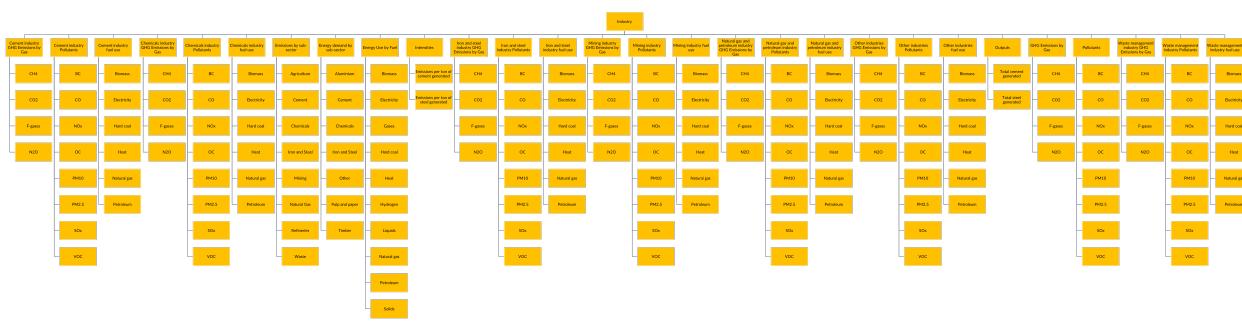
Energy



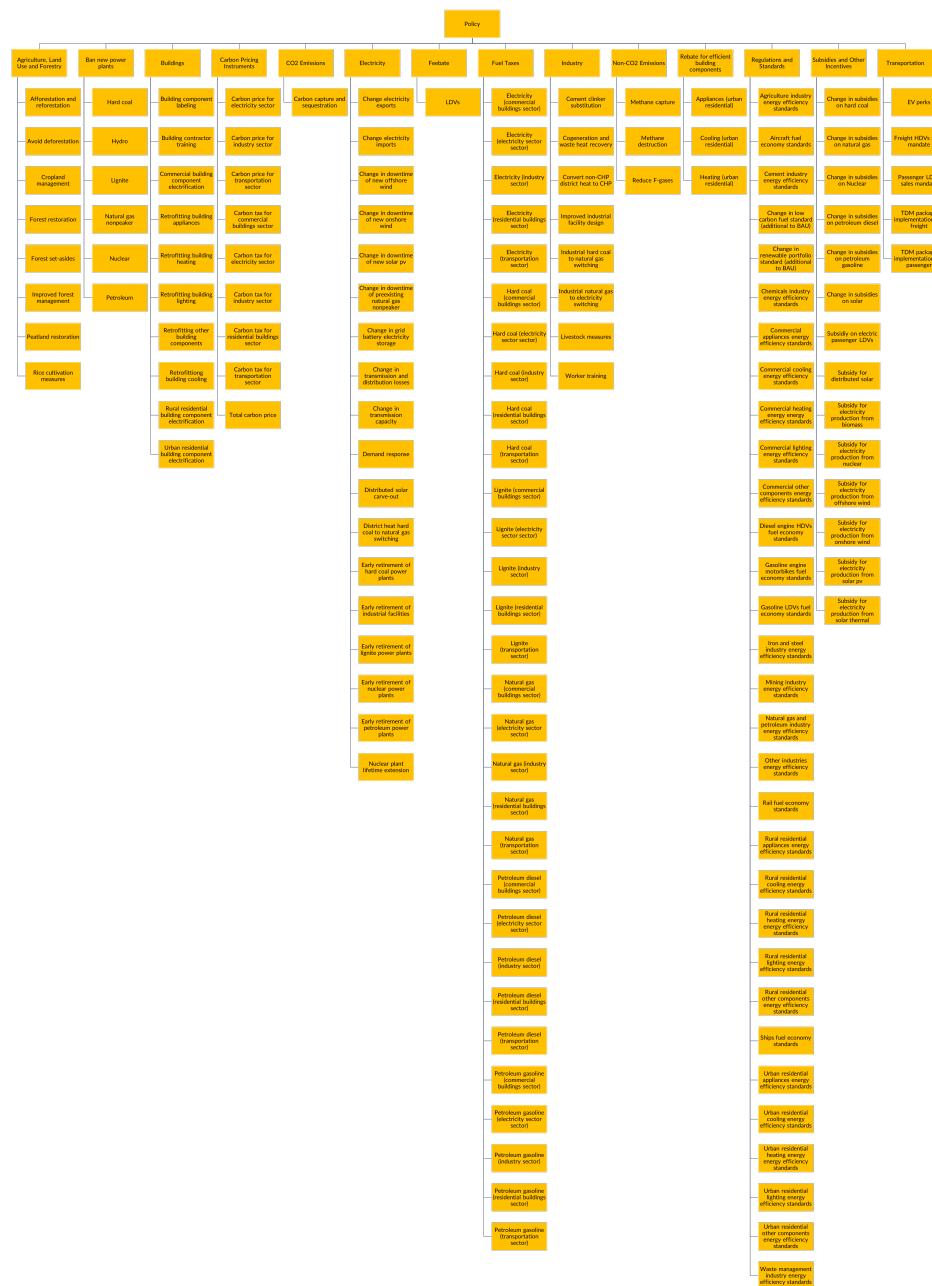
Financial



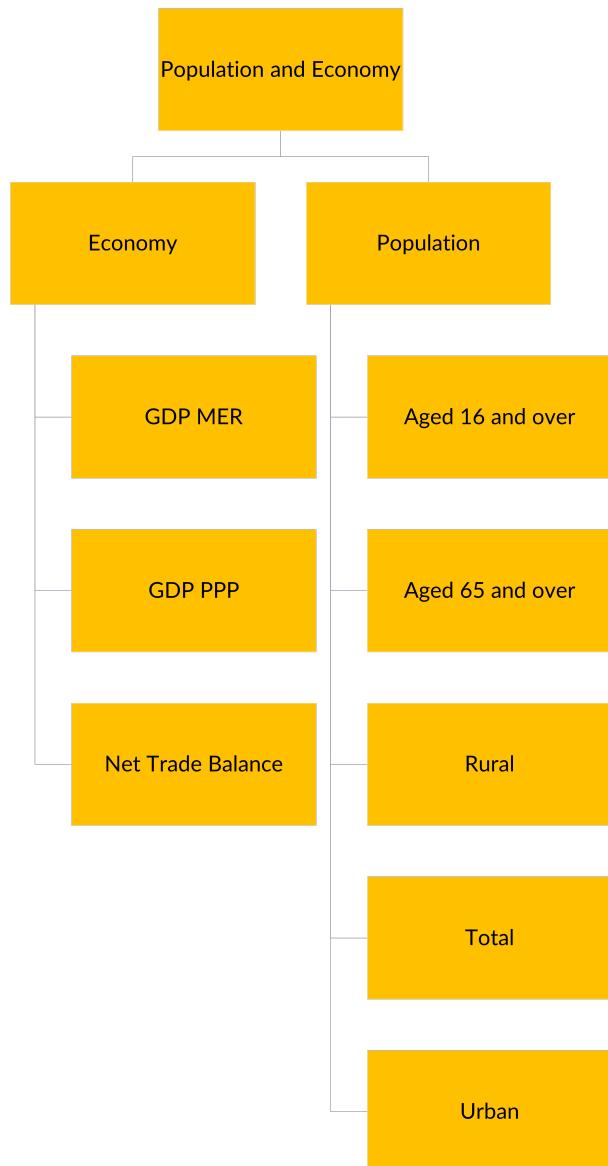
Industry



Policy



Population and Economy



Transportation

