

Introduction To GREET1_2011 Graphical User Interface (GUI)

Jeongwoo Han

Systems Assessment Group

Center for Transportation Research

Argonne National Laboratory

GREET Training Workshop

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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

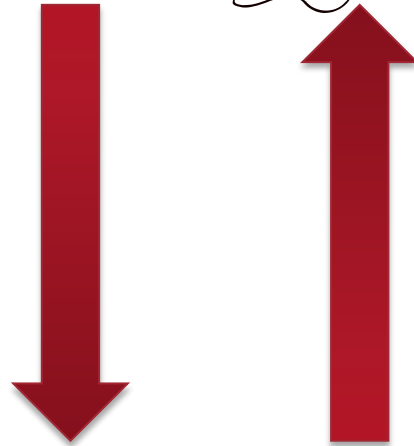


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GREET GUI Development



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
94.8%
2.80gal/bushel



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%

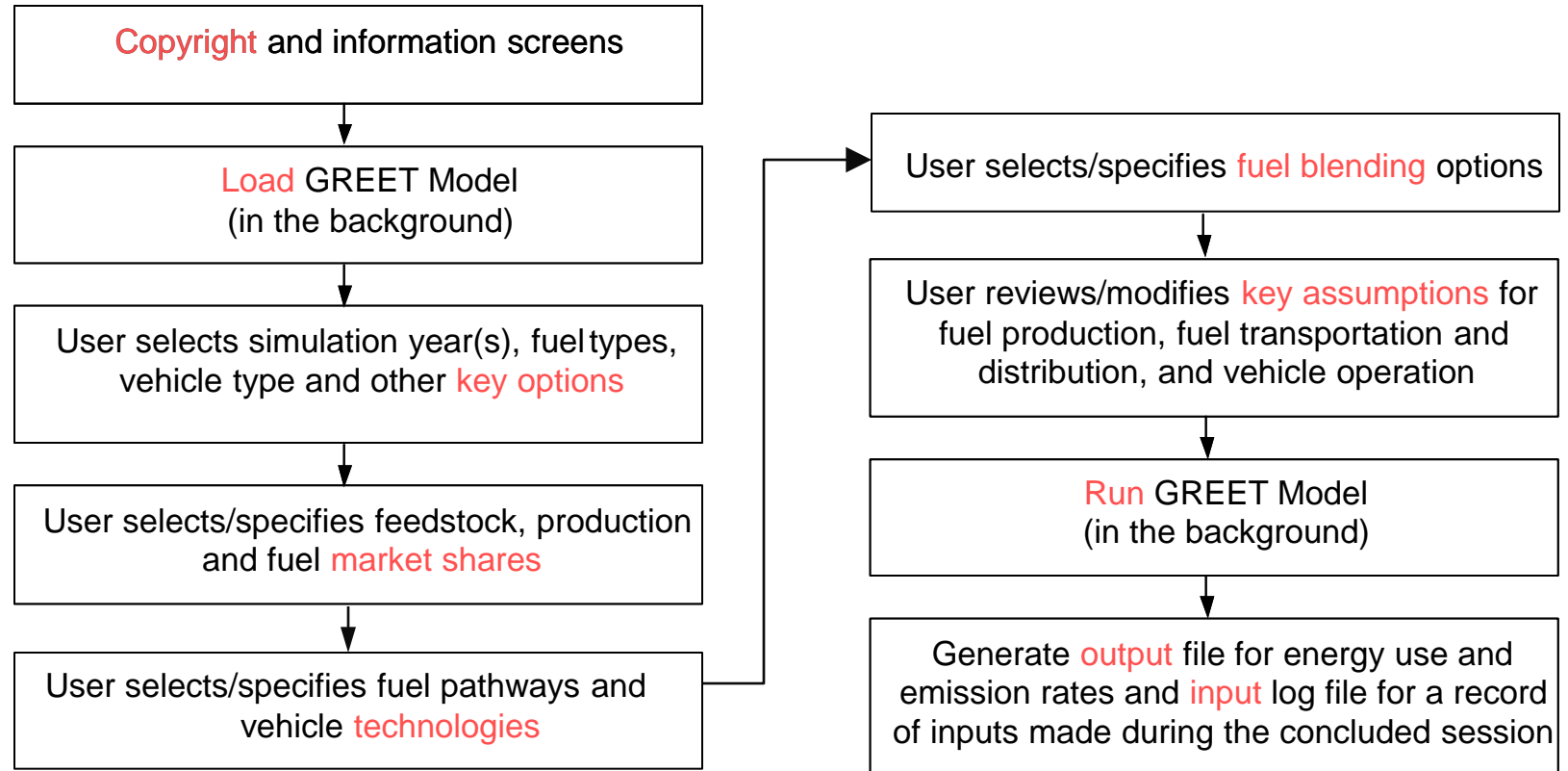


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Steps of a Typical GREET GUI Session



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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)



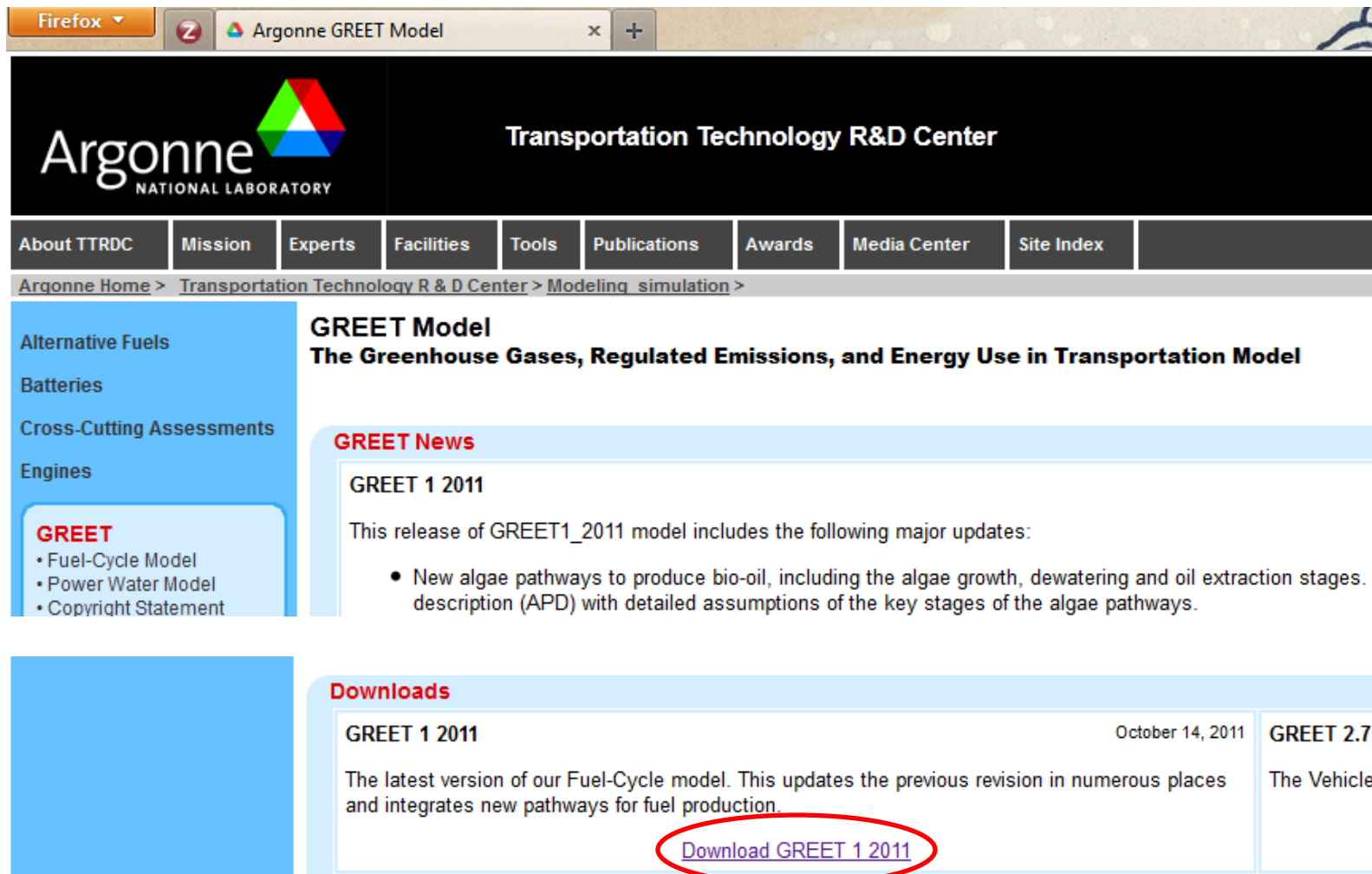
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Installing GREET

