

Introduction To GREET1_2011 Graphical User Interface

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Outline

- Purpose of GREET GUI
- Structure of GREET GUI
- Design and Operation of GREET GUI
- Outputs of GREET GUI
- Installation and Compatibility Issues with GREET GUI
- Help with GREET GUI



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- **Purpose of GREET GUI**
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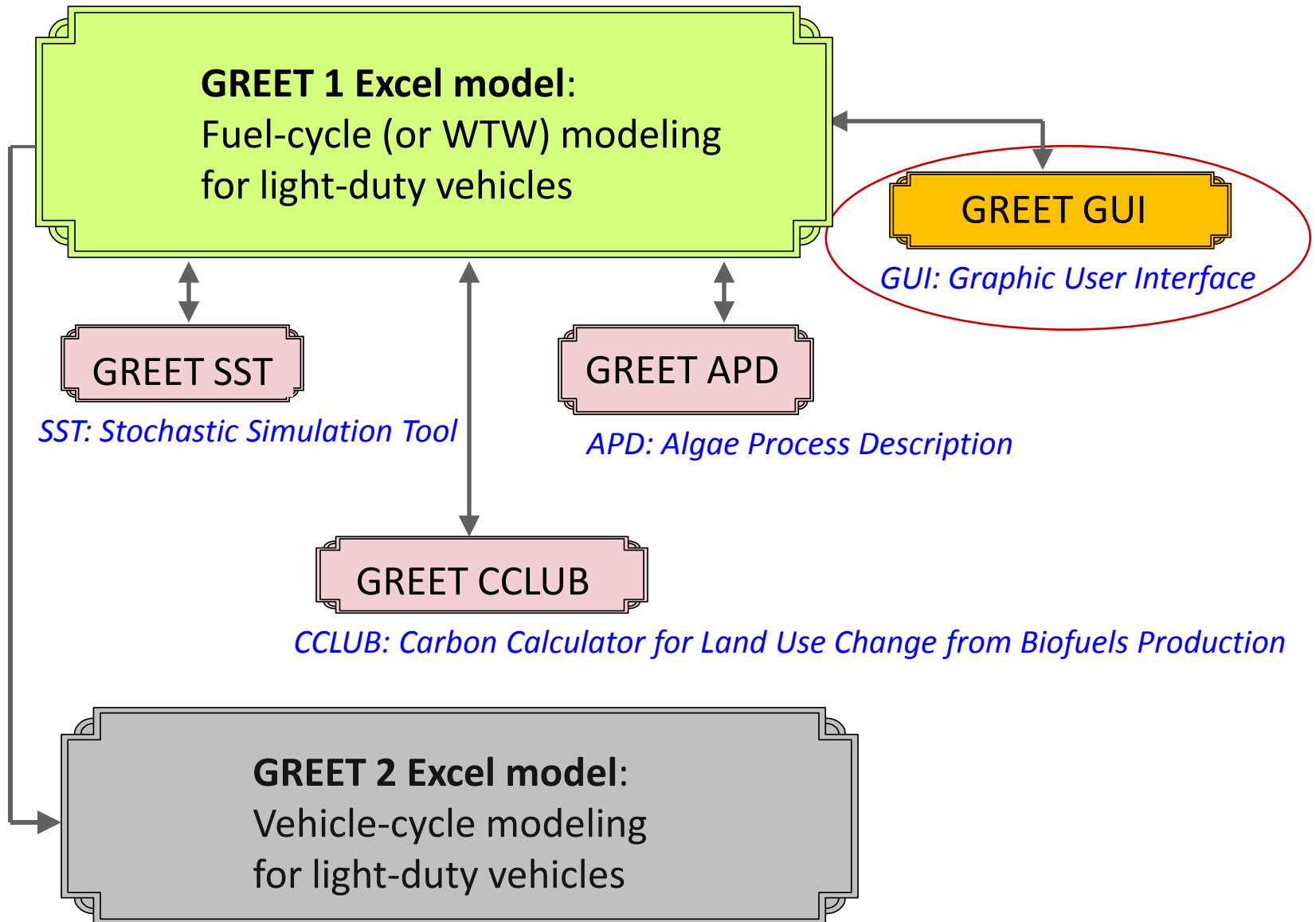


