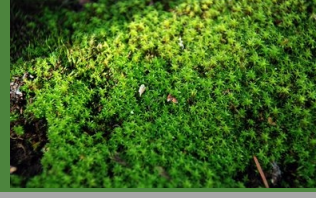
Carbon Calculator Tutorial

Prepared by Green Media Solutions

Why

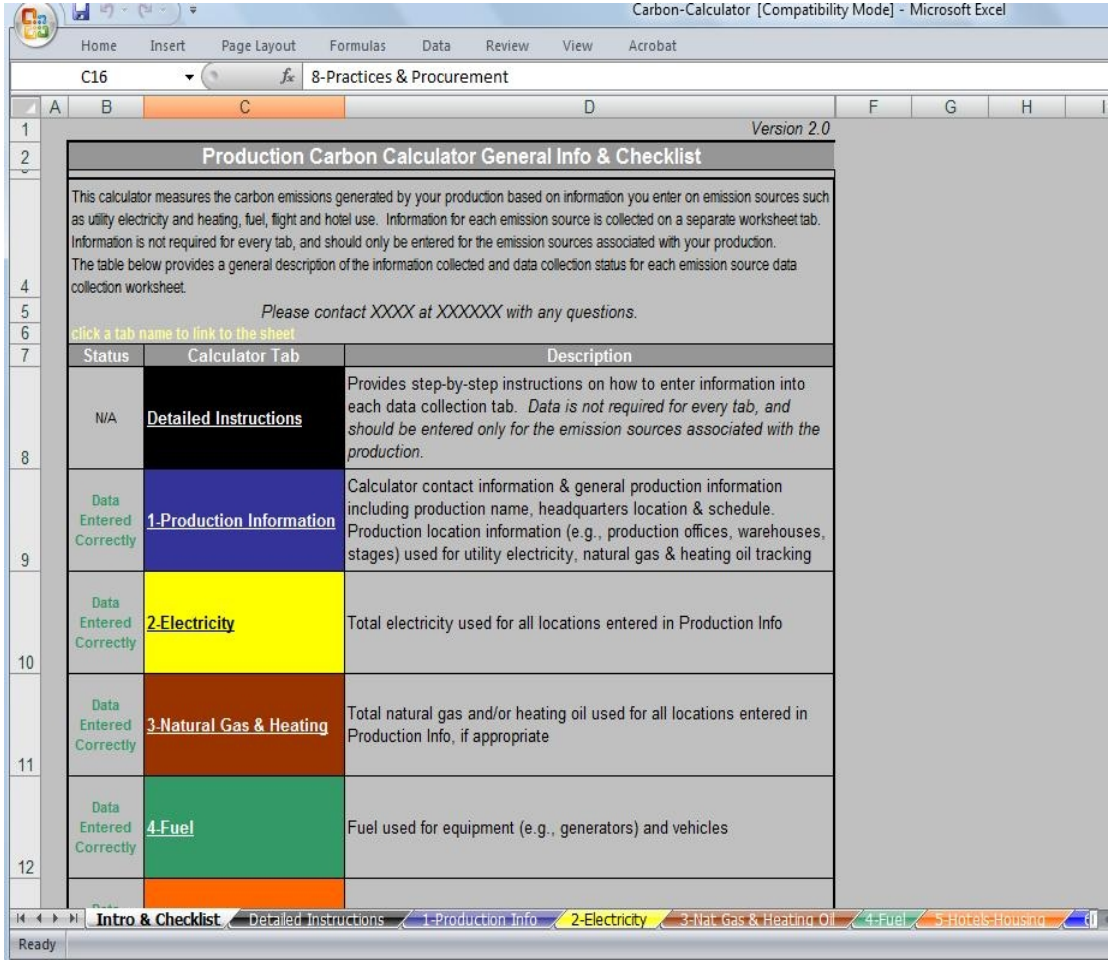


Our Carbon Footprint

As we launch our Carbon Calculator in 2011, it will be easier for filmmakers to track carbon footprints and, most importantly, implement and achieve goals toward carbon emissions reductions. We feel it is important to design systems that will give us constant feedback on the progress we're making, in order to continually update the strategies we pursue to help solve the crisis. When we as human beings observe something, the act of observing affects us. Calculating the carbon of our productions is one of the ways we can visualize the true nature of our impact, monitor our progress, and evaluate the potential solutions to eliminate global warming pollution.

