

# Noblis Operation Green

GOING GREEN



SAVING GREEN



ABOUT NOBLIS



# Noblis Operation Green

## Project Purpose

Be a responsible member of the community by managing resources, setting reduction goals, implementing new procedures, processes, and equipment to reduce emissions and conserve resources. Develop innovative approaches and assist others to achieve their green goals.

## Project Objectives

Develop an enterprise model for emissions reporting, analysis and logical decision-making (EMERALD).

- Analytic framework for individual companies
- Scalable approach for regional roll-up and assessment

## Impacts

- Reduced energy intensity
- Reduced greenhouse gas (GHG) emissions
- Reduced water and/or power consumption
- Implement new renewable energy sources for lower required renewable energy usage
- Reduced waste generation; maintain cost effective waste recycling and waste prevention programs (best practices)

# Noblis Operation Green

Developing an emissions reporting, analysis and logical decision-making (EMERALD) application

## Tools > Carbon Calculator: Employee Commuting

Employee Commuting

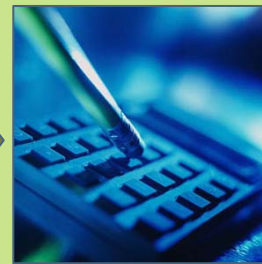
Business Travel

Purchased Electricity

Direct Fuel Consumption

Estimates vs. Actuals [\[Link to Employee Survey\]](#)

The screenshot shows a web form with several sections: 'Final error check', 'Payment', 'Federal filing options', 'State filing options', 'Bottom line', 'Bottom line: Federal refund', 'Bottom line: State balance due', 'View tax return', 'File', 'Next steps', and 'So, how was it?'. A 'Submit Feedback' button is visible at the bottom right.



Results Report

**CO<sub>2</sub> Emissions from Employee Commuting: Activity Data (Fuel Use) for Car Travel**

**Color Key:** Standard label (Green), User entry or edit (Yellow), Automatic calculation (Blue)

**Note:** Grey colored cells are protected to prevent format being inadvertently deleted. To improve the readability, a data Protection from the Text menu follows by Japrotech Sheet. No password required.

**TABLE 1**

Year: 2007						
A	B	C	D	E	F	G
State ID	Total car miles traveled in a year	Total car miles traveled in a year	Fuel economy (Miles per Gallon)	Quantity of fuel used (Gallons)	Number of occupants in the car	Fuel used per person (Gallons)
28858	8.77	451.85	20.30	20.15	1.00	20.15
28855	8.77	451.85	20.30	20.15	1.00	20.15
28951	10.28	488.18	20.30	24.15	1.00	24.15
28938	11.02	528.23	20.30	26.06	1.00	26.06
28981	11.25	538.53	20.30	26.55	1.00	26.55
18323	573.43	27612.70	20.30	1370.00	1.00	1370.00
19666	643.29	31952.26	20.30	1535.23	1.00	1535.23
23312	663.77	32449.76	20.30	1593.68	1.00	1593.68
28803	677.33	32545.71	20.30	1603.14	1.00	1603.14
28805	686.77	32864.67	20.30	1623.83	1.00	1623.83
25401	714.63	34905.23	20.30	1683.91	1.00	1683.91
<b>Total Fuel Used</b>						<b>81543.96</b>

### Multiple Data Entry Points

- Web Form (Q & based) Estimates
- Web Form (Q & A based) using Employee Survey Results/Actuals
- Batch Upload Estimates
- Batch Upload using Employee Survey Results/Actuals

### Results Display

- HTML, Excel Reports
- Charts/Graphs
- GIS Carbon Profile Maps

# Noblis Operation Green

Developing an emissions reporting, analysis and logical decision-making (EMERALD) application

## Tools > Carbon Calculator: Company Results

### Company Impact

### Impact by Site

## Company Results - Dashboard View

### Indirect CO<sub>2</sub> Emissions from All Sources

Color Key

User entry cells  
Automatic calculation

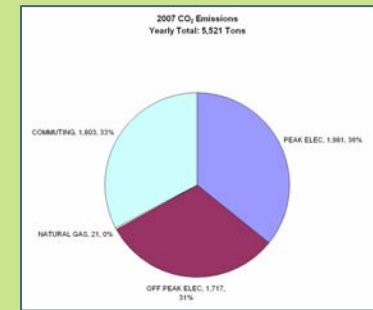
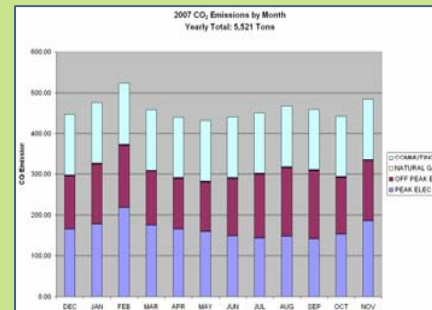
Notes: Gray colored cells are protected to prevent formulas being inadvertently deleted. To unprotect the worksheet, select Protection from the Tools menu.