GREET GUI Development

- GREET model was originally developed in MS Excel; number of pathway options has grown significantly
- User may be interested in simulating a few of these options and in modifying only the key assumptions associated with these options
- GREET GUI allows the user to simulate specific pathways of interest by prompting for inputs and presenting results only relevant to those pathways
- New options developed in GREET Excel are usually rolled into GREETGUI the next release
- A new architecture is being considered to combine GREET Excel and GREETGUI into one package



The Suite of GREET Models



GREET GUI Logical Structure

GREETGUI, developed using Microsoft® Visual Basic 6.0, works as follows:

1. **Receives** inputs from the user through option buttons, check boxes, and input text boxes
2. **Communicates** the inputs to an underlying Excel spreadsheet model (GREET)
3. **Runs** the GREET model in the background
4. **Displays** results in the form of tables in another Excel output file



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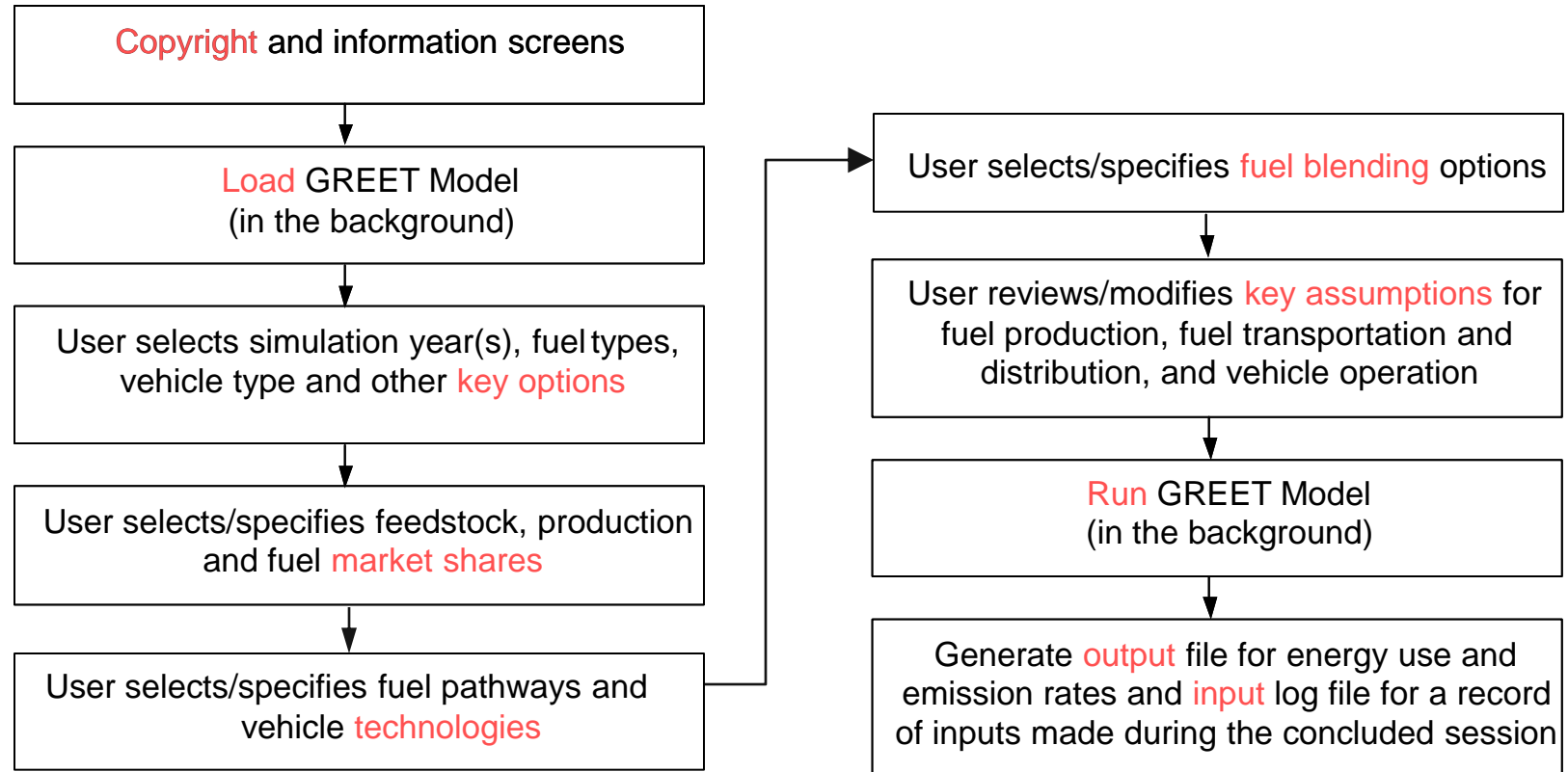