Intro and Checklist

- **Acts as a Table of Contents**
- **As you begin filling in the content, this page will show you the “Status” of whether the data has been entered correctly.**



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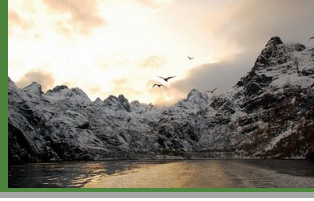
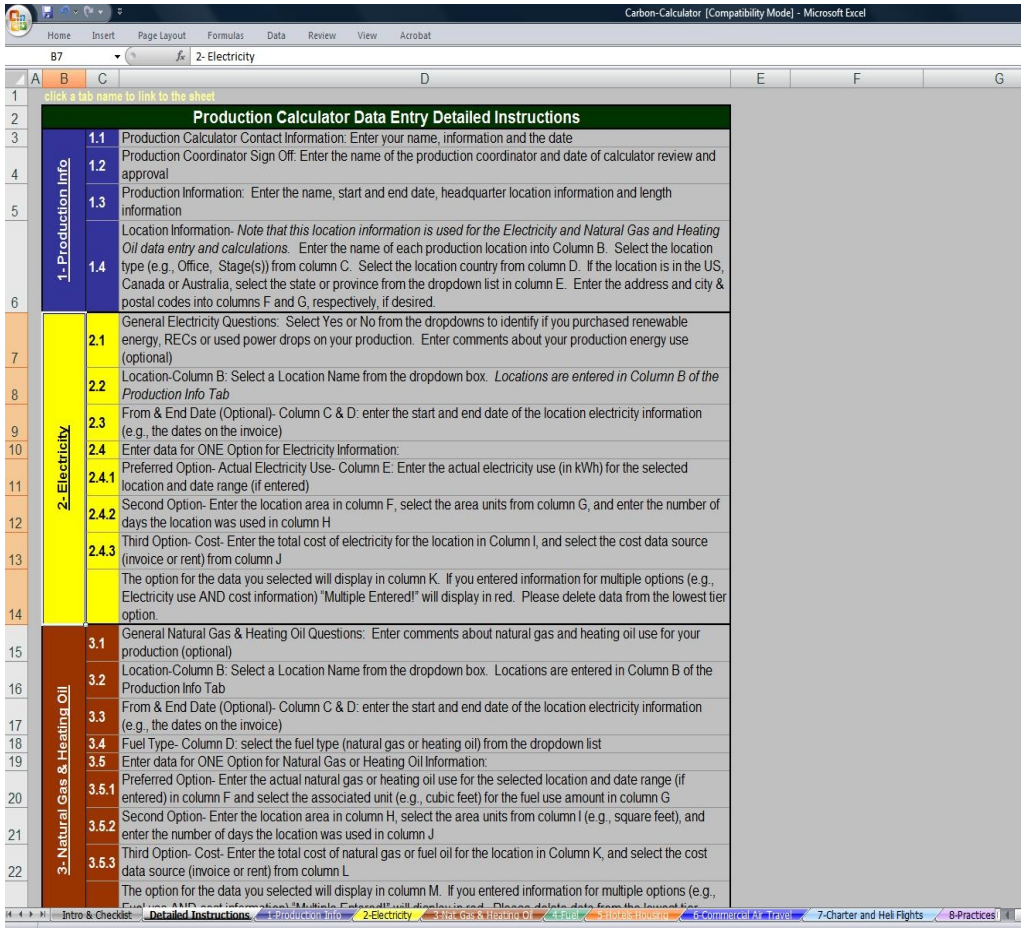
Detailed Instructions