Year: 2007

Month	PEAK ELEC	OFF PEAK ELEC	NATURAL GAS	COMMUTING
	tons CO <sub>2</sub>	tons CO <sub>2</sub>	tons CO <sub>2</sub>	tons CO <sub>2</sub>
DEC	165.39	129.73	1.52	150.21
JAN	177.81	145.76	1.56	150.21
FEB	218.53	153.08	1.54	150.21
MAR	174.93	131.71	1.67	150.21
APR	164.22	122.91	1.84	150.21
MAY	158.89	120.87	2.07	150.21
JUN	148.34	139.80	2.20	150.21
JUL	144.16	159.81	1.70	150.21
AUG	147.64	167.74	1.68	150.21
SEP	142.03	165.66	1.61	150.21
OCT	153.06	137.88	1.51	150.21
NOV	185.80	146.34	1.61	150.21

Year: 2007

	PEAK ELEC	OFF PEAK ELEC	NATURAL GAS	COMMUTING
	tons CO <sub>2</sub>	tons CO <sub>2</sub>	tons CO <sub>2</sub>	tons CO <sub>2</sub>
Yearly Total	1,981	1,717	21	1,803
Sum CO <sub>2</sub> emissions (in tons):			5,521.4	



# Noblis Operation Green

Developing an emissions reporting, analysis and logical decision-making (EMERALD) application

## Tools > Carbon Calculator: Company Results

Company Impact

Impact by Site

Company Site 1

### Company Site 2

Indirect CO<sub>2</sub> Emissions from All Sources

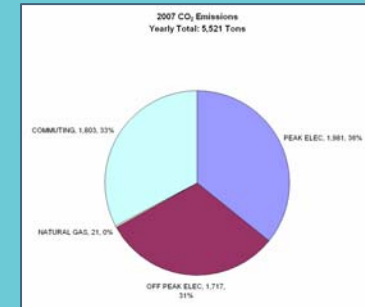
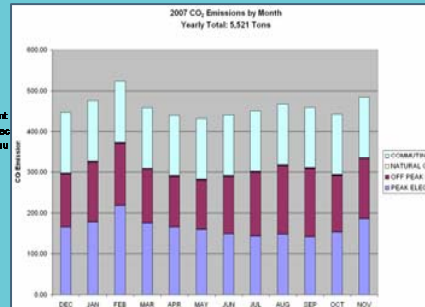
Codes Key

User entry cells  
Automatic calculation

Note: Gray colored cells are protected to prevent formulas being inadvertently deleted. To unprotect worksheet, select Protection from the Tools menu

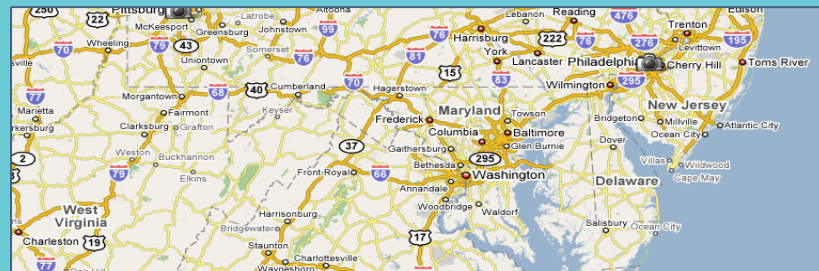
Year: 2007				
Months	PEAK FUEL	OFF PEAK FUEL	NATURAL GAS	COMMITING
	tons CO <sub>2</sub>	tons CO <sub>2</sub>	tons CO <sub>2</sub>	tons CO <sub>2</sub>
DEC	165.39	129.73	1.52	193.21
JAN	177.81	146.96	1.56	193.21
FEB	218.53	153.08	1.54	193.21
MAR	174.93	131.71	1.67	193.21
APR	165.22	122.91	1.84	193.21
MAY	198.89	120.87	2.01	193.21
JUN	182.34	139.80	2.20	193.21
JUL	143.16	135.81	1.70	193.21
AUG	147.64	167.74	1.68	193.21
SEP	142.03	163.66	1.61	193.21
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Year: 2007				
	PEAK ELEC	OFF PEAK ELEC	NATURAL GAS	COMMITING
	tons CO <sub>2</sub>	tons CO <sub>2</sub>	tons CO <sub>2</sub>	tons CO <sub>2</sub>
Yearly Total	1,981	1,717	21	1,803
Sum CO <sub>2</sub> emissions (in tons):	5,521.4			



Company Site 2

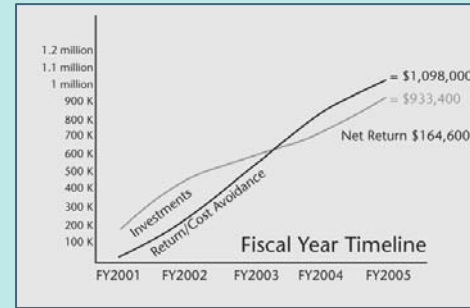
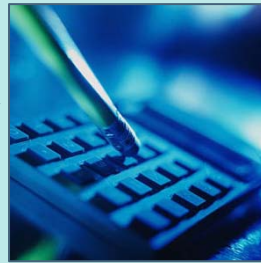
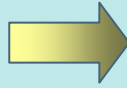
GIS Carbon Map



# Noblis Operation Green

Developing an emissions reporting, analysis and logical decision-making (EMERALD) application

## Tools > ROI Calculator



### Green Investments

- Electricity
- Data Center
- Cooling Systems
- etc.

### ROI Results / ROI Timeline

- Return on Investment
- Annual Savings
- Years to Payback
- Carbon Reduction
- Top Ten List

# Noblis Operation Green

Developing an emissions reporting, analysis and logical decision-making (EMERALD) application

## Noblis

**It begins with a spark.**

What do you get when some of the brightest minds in science, technology and strategy come together in an environment that has just the right mix of freedom and rigor, objectivity and passion?

You get sparks that become ideas that become long-lasting solutions to many of our nation's greatest challenges.

By the way, this isn't an experiment. It's a unique non-profit company called Noblis.

*Visit us at [noblis.org](http://noblis.org). Contact us at [rwassman@noblis.org](mailto:rwassman@noblis.org).*