

This amendment replaces the Energy Benefits and Emissions Table on page 52 of Solicitation DE-FOA-0000005 and page 44 of Solicitation Number DE-FOA-0000008 with the following data request form.

In order to conduct a more thorough lifecycle emissions analysis consistent with statutory requirements set forth in Title XVII of the Energy Policy Act of 2005, DOE is replacing the Energy and Emissions Benefits table provided in Solicitation Number DE-FOA-0000005 and Solicitation Number DE-FOA-0000008 with the following tables.

**Solicitation Number: DE-FOA-0000005** [Energy Efficiency, Renewable Energy and Advanced Transmission and Distribution Technologies] - **Due: February 26, 2009** for Stand Alone and Manufacturing Projects (A one-month extension may be granted for this piece only if more time is needed. If additional time is required to compile the data, please indicate this in your application under Section D1).

**Due: April 30, 2009** for Part II submissions under the Large-Scale Integration Projects Category

**Solicitation Number: DE-FOA-0000008** [Coal-Based Power Generation and Industrial Gasification Facilities that Incorporate Carbon Capture and Sequestration or Other Beneficial Uses of Carbon and for Advanced Coal Gasification Facilities]

**Due: March 23, 2009** with Part II submission

Each applicant is required to submit the following information which must be entered into the Excel spreadsheet provided. The Excel spreadsheet can be downloaded from the Loan Guarantee Program Website under Key Documents at <http://www.lgprogram.energy.gov>. Click on Lifecycle Emissions Data Worksheet to download the document. The fields marked in red in the Life Cycle Data Input worksheet are the most important. Actual or estimated data should be provided. Fields marked in turquoise should be filled out with supplier data, if available. If not available, supplier data will be estimated based on generic process data obtained from the application.

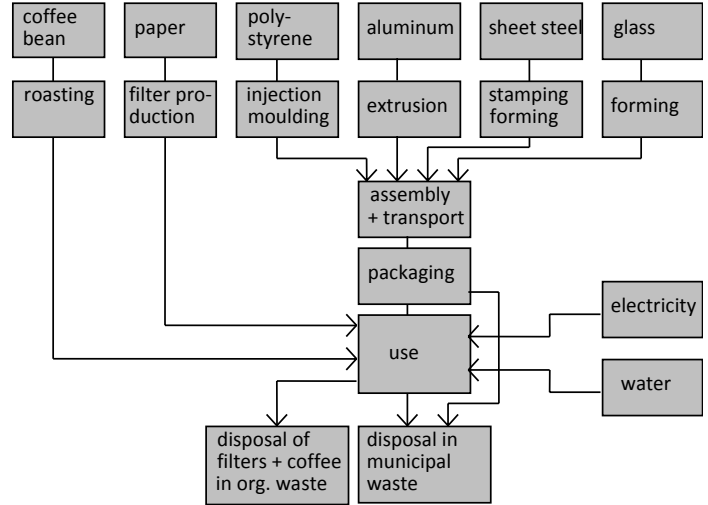
Please Note: There are 2 worksheets in the Excel spreadsheet (Life Cycle Data Input and Electricity Purchases and Sales). The applicant is requested to enter all pertinent information into the appropriate Excel worksheets. The following information is provided for your guidance.

**Life Cycle Data Input Worksheet**

Product for which the data are required	_____
Annual Production	_____
Time Period for when the data are relevant	_____
Project Sponsor Name	_____
Contact Person	_____
Phone	_____
Address	_____

**E1. Manufacturing Process Flows**

The applicant should create a separate worksheet in the Excel file and include a flow diagram showing the manufacturing processes – from cradle to grave. An example of a generalized coffee machine is provided below, for illustrative purposes only.



The following life cycle data input tables are included in the electronic Excel file. The tables below are provided for reference use only and should not be filled out by hand. All data should be entered into the Excel file.

**E2. Material, Input Components, Energy Input and Emissions**

The Applicant should include material and component input at the production site. Components should be grouped according to the supplier. Data should be expressed as input component amounts per pound (lb) of product. Refer to the Excel file for more information.

- 1) Total input means the total mass input of component (as transported) and of energy needed per product mass unit at the production facility.
- 2) % of active chemicals refers to the active chemical content of the input component, as transported. If the component contains several chemicals (e.g. solvents other than water or other actives, please list this formula in the remarks section.