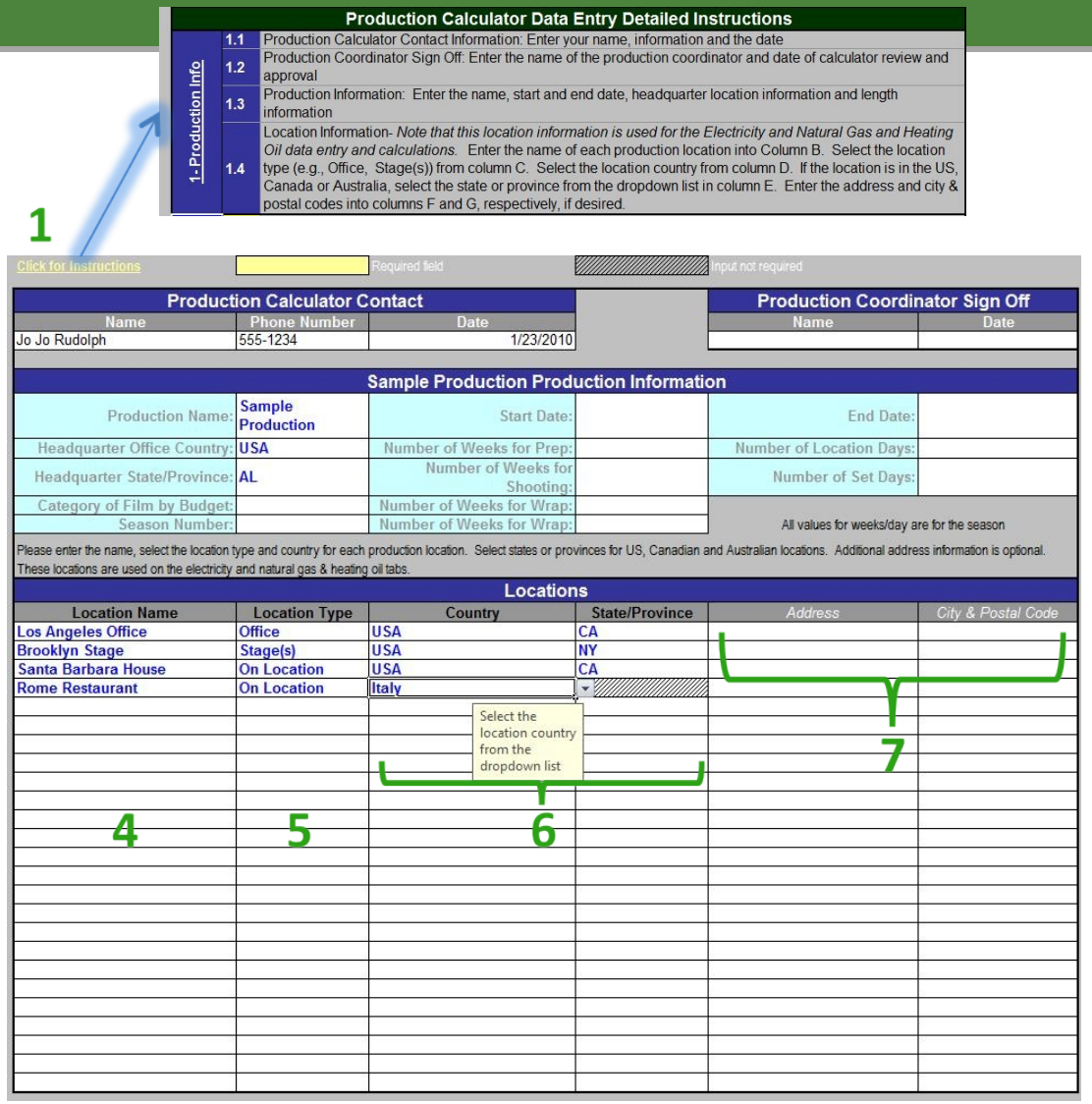
- **Contains instructions on how to fill out Each of the following tabs**
- **Hyperlink to each of the tabs**
  - **e.g. Click anywhere on the "Electricity" section to link to the "Electricity" section**
- **Refer back to this page when you have questions about entering data**



Green Production Guide

Tab 1: Production Info

1. **Hyperlink back to "Instructions" Tab if you need clarification.**
2. **Enter Production Contact info.**
3. **Enter general production information (i.e. Start Date)**
4. **Type in all locations**
5. **For each location name, choose a Location Type from the dropdown list.**
6. **Choose a Country and State/Province from the dropdown list.**
1. **Additional address information is optional.**



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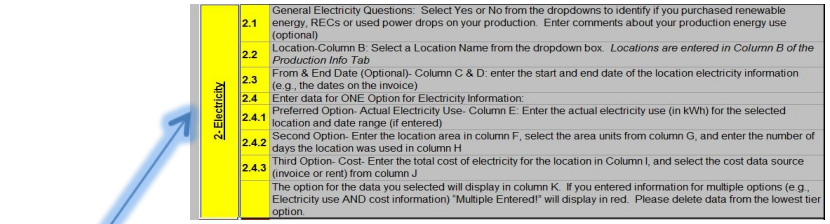
Tab 2: Electricity