GREET GUI Is Developed in Three Levels of Interactions

- **Market Share** Specification (e.g., % of H2 from NG, coal, etc.)
- **Technological Options** Selections and Inputs (e.g., H2 production with steam export or electricity export)
- **Key Assumptions** Review and Modification
 - **Key Assumptions** are 1st tier assumptions affecting WTW results (e.g., H2 production energy efficiency)
 - 2nd tier assumptions are not presented by GUI but can be modified in the underlying GREET Excel model (e.g., emission factors associated with process fuel combustion)



Steps of a Typical GREET GUI Session



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The Logic to Determine the Base Year

- If the user selects more than one simulation year, GREET GUI will select a specific simulation year as its “**base year**”, for which default estimates are presented to the user.
- Specifically, GREETGUI selects the simulation year closest to **2010** as its “**base**” year because key assumptions, especially those with distribution functions, are made for year 2010.
- If the user modifies technology estimates for the base year, GREET GUI will make proportionate adjustments to the corresponding estimates of all **subsequent** simulation years.
- **For example**, if the share of coal-generated electricity in the U.S. average mix is **modified** from 46.4% to 45% for the year 2010, GREETGUI will adjust the coal-generated electricity share estimates for all simulation years subsequent to 2010 by the same percentage, which is -3.1% in this case.



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Output Files of GREET GUI

- Results Output File
 - **Well-to-Pump (WTP)** Energy Use and Emissions
 - **Well-to-Wheels (WTW)** Energy Use and Emissions
- Input Log File (recording inputs for the simulated pathways)



