

Introduction To GREET1_2011 Graphical User Interface (GUI)

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GREET Training Workshop

University of Chicago

May 18, 2012



Outline

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

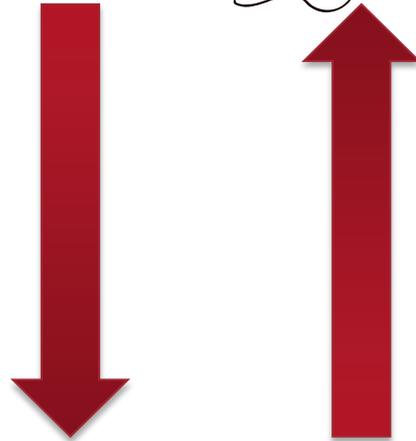


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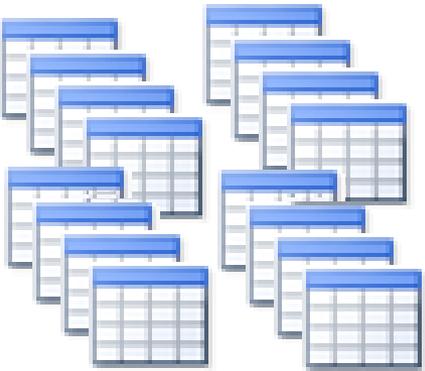