1. **Using dropdown list, answer questions about power usage.**
2. **Enter add'l comments (E.g. "We used only EPA EnergyStar light bulbs".)**
3. **Use dropdown list to select locations you entered on the Production Info Tab.**
4. **Choose ONE OPTION to record electricity use for each location.**
   a. **Preferred Option: Actual electricity use (kWh)**
   b. **Second Option: Area of space x days used**
   c. **Third Option: Cost of electricity**



2. Electricity		
	2.1	General Electricity Questions: Select Yes or No from the dropdowns to identify if you purchased renewable energy, RECs or used power drops on your production. Enter comments about your production energy use (optional)
	2.2	Location-Column B: Select a Location Name from the dropdown box. *Locations are entered in Column B of the Production Info Tab*
	2.3	From & End Date (Optional)- Column C & D: enter the start and end date of the location electricity information (e.g., the dates on the invoice)
	2.4	Enter data for ONE Option for Electricity Information:
	2.4.1	Preferred Option- Actual Electricity Use- Column E: Enter the actual electricity use (in kWh) for the selected location and date range (if entered)
	2.4.2	Second Option- Enter the location area in column F, select the area units from column G, and enter the number of days the location was used in column H
	2.4.3	Third Option- Cost- Enter the total cost of electricity for the location in Column I, and select the cost data source (invoice or rent) from column J
		The option for the data you selected will display in column K. If you entered information for multiple options (e.g., Electricity use AND cost information) "Multiple Entered!" will display in red. Please delete data from the lowest tier option.

Click for Instructions — Required field — Input not required

Sample Production Purchased Electricity Information

Did You Purchase Renewable Energy or RECs?	
Did you use power drops?	
How much energy was powered from power drops?	

1

Comments

2

Locations entered in Production Info tab

Enter all information for ONE option for each location and date range

Location Name	From Date	End Date	PREFERRED OPTION Electricity Use (kWh)	Second Option Area	Second Option Units	Second Option Days Used	Third Option Total Cost of Electricity (US$)	Third Option Cost Data Source	Option Selected
Los Angeles Office							$100		3rd Option
LocationB				1,000	square meters	5			2nd Option
			1,000						Preferred Option

Los Angeles Office
Brooklyn Stage
Santa Barbara House
Rome Restaurant

3

Select a location from the list. Locations are entered on the Production Info tab.

4a 4b 4c

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Tab 3: Natural Gas

3-Natural Gas & Heating Oil		
	3.1	General Natural Gas & Heating Oil Questions: Enter comments about natural gas and heating oil use for your production (optional)
	3.2	Location-Column B: Select a Location Name from the dropdown box. Locations are entered in Column B of the Production Info Tab
	3.3	From & End Date (Optional)- Column C & D: enter the start and end date of the location electricity information (e.g., the dates on the invoice)
	3.4	Fuel Type- Column D: select the fuel type (natural gas or heating oil) from the dropdown list
	3.5	Enter data for ONE Option for Natural Gas or Heating Oil Information:
	3.5.1	Preferred Option- Enter the actual natural gas or heating oil use for the selected location and date range (if entered) in column F and select the associated unit (e.g., cubic feet) for the fuel use amount in column G
	3.5.2	Second Option- Enter the location area in column H, select the area units from column I (e.g., square feet), and enter the number of days the location was used in column J
	3.5.3	Third Option- Cost- Enter the total cost of natural gas or fuel oil for the location in Column K, and select the cost data source (invoice or rent) from column L
		The option for the data you selected will display in column M. If you entered information for multiple options (e.g., Fuel use AND cost information) "Multiple Entered!" will display in red. Please delete data from the lowest tier option.

1. **Enter add'l comments (E.g. Strategies used, policies implemented).**
2. **Use dropdown list to select locations you entered on the Production Info Tab.**
3. **Use dropdown list to select Fuel Type.**
4. **Choose ONE OPTION to record Natural Gas & Fuel Oil use for each location.**
   a. **Preferred Option: Amount of Fuel**
   b. **Second Option: Area of space x days used**
   c. **Third Option: Cost of Fuel**

Click for Instructions — Required field — Input not required

Sample Production Natural Gas & Fuel Oil Information

Comments

1

Locations entered in Production Info tab

Enter all information for ONE option for each location and date range

Location Name	From Date	End Date	Fuel Type	PREFERRED OPTION: Fuel Use Amount	PREFERRED OPTION: Fuel Use Units	Second Option: Area	Second Option: Units	Second Option: Days Used	Third Option: Total Cost of Fuel (US$)	Third Option: Cost Data Source	Option Selected
Los Angeles Office			Fuel Oil						$100.00	invoice	3rd Option
Brooklyn Stage			Natural Gas	123	cubic feet						Preferred Option
Santa Barbara House			Fuel Oil			1000	square meters	5			2nd Option