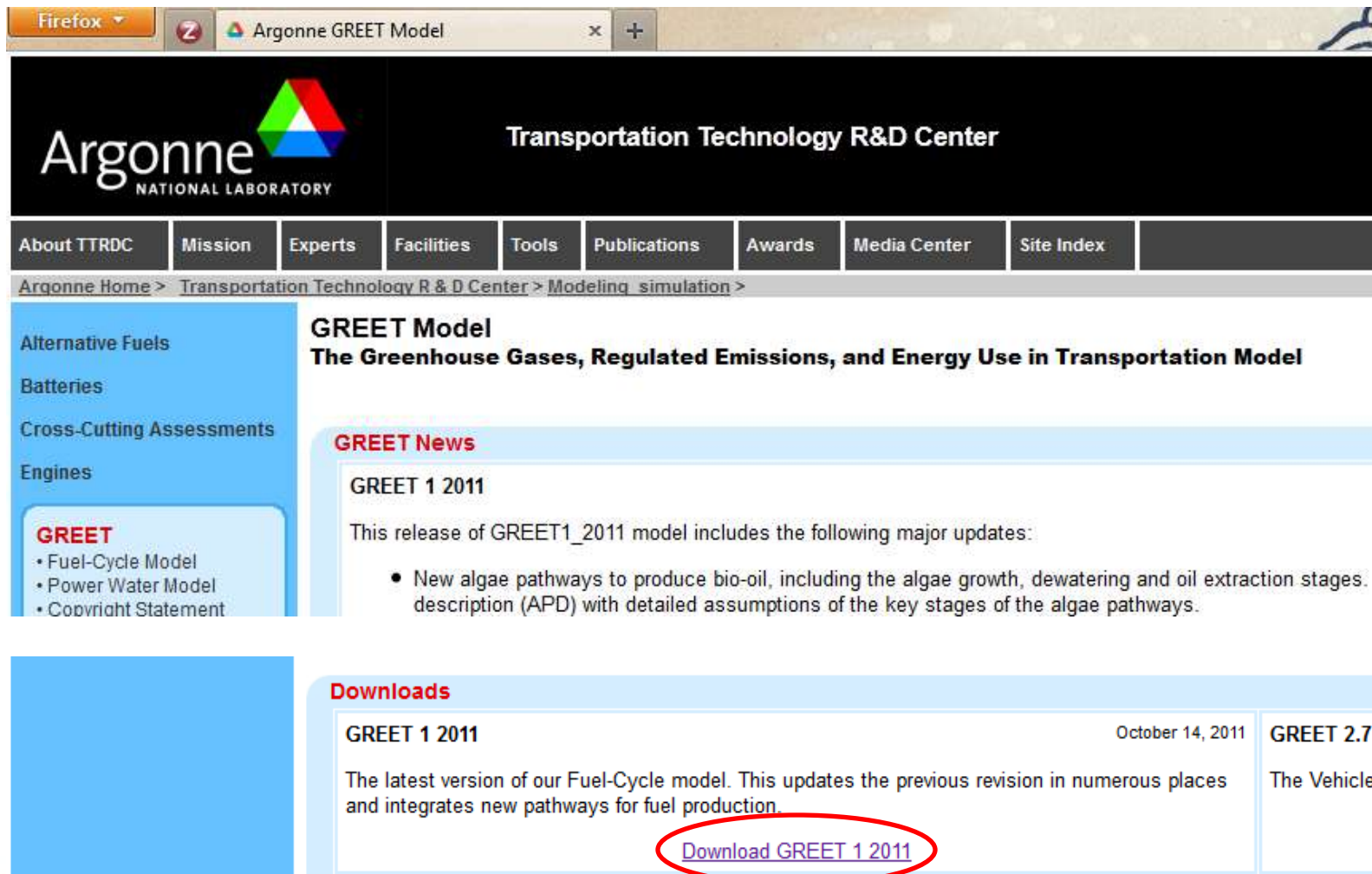
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Installing GREET

- To download the latest GREET version:
 - Go to <http://greet.es.anl.gov/>



The screenshot shows a Firefox browser window with the address bar displaying "Argonne GREET Model". The website header features the Argonne National Laboratory logo and the text "Transportation Technology R&D Center". A navigation menu includes links for "About TTRDC", "Mission", "Experts", "Facilities", "Tools", "Publications", "Awards", "Media Center", and "Site Index". A breadcrumb trail reads "Argonne Home > Transportation Technology R & D Center > Modeling simulation >".

The main content area is titled "GREET Model" with the subtitle "The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model". A left sidebar lists categories: "Alternative Fuels", "Batteries", "Cross-Cutting Assessments", and "Engines". Under "Engines", the "GREET" section is highlighted, listing "Fuel-Cycle Model", "Power Water Model", and "Copyright Statement".

The "GREET News" section features a headline "GREET 1 2011" and a description: "This release of GREET1_2011 model includes the following major updates:" followed by a bullet point: "New algae pathways to produce bio-oil, including the algae growth, dewatering and oil extraction stages. description (APD) with detailed assumptions of the key stages of the algae pathways."