GREET GUI Development



GREET 1 Excel Model
Fuel Cycle (or WTW) Modeling
for Light Duty Vehicles

19.5 mmBtu/ton
22 g/ft³
3,592 Btu/lb
505 g/kWh
2.80gal/bushel
94.8%



GREET GUI Development



Receives



GREET GUI

Communicate



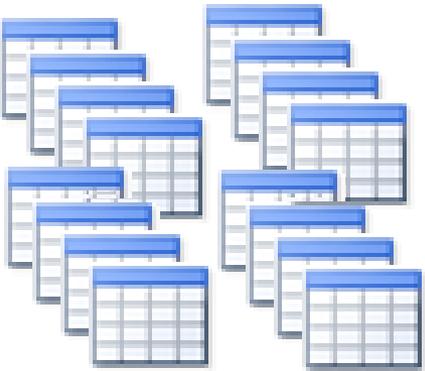
Display

GREET 1 Excel Model
Fuel Cycle (or WTW) Modeling
for Light Duty Vehicles

Run



19.5 mmBtu/ton
22 g/ft³
3,592 Btu/lb
505 g/kWh
2.80gal/bushel
94.8%

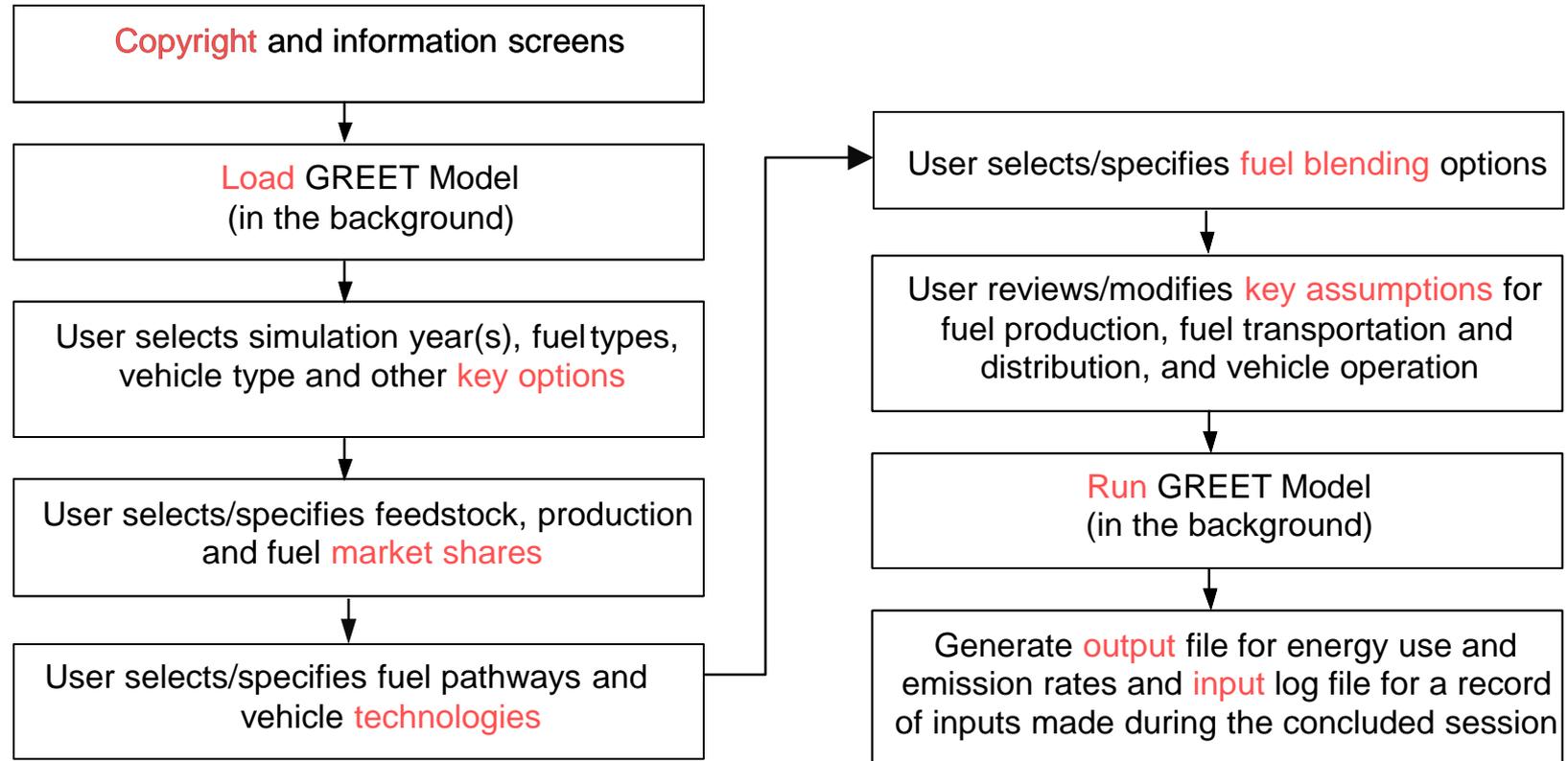


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Steps of a Typical GREET GUI Session



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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)