Table 1

Total input (1)			% active chemicals		
Name of Component or Energy Input	(lbs/lb product)	Comments	%	Comments	Company Name
Material and Chemical Inputs					
A					
B					
C					
D					
E					
F					
Add additional rows as necessary					

Table 2

<b>Supplier</b>	<b>Transport (Supplier to production site)</b>		
Supplier manufacturing location	By road (miles)	By rail (miles)	By ship (miles)
A			
B			
C			
D			
E			
F			
Add additional rows as necessary			

Table 3

<b>Energy inputs at production site</b>	
Electricity (MWh/lb product)	
Natural gas (cu ft/lb product)	
Light fuel oil	
Heavy fuel oil	
Other	
<b>On-Site Energy Production Fuel Use (amount/MW)</b>	
Coal	
Natural Gas	
Hydroelectric	
Wind	
Solar	
Geothermal	

Table 4

<b>Emissions at production site</b>	
This data field should contain information about known air emissions from the production site related to the manufacturing process (i.e. NOx from a boiler, emissions from a diesel forklift or volatilization of a solvent). If there are no air emissions associated with the product manufactured specify this also.	
Air Emissions (Expand as Necessary)	lb/lb product
<b>Greenhouse Gases (GHGs)</b>	
CO <sub>2</sub>	
CO	
Other – specify (e.g., CH <sub>4</sub> , N <sub>2</sub> O)	
<b>Other Air Emissions</b>	
PM <sub>10</sub>	
PM <sub>2.5</sub>	
SO <sub>2</sub>	
NOx	
Mercury	
*Other - specify	

\*Air emissions should include listing of any additional greenhouse gases under "Other".

Table 5

<b>Water Emissions (expand as necessary)</b>	
These data elements should be filled out (if possible) because water and waste effluents may lead to chemical processes that increase air emissions.	
<b>Water Emissions (Expand as necessary)</b>	lb/lb product
1	
2	
3	
4	
5	
6	
7	
<b>Solid Wastes (Expand as necessary)</b>	lb/lb product
Municipal	
Hazardous	
Other – (specify)	
<b>Process water use</b>	cu ft/lb product
Total process water used	
Net water use	
** Net water use = [Total process water purchased or used from all sources] minus [Process water discharged after treatment so it is of equivalent or better quality than the original process water purchased or used.]	

**E2.2 Supplier Manufacturing Data**

For the supplies and suppliers listed in E2.1 above, express data per pound of manufactured component. Use energy units instead of pounds fuel per pound, as appropriate.

Table 6

	Component A	Component B	Component C	Component D	Component E	Component F
Name/Description						
Input Energy	(lb fuel/lb component)	(lb fuel/lb component)	(lb fuel/lb component)	(lb fuel/lb component)	(lb fuel/lb component)	(lb fuel/lb component)
Electricity						
Natural Gas						
Light Fuel Oil						
Other (specify)						

### E2.3 Supplier Manufacturing Emissions

Table 7

Emissions	Component A	Component B	Component C	Component D	Component E	Solvent F
	(lb/lb component)	(lb/lb component)	(lb/lb component)	(lb/lb component)	(lb/lb component)	(lb/lb solvent)
Air Emissions						
<b>Greenhouse Gases (GHGs)</b>						
CO <sub>2</sub>						
CO						
Other – specify (e.g., CH <sub>4</sub> , N <sub>2</sub> O)						
<b>Other Air Emissions</b>						
PM <sub>10</sub>						
PM <sub>2.5</sub>						
SO <sub>2</sub>						
NO <sub>x</sub>						
Mercury						
*Other - specify						

### Grid Connected Electric Generation, Savings and Transfers

The Electricity Purchases and Sales worksheet is ONLY to be used to record electric power generation, purchases, savings and transfers to and from the electric grid. Complete all applicable sections but do not duplicate data in multiple sections. Green areas on the spreadsheet are to be used for input data. Complete all sections relevant to your project. Section A should be completed if the project will generate electric power and the power will be sold to the grid. Section B should be completed if the project will be purchasing electric power from the grid. Section C should be completed if the project will be using technologies or making products to reduce electric power purchases from the grid. Section D should be completed if the project will be transferring, or making products to transfer, store or time shift electric power on the Grid.