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



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 title "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 >".

On the left sidebar, under "Alternative Fuels", there is a "GREET" section with links to "Fuel-Cycle Model", "Power Water Model", and "Copyright Statement".

The main content area is titled "GREET Model" and "The Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model". Below this is a "GREET News" section with a heading "GREET 1 2011". The text states: "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."

Below the news section is a "Downloads" section. It 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 is a red circle containing the link "Download GREET 1 2011". The second column lists "GREET 2.7" with the description "The Vehicle".

Download	Date	Version
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	October 14, 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.

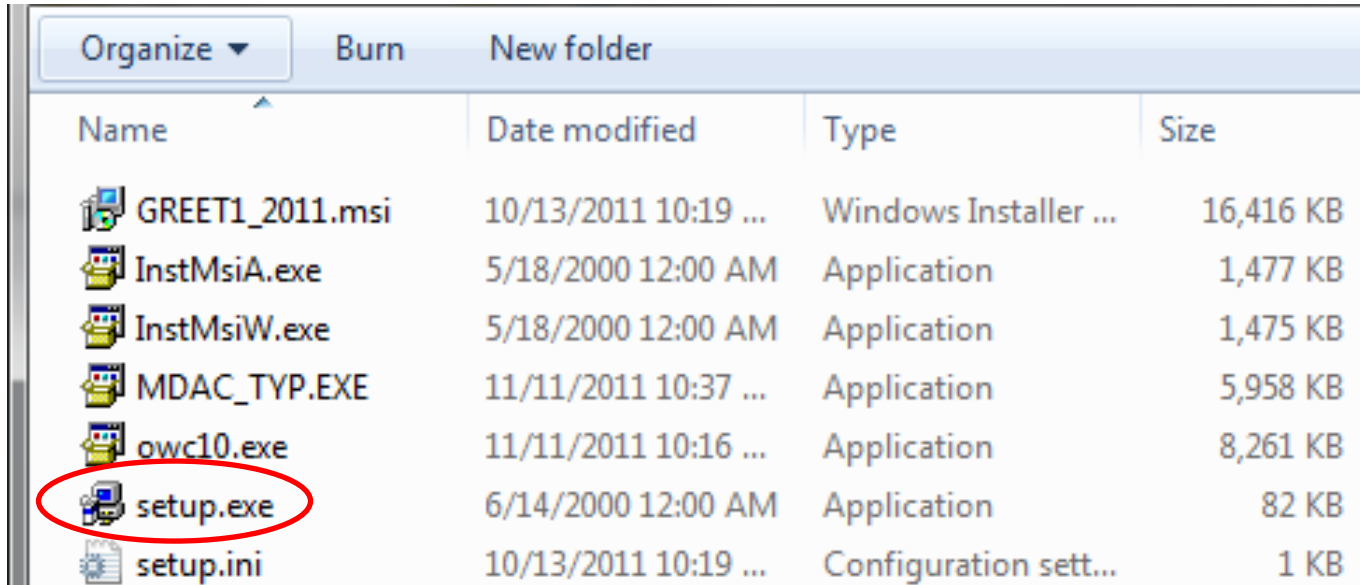
Not needed in near future

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 "owb.exe": <http://www.microsoft.com/downloads/details.aspx?FamilyID=982b0359-0a86-4fb2-a7ee-5b4995f0d4d4&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.