The "Downloads" section contains a table with two columns. The first column lists "GREET 1 2011" with a description: "The latest version of our Fuel-Cycle model. This updates the previous revision in numerous places and integrates new pathways for fuel production." Below this description, the link "Download GREET 1 2011" is circled in red. The second column lists "GREET 2.7" with the description "The Vehicle".

Downloads	
GREET 1 2011 The latest version of our Fuel-Cycle model. This updates the previous revision in numerous places and integrates new pathways for fuel production. Download GREET 1 2011	GREET 2.7 The Vehicle

Installing GREET

Installation Instructions

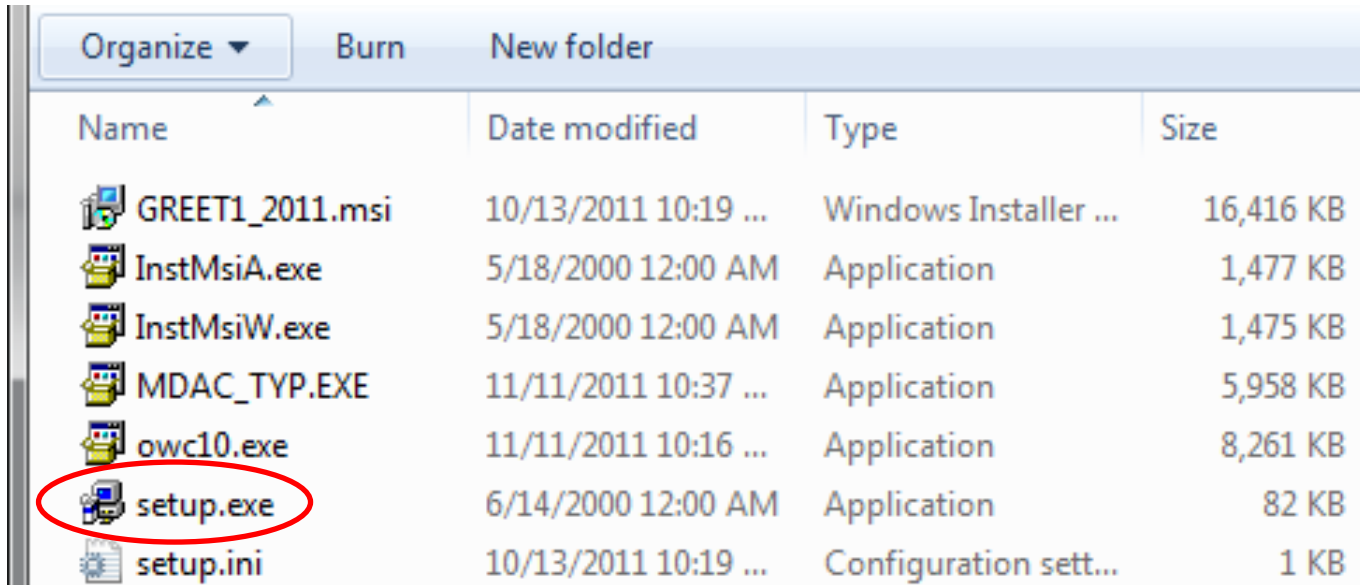
Step by step instructions

If you wish to run GREET 1 version in MS Excel, you can find it in the GREET folder on your PC (C:\Program Files\GREET1) which is the default specified by the GREET installation program.