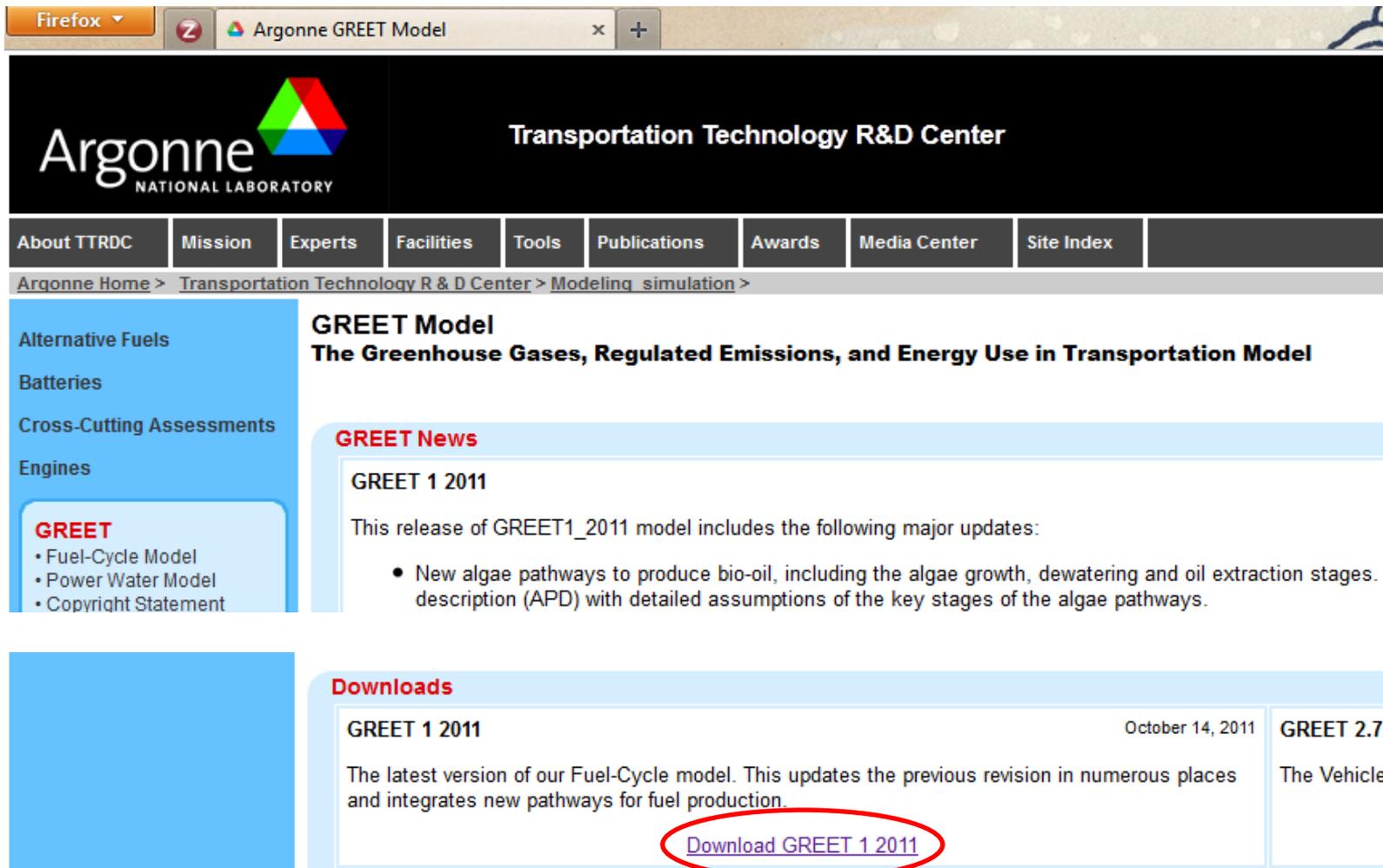
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Installing GREET

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



Firefox Argonne GREET Model

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GREET

- Fuel-Cycle Model
- Power Water Model
- Copyright Statement

GREET Model
The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model

GREET News

GREET 1 2011

This release of GREET1_2011 model includes the following major updates:

- 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.

Downloads

GREET 1 2011	October 14, 2011	GREET 2.7
The latest version of our Fuel-Cycle model. This updates the previous revision in numerous places and integrates new pathways for fuel production.		The Vehicle

[Download GREET 1 2011](#)