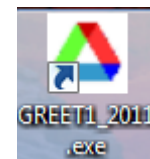
Installing GREET GUI

- 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

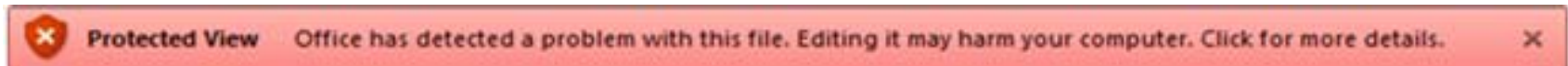
- Algae Process Description
- Carbon Calculator for Land Use Change from Biofuels (CCLUB) Tool
- GREET GUI
- GREET Excel
- Stochastic Simulation Toolkit

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	

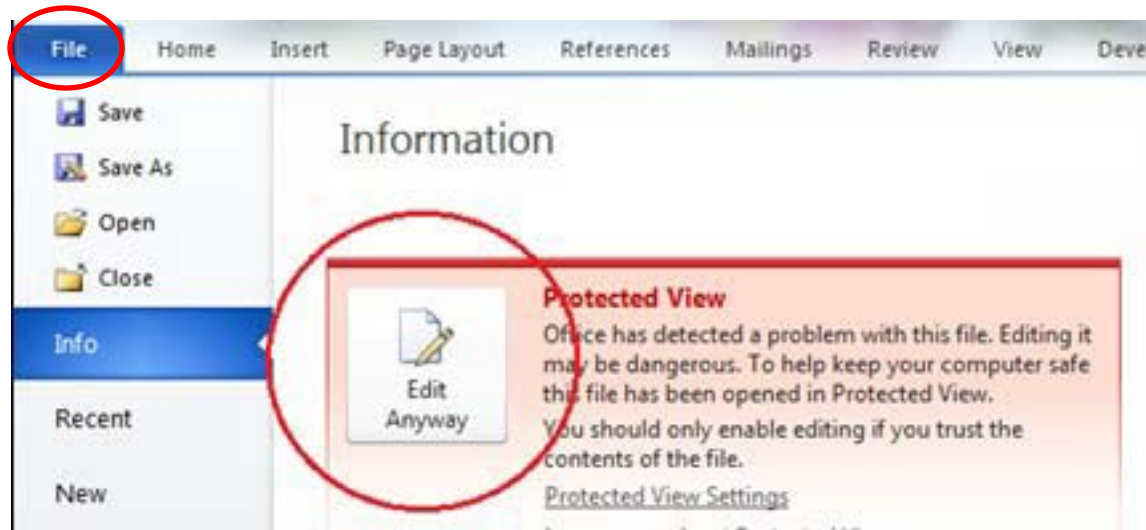


Instructions for GREET GUI running with Excel 2010

- 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 screenshot displays the Argonne National Laboratory website for the GREET Model. The top navigation bar includes links for 'About TTRDC', 'Mission', 'Experts', 'Facilities', 'Tools', 'Publications', 'Awards', 'Media Center', and 'Site'. The 'Publications' link is circled in red. Below the navigation bar, the 'GREET Publications Listing' section is visible, containing a list of publications and reports. The 'GREET Model Reports' section is also visible, listing the 'User Guide for the GREET Fleet Footprint Calculator 1.1', 'Stochastic Tool Loading Instructions', and 'Operating Manual for GREET: Version 1.7'.

Argonne NATIONAL LABORATORY

Transportation Technology R&D Center

GREET Publications Listing

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

GREET Model Reports

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

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



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)



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→

2009

94.80%

Selected→

2012

94.88%

Selected→

2013

94.92%

Selected→

2015

95.00%

Display 94.8%

←Baseline
(Closest to 2010)



Set to 97.0%

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