Fuel Oil
Natural Gas

2 — 3 — 4a — 4b — 4c

Select the type of fuel from the dropdown list

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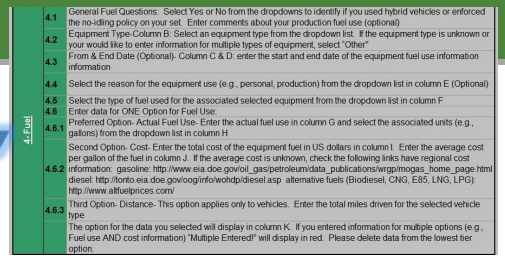
Tab 4: Fuel

1. **Answer questions.**
2. **Enter add'l comments (E.g. Strategies used, policies implemented, challenges).**
3. **Use dropdown list to select Equipment Type.**
4. **Use dropdown list to select Fuel Type.**
5. **Choose ONE OPTION to record fuel use for each Equipment Type.**
   a. **Preferred Option: Amount of Fuel**
   b. **Second Option: Cost of Fuel**
   c. **Third Option: Miles Driven**



4 Fuel	4.1	General Fuel Questions: Select Yes or No from the dropdowns to identify if you used hybrid vehicles or enforced the no-idling policy on your set. Enter comments about your production fuel use (optional)
	4.2	Equipment Type-Column B: Select an equipment type from the dropdown list. If the equipment type is unknown or your would like to enter information for multiple types of equipment, select "Other"
	4.3	From & End Date (Optional)- Column C & D: enter the start and end date of the equipment fuel use information information
	4.4	Select the reason for the equipment use (e.g., personal, production) from the dropdown list in column E (Optional)
	4.5	Select the type of fuel used for the associated selected equipment from the dropdown list in column F
	4.6	Enter data for ONE Option for Fuel Use:
	4.6.1	Preferred Option- Actual Fuel Use- Enter the actual fuel use in column G and select the associated units (e.g., gallons) from the dropdown list in column H
	4.6.2	Second Option- Cost- Enter the total cost of the equipment fuel in US dollars in column I. Enter the average cost per gallon of the fuel in column J. If the average cost is unknown, check the following links have regional cost information: gasoline: http://www.eia.doe.gov/oil_gas/petroleum/data_publications/wrgp/mogas_home_page.html diesel: http://tonto.eia.doe.gov/oog/info/wohdp/diesel.asp alternative fuels (Biodiesel, CNG, E85, LNG, LPG): http://www.altfuelprices.com/
	4.6.3	Third Option- Distance- This option applies only to vehicles. Enter the total miles driven for the selected vehicle type
		The option for the data you selected will display in column K. If you entered information for multiple options (e.g., Fuel use AND cost information) "Multiple Entered!" will display in red. Please delete data from the lowest tier option.

Click for Instructions — Required field — Input not required

Sample Production Fuel Information

How many hybrid vehicles did you use? **1**

Did you enforce the "No-Idling" policy on your set?

Comments **2**

Select equipment and fuel type. Dates and reason for use are optional.

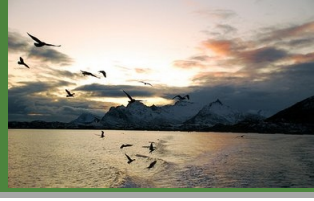
Enter all information for ONE option for each equipment and fuel type combination

Equipment Type	From Date	End Date	Reason for Use	Fuel Type	PREFERRED OPTION: Fuel Use Amount	PREFERRED OPTION: Fuel Use Units	Second Option: Total Cost of Fuel (US$)	Second Option: Average US$ per gallon	Third Option: Miles Driven (Vehicles)	Option Selected
Cars				Gasoline	1000	gallons				Preferred Option
Boat				Diesel Fuel			$ 100.00	$2.40		2nd Option
Motorcycles				Gasoline					1,000	3rd Option
Lift				Propane	100	gallons				Preferred Option
Generator				Diesel Fuel	500	gallons				Preferred Option
Generator				B20	500	gallons				Preferred Option
Trucks (<18 wheel)				Ethanol (E100)						

Fuel Type dropdown: Gasoline, Diesel Fuel, Biodiesel (B100), B5, B20, B40, B99, Ethanol (E100)