Installing GREET

Installation Instructions

Step by step instructions

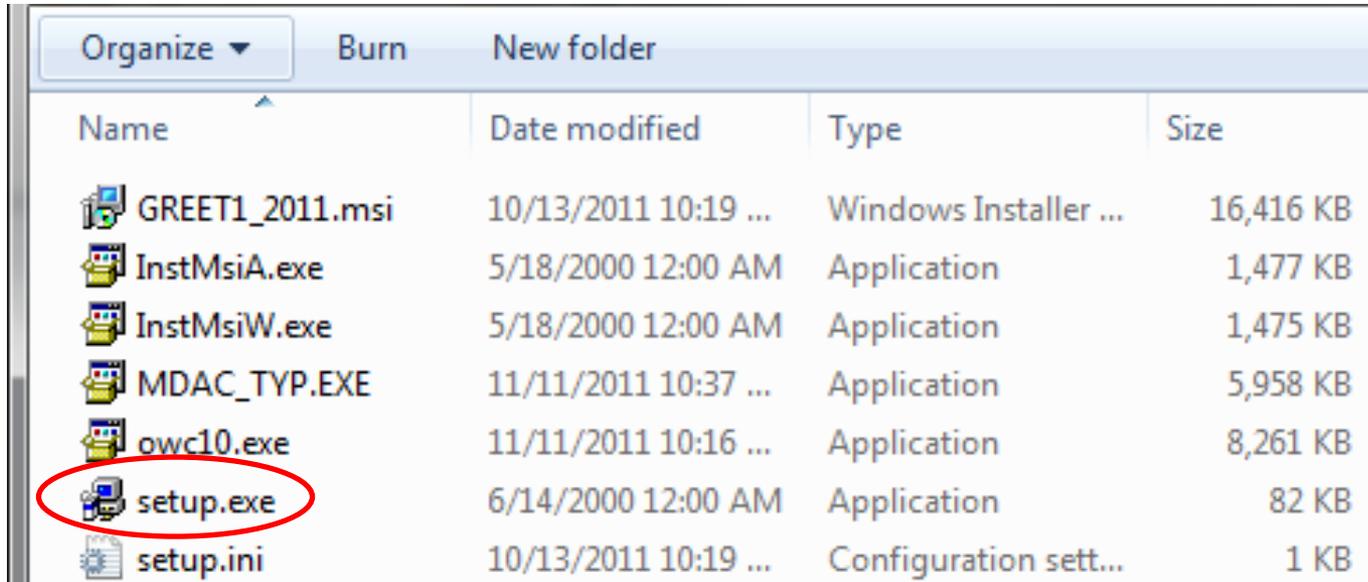
If you wish to run GREET 1 version in MS Excel, you can find it in the GREET folder on your PC (C:\Program Files\GREET1) which is the default specified by the GREET installation program.

Not needed in near future

- 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 "ow...exe": <http://www.microsoft.com/downloads/details.aspx?FamilyID=982b0359-0a86-4fb2-a7ee-5b49957d&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.

