CAV Scenario Generation Quick Start Guide

The public version of the CAV Scenario Generation model can be downloaded from https://github.com/NREL/csg-public.

This quick start guide summarizes the steps to access the software and repository needed to download and operate the public version of the CAV Scenario Generation model (CSG-public). There are three components that need to be in place for successful operation: STELLA software, GitHub sharing environment, and the CSG-public model. This guide explains how to set up these components and run, view, modify, revert or update the CSG-public.

STELLA Software

STELLA is the software in which the model is developed. To use the CSG-public, purchase and install STELLA Professional, version 1.9 or later, from http://www.iseesystems.com/.

How can I learn more about STELLA? isee systems offers online tutorials and other resources, in-person training, webinars, and software documentation.

GitHub Sharing Environment

GitHub provides an environment for sharing files with full versioning and issue tracking.

To download CSG-public, join the "CSG-public" repository on GitHub by taking the following steps:

1. Create a folder on your computer where you will house a local copy of the CSG-public repository.

2. Go to https://github.com/NREL/CSG-public.

3. Click the "Clone or Download" button.

4. Click the "Download ZIP" button. Save the zip file to the created folder on your computer.

How can I learn more about GitHub? GitHub offers extensive guidance at https://help.github.com/. Many other online resources are also available.

CSG-public Model

The model consists of the file CSG-public.STMX and supporting files in the "Models" directory.

Basic Operations with the public version of the CAV Scenario Generation model (CSG-public)

1**. Download CSG-public:** If you've cloned the CSG-public repository, you've downloaded the model files into the folder you created on your computer, in the Models director.

2. **Open CSG-public in STELLA:** Open STELLA and then open the CSG-public.STMX file or click on the CSG-public.STMX filename to open.

3. **Understand CSG-public Organization:** The CSG-public is organized into sectors. The name and purpose of each sector are summarized in the "Model-Description" document, located in the Documentation folder.

The sectors can be viewed as interconnected sub-models. Each sector represents a particular system. The sectors are connected by shared variables and cannot be run independently.

4. **Run CSG-public:** Click on the "run" arrow in the lower left corner.

5. **View CSG-public results:** The model already contains graphs and tables of important output stocks and variables. You can also create your own graphs and tables using the buttons on the STELLA toolbar. See STELLA documentation for more information. Output tables can be exported for use in other applications, such as Excel or Tableau. First you must go to the table you want to export, double-click on the table, and check the box that says "Mark for export" just under the title. (As an alternative, you can export all model variables by choosing "Export Data" from the "Model" menu.) To export the table, create the Excel file where the export will go. Then with the model open in STELLA, go to Model > Export Data, click on the green plus sign below the "Export Links", and browse for the file where you would like to export the data in the "Destination" box. Under "Data Source", find and select your table. Choose the sheet orientation, link type, and format that you desire. For "Export Interval", choose "Every 1 time units" to have an annual output. Click the icon under the "Export" column to export your data once you have run the model.

6. **Modify CSG-public:** If you are running the full version of STELLA Professional, you can save a modified version of CSG-public with all of your changes.

7. **Revert or update to the current version of CSG-public:** If updates are made, they will be posted to the GitHub site. The commit notes may be viewed in Git to see what has been updated. To copy the current version of CSG-public from Git to your local drive, use GitHub GUI or clone. (In a git shell, the command is: git pull)

8. **Revert to default input values:** To revert to default settings and over-write specified files, pull CSG-public from the GitHub repository.

OR

9. Revert to default input values: The CSG-public repository includes an input sheet that will revert all input values to their initial defaults. To reload these values into your local copy of CSG-public, import into the STELLA model the file "CAVS-Default-Inputs.xlsx" from the "Inputs" folder. Please see the Readme file in the "Documentation" folder. Please note that this will not revert to default values of any other assumptions, such as constants that are not included in the input sheet. When in doubt, you can search the input sheet for the variable name in question or pull CSG-public from the GitHub repository.