3 **4** **5a** **5b** **5c**

Tab 5: Hotels and Housing



1. **Using dropdown list, answer question about hotel choice.**
2. **Enter add'l comments (E.g. Strategies used, policies implemented, challenges).**
3. **Use dropdown list to select Room Type.**
4. **Choose a city/country from the dropdown list.**
5. **Choose a State/Province from the dropdown list.**
6. **Enter # of rooms rented at hotel.**
7. **Enter # of nights stayed at hotel.**

5- Hotels & Housing		
	5.1	General Hotel & Housing Questions: Select Yes or No from the dropdowns to identify if you choose a hotel because it is considered "green". Enter comments about your production hotel & housing use (optional)
	5.2	Room type: Column B Select a room or house type from the drop down list
	5.3	Hotel/Housing Location: Enter the hotel or housing city into column C (optional), select the country from the dropdown list in column D, if your hotel or house is in the US, Canada or Australia, select the state or province from Column E
	5.4	Enter the number of rooms rented at the hotel in column F (input not required for houses/condos)
	5.5	Enter the number of nights stayed at the hotel in column G

Click for Instructions — Required field — Input not required

Sample Production Hotels & Housing Information

1 Did you choose a hotel because it is considered "green"?

Comments 2

Select the room type and location (city is optional). Enter the number of rooms (for hotels only) and number of nights stayed at the hotel

Room Type	City	Country	State/Province	Number of Rooms	Number of Nights
Midscale Hotel		Canada	British Columbia	10	40
Luxury Hotel	Los Angeles	USA	CA	2	10
House/Condo					
		4	5	6	7

3 Economy Hotel / Midscale Hotel / Upscale Hotel / Luxury Hotel / House/Condo

Select a type of room from the dropdown list

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Tab 6: Commercial Air Travel

1. **Enter add'l comments (E.g. Strategies used, policies implemented).**
2. **Enter Departure & Arrival City information (optional)**
3. **Choose ONE OPTION to record air travel.**
   a. **Preferred Option: Flights by Route (look up distance at e.g.,www.usatoday.com/travel/flights/miles/calculator.htm)**
   b. **Second Option: Total flight distance**

6-Commercial Air Travel		
	6.1	General Commercial Air Travel Information: Enter comments about commercial air travel for your production (optional)
	6.2	Departure and Arrival Location Information- Enter the departure airport code or city (e.g., DEN or Denver) in column B and the arrival code or city in column C (optional)
	6.3	Enter data for ONE Option for Commercial Air Travel Information:
	6.3.1	Preferred Option- Flights by Route: Enter the total number of individual one-way trips for all people flown on this leg in column D. A round trip is equal to two trips. For example, if 5 cast members travel round trip from LAX to JFK 3 times, the number of trips equals 30 (5 x 2 x 3). Multiple trips on the same route can be entered on separate rows, as long as the number of trips is correct. Enter the one way flight distance of the route in column E and select the associated units from column F (e.g., LAX to JFK = 2500 land miles)
	6.3.2	Second Option- Total Flight Distance: Enter the total commercial flight distance (in passenger miles) for the production into column G and the associated units into column H. Thus, if more than one person is on the same flight, the total passenger miles would be the distance traveled by passenger one plus the distance traveled by passenger two
		The option for the data you selected will display in column K. If you entered information for both options (i.e., flights by route AND total commercial flight distance) "Multiple Entered!" will display in red. Please delete data from the total flight distance columns

Click for Instructions — Required field — Input not required

Sample Production Commercial Air Travel Information

Comments

1

Enter the information for ONE option for air travel. Departure and arrival locations are optional.

		PREFERRED OPTION			Second Option		
Departure Airport Code/City	Arrival Airport Code/City	# of Trips on this Route (Total the number of individual one-way trips for all people. Round-trip = 2 trips)	One Way Flight Distance	Flight Distance Units	Total Commerical Flight Distance	Flight Distance Units	Option Selected
LAX	DEN	6	1000	land miles			Preferred Option
					5,000	land miles	2nd Option
JFK	DEN	4	1500	land miles			Preferred Option

land miles
kilometers
nautical miles

2 3a 3b

Select the units associated with the one way flight distance

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Tab 7: Charter Air and Helicopter

1. **Enter add'l comments (E.g. Strategies used, policies implemented).**
2. **Enter Plane Type from dropdown list.**
3. **Choose ONE OPTION to record flight info for each Plane Type.**
   a. **Preferred Option: Amount of Fuel**
   b. **Second Option: Hours Flown**
   c. **Third Option: Distance Flown**