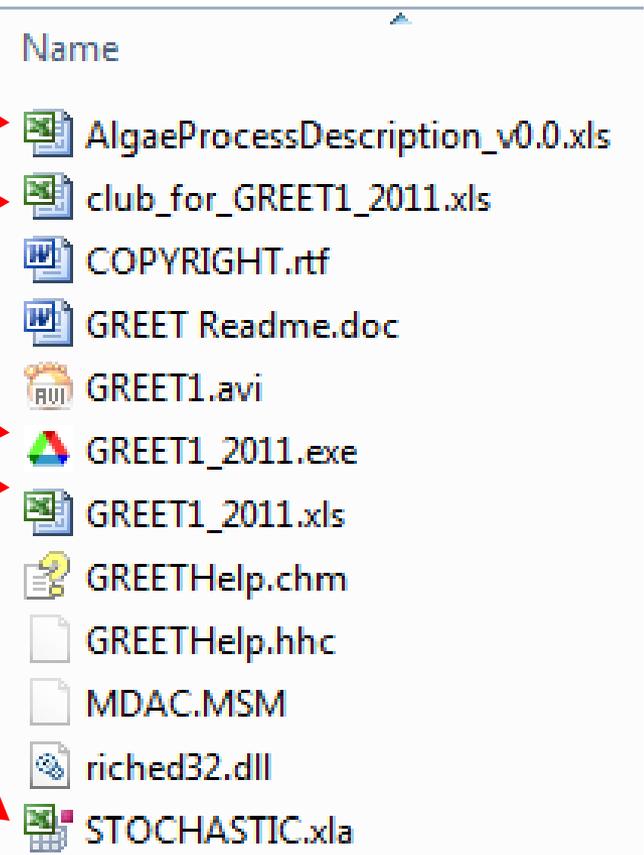


After Installing GREET

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

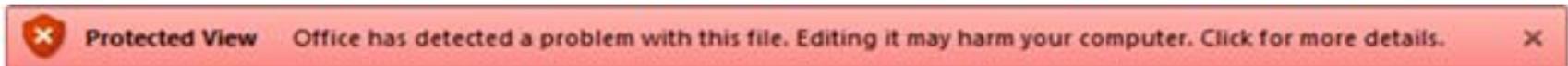
- GREET installation folder includes

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

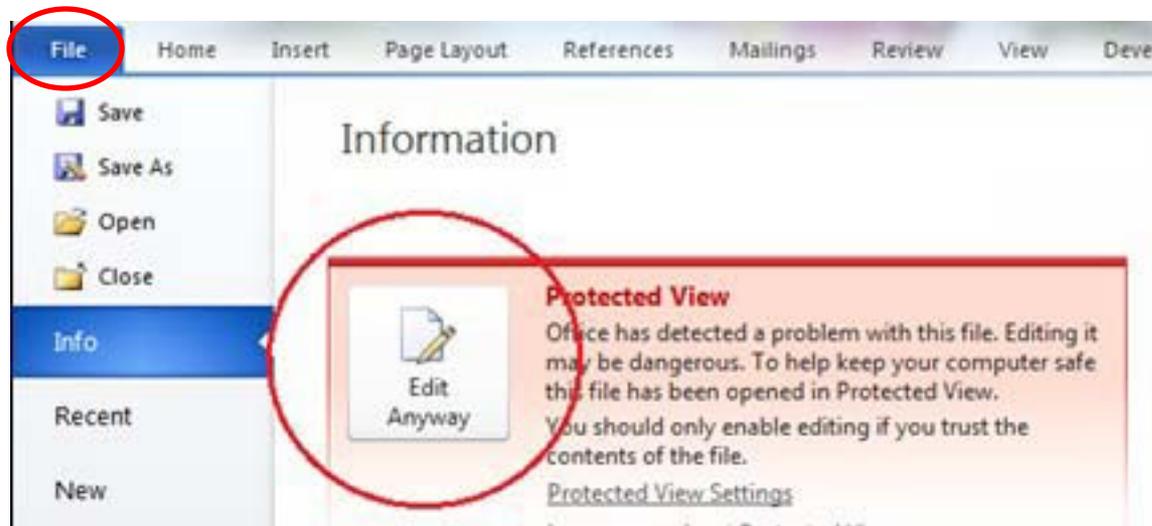


Instructions for GREET GUI running with Excel 2010

- 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 screenshot shows two browser windows. The top window is titled 'Argonne GREET Model' and displays the Argonne National Laboratory homepage with a navigation menu (About TTRDC, Mission, Experts) and a sidebar with categories like Alternative Fuels, Batteries, and Engines. The 'GREET' link in the sidebar is circled in red. The bottom window is titled 'Argonne GREET Publications' and displays the 'Transportation Technology R&D Center' page. The navigation menu includes 'Publications', which is also circled in red. The main content area features a 'Greet Publications Listing' section with a table of publications.

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Alternative Fuels
Batteries
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Engines

GREET

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

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

Greet Publications Listing

Publications of the GREET Model Development and Applications [Comple](#)
This document provides the title, authors, publication date, venue of avail

GREET Model Reports

	Titl
User Guide for the GREET Fleet Footprint Calculator 1.1	
Stochastic Tool Loading Instructions	n
Operating Manual for GREET: Version 1.7	ic

THANK YOU!



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



REET 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 REET Excel model (e.g., emission factors associated with process fuel combustion)



The Logic to Determine the Base Year

Default Assumptions

Year	Oil Sand Recovery Efficiency
2009	94.80%
2010	94.80%
2011	94.84%
2012	94.88%
2013	94.92%
2014	94.96%
2015	95.00%

Selected →

Selected →

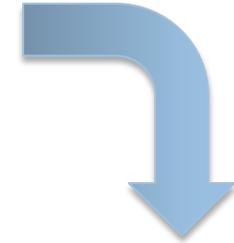
Selected →

Selected →

Display 94.8%



Set to 97.0%



← Baseline
(Closest to 2010)

Modified Assumptions

Year	Oil Sand Recovery Efficiency	% Change to Default
2009	97.00%	+2.32%
2010	97.00%	+2.32%
2011	97.04%	+2.32%
2012	97.08%	+2.32%
2013	97.12%	+2.32%
2014	97.16%	+2.32%
2015	97.20%	+2.32%

Background