1. **Before installation**, make sure that a Microsoft Office XP Web Component 10 is installed on your computer:
 - a. Go to Windows website (below) to download the file "owc10.exe": <http://www.microsoft.com/downloads/details.aspx?FamilyID=982b0359-0a86-4fb2-a7ee-5f3a499515dd&displaylang=en>.
 - b. When the download is complete, double-click on the file icon and follow the on-screen installation instructions.
2. **Before installation**, make sure that a Microsoft Data Access Component version 2.5 or higher is installed on your computer:
 - a. In Windows, go to Start, Find, Files or Folders, and search for "mdac_typ.exe."
 - b. If you find the file, right-click on it and view its properties by clicking the Version tab.
 - c. If the version is earlier than 2.5 OR if you can't find this file, then [click here to save the "mdac.zip"](#) file to your hard drive.
 - d. When the download is complete, unzip the file by double-clicking on it in the folder where you saved it. Then double-click on the file icon and follow the on-screen installation instructions.
3. **To download GREET:**
 - a. Click here and save the file [GREET 1 2011.zip](#) to your hard drive. For MAC users, use this file [GREET 1 2011 MAC.zip](#)
 - b. When the download is complete, unzip the file by double clicking on it in the folder where you saved it.
 - c. When the file is unzipped, double click on the executable file "setup.exe" and follow the onscreen instructions.
 - d. Note that if your computer has Microsoft Excel 2010, you will need to follow these instructions for GREET to operate properly [Excel 2010 Memo](#).
 - e. Note that some versions of Windows operating systems may not permit the installation program to update some of the system files. In such case, click OK to continue and the installation will still be successful.
 - f. Note that for compatibility with Windows Vista, the GREET1 version generates the output files in a special folder named "GREET1" under the "MY Documents" folder.
4. **To uninstall GREET:**
 - a. Click on the Start button, go to Settings, click on Control Panel.
 - b. Double-click on "Add/Remove Programs."
 - c. Scroll down to "GREET1_2011" on the list of installed programs.
 - d. Click "Add/Remove" and follow the onscreen instructions.

Installing GREET GUI

- To install GREET GUI:
 - Double-click the “**setup.exe**” application file in the GREET GUI installation package.



Name	Date modified	Type	Size
GREET1_2011.msi	10/13/2011 10:19 ...	Windows Installer ...	16,416 KB
InstMsiA.exe	5/18/2000 12:00 AM	Application	1,477 KB
InstMsiW.exe	5/18/2000 12:00 AM	Application	1,475 KB
MDAC_TYP.EXE	11/11/2011 10:37 ...	Application	5,958 KB
owc10.exe	11/11/2011 10:16 ...	Application	8,261 KB
setup.exe	6/14/2000 12:00 AM	Application	82 KB
setup.ini	10/13/2011 10:19 ...	Configuration sett...	1 KB

- Follow the on-screen instructions.
 - If prompted to do so, restart the computer to allow the installation process to fully complete.
- The installation program creates a shortcut to the GREETGUI program on the desktop.















After Installing GREET

- GREET Installation Folder
 - 32 Bit System: C:\Program Files\GREET1_2011
 - 64 Bit System: C:\Program Files (x86)\GREET1_2011

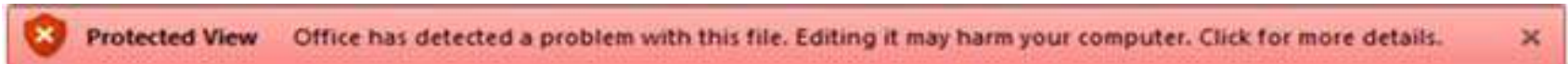
- GREET installation folder includes

- Algae Process Description
- Carbon Calculator for Land Use Change from Biofuels (CCLUB) Tool
- GREET GUI
- GREET Excel
- Stochastic Simulation Toolkit