7- Charter & Helicopter Flights		
	7.1	General Charter and Helicopter Flight Information: Enter comments about charter and helicopter air travel for your production (optional)
	7.2	Plane Information: Select the plane type from the dropdown list in column B (required) and enter the plane model in column C (optional)
	7.3	Enter data for ONE Option for Chartered and Helicopter Flights:
	7.3.1	Preferred Option- Actual Fuel Use- Enter the actual fuel used for the plane type selected in column D and select the associated units (e.g., gallons) from the dropdown list in column E
	7.3.2	Second Option- Hours Flown- Enter the total hours flown by the selected plane type in column F
	7.3.3	Third Option- Distance- Enter the total distance flown by the selected plane type in column G and select the associated units (e.g. miles) from the dropdown list in column H
		The option for the data you selected will display in column I. If you entered information for multiple options (e.g., Fuel use AND hours used information) "Multiple Entered!" will display in red. Please delete data from the lowest tier option.

Click for Instructions — Required field — Input not required

Sample Production Charter Flight Information

Comments

1

Select the plane type. Model type is optional. — Enter all information for ONE option

Plane Type	Model (if known)	PREFERRED OPTION: Fuel Use Amount	PREFERRED OPTION: Fuel Use Units	Second Option: Total Hours Flown	Third Option: Total Distance Flown	Third Option: Flight Units	Option Selected
Large Private Jet		1000	gallons				Preferred Option
Small Private Jet				4			Second Option
Helicopter					1,000	nautical miles	Third Option

Chartered Commercial Jet
Large Private Jet
Small Private Jet
Helicopter

Select the plane type from the dropdown list

2 3a 3b 3c

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Tab 8: Practices and Procurement

1. **Enter Waste information, use dropdown list to choose unit.**
   <u>NOTE: Must be in WEIGHT (lbs, tons) not volume (yards, truckloads).</u>
2. **Enter add'l comments (E.g. "composted X, Y, Z", other challenges)**
3. **Use dropdown list to select Product Type.**
4. **Use dropdown list to select Product Category.**
5. **Enter Quantity.**
6. **Use dropdown list to enter type of Unit.**

8- Practices & Procurement		
	8.1	Waste Practice Information- Enter waste amount or cost information such as 3 and 40 yards bins used or purchased, total amount of trash generated, recycled, and sent to landfills in column C. Select the appropriate units from column C for total trash, waste recycled, and trash sent to landfills from the dropdown list in column D
	8.2	Procurement Information- Specify the bulk products purchased by the production. Select the product type (e.g., wood or paper) from column B, select the type (e.g, Recycled White Paper) from the dropdown or enter a new type into column C. Enter the quantity of the selected product purchased, and enter the associated units into column E. If available, enter the cost of the product in US dollars in column F. Enter any comments for the specific product in column G (optional)

Click for Instructions

Sample Production Practices & Procurement Information

1

Waste Practices		
Waste Information	Amount or Cost	Units
Number of 3-yard bins	5	bins
3-yard bins cost		US $
Number of 40-yard bins		bins
40-yard bin cost		US $
Total trash generated (sum of landfill, recycled and composted trash)	6000	pounds
Total waste recycled	2000	pounds
Total trash sent to landfills	4000	pounds

What other "green" practices did you implement?

Comments

2

Please specify the bulk products purchased by the production, and their amounts

Product	Type	Quantity	Units	Cost (US$)	Comments
Wood	SFI Certified	120	4x4s		
Paper	Recycled color	30	reams		
Paint	Low VOC	50	gallons		
Glass					

3 4 5 6

Wood
Paper
Paint
Ahesives
Glass
Styrofoam
Other "Green" Purchases

Select a product from the list

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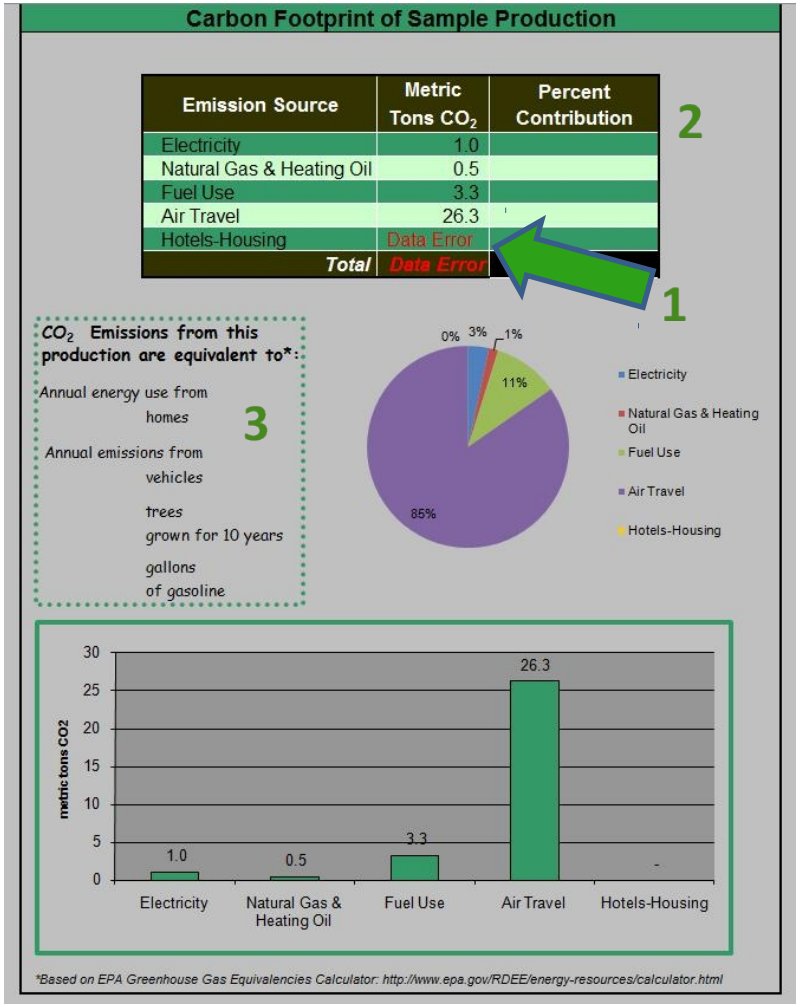
Tab 9: Emissions Result - Incomplete

This tab takes everything you have entered on the previous Tabs and calculates your emissions.

1.If data was not entered correctly on a previous tab, you will see a "Data Error" message in that column – i.e. in Hotels-Housing here.

2 & 3. If there is a Data Error, certain metrics will not be calculated.

***See next slide for example of fully completed emissions report.**



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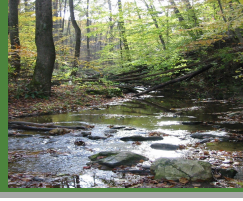


Example of complete Emissions Results Report

Carbon Footprint of Sample Production

Emission Source	Metric Tons CO_2	Percent Contribution
Electricity	9.6	1%
Natural Gas & Heating Oil	0.5	0%
Fuel Use	151.6	15%
Air Travel	831.9	84%
Hotels-Housing	2.1	0%
Total	*995.6*	

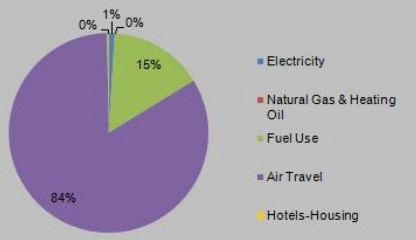
CO_2 Emissions from this production are equivalent to*:

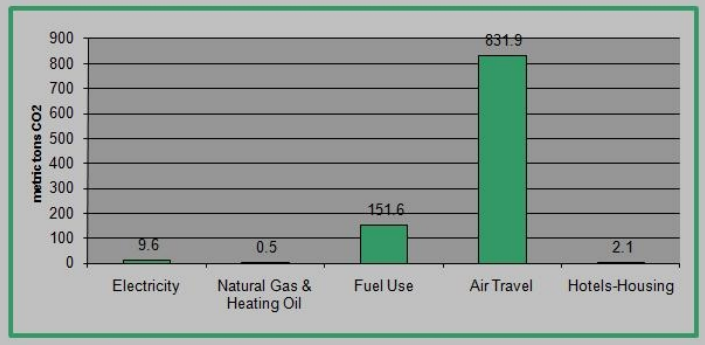
Annual energy use from **89** homes

Annual emissions from **190** vehicles

25,530 trees grown for 10 years

699,530 gallons of gasoline





*Based on EPA Greenhouse Gas Equivalencies Calculator: http://www.epa.gov/RDEE/energy-resources/calculator.html

Questions?

Contact
Sck@greenmediasolutions.com
for information about
Carbon Calculator Workshops