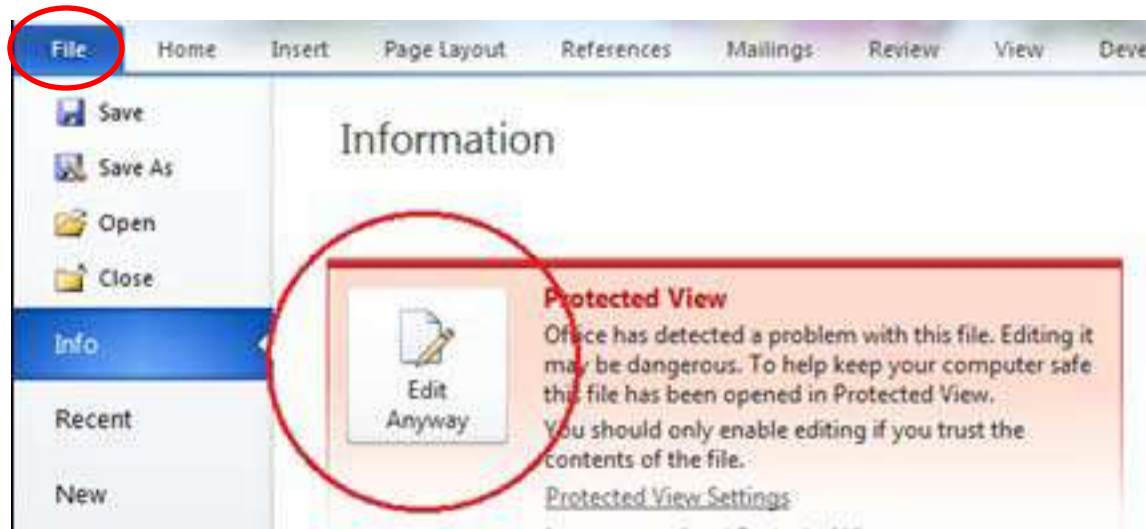
Name	
	AlgaeProcessDescription_v0.0.xls
	club_for_GREET1_2011.xls
	COPYRIGHT.rtf
	GREET Readme.doc
	GREET1.avi
	GREET1_2011.exe
	GREET1_2011.xls
	GREETHelp.chm
	GREETHelp.hhc
	MDAC.MSM
	riched32.dll
	STOCHASTIC.xla

Instructions for GREET GUI running with Excel 2010

- http://greet.es.anl.gov/files/instructions_excel_2010
- Open the GREET Excel file (GREET1_2011.xls) in the installation folder
- Locate the red “Protected View” Message Bar



- Click the **File** tab, and then click “Edit Anyway” in Backstage view (shown below)



- Close the GREET Excel file (no need to save) and run the GUI

Compatibility of GREET GUI

■ **Operating Systems:**

- Windows XP
- Windows Vista
- Windows 7
- NOT compatible with MAC OS

■ **MS OFFICE EXCEL Versions:**

- EXCEL XP
- EXCEL 2003
- EXCEL 2007
- EXCEL 2010
- NOT compatible with Excel 2000

- Very slow with the combination of Windows Vista and Excel 2007

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Help with GREET GUI- User Guide and Publications

- Download User Guide from the GREET web site:

<http://greet.es.anl.gov/publications>

The image displays two screenshots of the Argonne GREET website. The left screenshot shows the main navigation menu with 'Publications' highlighted. The right screenshot shows the 'Greet Publications Listing' page with a table of publications.

Left Screenshot: Argonne GREET Model

Argonne NATIONAL LABORATORY

About TTRDC | Mission | Experts

Argonne Home > Transportation Technology R&D Center > Modeling simulation >

Alternative Fuels
Batteries
Cross-Cutting Assessments
Engines

GREET

- Fuel-Cycle Model
- Power Water Model
- Copyright Statement
- Pathway Options/Results
- Vehicle-Cycle Model
- Publications**
- Fleet Footprint Calculator
- Contact
- Workshop

Right Screenshot: Argonne GREET Publications

Argonne NATIONAL LABORATORY

Transportation Technology R&D Center

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Argonne Home > Transportation Technology R & D Center > Modeling simulation >

Greet Publications Listing

Publications of the GREET Model Development and Applications [Complete List](#)
This document provides the title, authors, publication date, venue of availability, and a link to the publication.

GREET Model Reports

Title	Authors	Publication Date	Venue of Availability	Link
User Guide for the GREET Fleet Footprint Calculator 1.1				User Guide for the GREET Fleet Footprint Calculator 1.1
Stochastic Tool Loading Instructions				Stochastic Tool Loading Instructions
Operating Manual for GREET: Version 1.7				Operating Manual for GREET: Version 1.7

THANK YOU!

