

Guide for Using the Tally Sheets and Reporting Accurate Data

Below we offer some hints to help participants record accurate data on their Summary Data Sheet. The most often error made during our testing was forgetting to adjust some of the data to the single participant. For example, for most people the home energy usage applies to all the persons in the home, so to report only the participants share, the household value should be divided by the number of people in the home.

ENERGY

We include the various sources of home energy used in Jefferson County. Most participants will use just one or two, but record all that apply.

Electricity

Units: kWh (kilowatt-hours). Daily usage values can now be accessed using PUD's new web site (accessible after registering and requesting an online account). Alternatively, and less accurate, monthly bills can be referenced to provide monthly totals that can either be averaged to daily rates or applied as a bulk number in the Bigfoot recording period in which the bill was received.

Propane

Units: gallons. Tank readings on the first and last days of the recording period are the simplest method. Tank readings are probably in % and must be multiplied by storage tank size (in gallons) to calculate usage.

Wood

Units: cubic feet. A cord is the most common unit of measure for wood and commonly referred to as a pile of stacked logs 8 ft long x 4 ft wide x 4 ft high. However, it is difficult to estimate wood usage by fractional cord so cu. ft. is used here. 1 cord is 128 cu. ft.

Wood pellets

Units: pounds. It is recommended using the same container to measure pellets throughout the competition. By weighing the container both empty and loaded, the weight of a container-load of pellets is easily calculated and pellet use can be easily monitored.

Heating oil

Units: gallons. Similar to Propane (above).

WATER

Units: gallons. Participants connected to municipal water networks are advised to read their meters at the beginning and end of each recording period because many county water bills do not provide particularly accurate information. Participants that pump water from private wells will enter zero for water usage (their usage is reflected in the electricity used to pump from their well but cannot be separated from other uses of electricity).

A **Yes/No** response is entered for assessing the impact of wastewater treatment. “Yes” means there is a connection to the municipal septic. Wastewater is not metered reliably so it is calculated as a percentage of water usage. Participants on a septic system enter “No” and will not see any footprint for this item because, as with supply water, the operation of the septic is contained as part of the electrical usage.

PERSONAL TRANSPORTATION

Gasoline and Diesel

Units: gallons. This category covers all vehicles (cars, trucks, motorcycles and even smaller recreational vehicles, such as ATVs and boats) for which the participant buys the fuel (either gasoline or diesel) or has knowledge of how much fuel is purchased. Monitoring fuel usage directly is a more accurate means of quantifying emissions than monitoring miles traveled because fuel efficiency varies significantly between even seemingly identical vehicles (make, model, year) due to factors such as tire inflation, engine condition and driving style.

During the competition it will be most accurate to measure fuel use by filling up at the beginnings and ends of the recording periods. For shared travel, it will be important to keep track of the actual proportion of transportation associated with the individual participant.

PUBLIC/SHARED TRANSPORTATION

Units: miles. This category refers to ride sharing when the vehicle is not owned by the individual whose footprint is being determined or when the actual fuel used cannot be monitored. In these cases, monitoring mileage traveled becomes the next best method of estimating emissions.

Carpooling

Divide the miles traveled for each trip by total number of people sharing the trip. If the number of sharing people changes, the participant’s share should be calculated for each trip and then summed.

Business vans/shuttle

Divide the miles traveled for each trip by total number of people sharing the trip. If the number of sharing people changes, the participant's share should be calculated for each trip and then summed.

Bus

For bus transportation, the number of passengers changes frequently, so an **average number of passengers is assumed** so the participant only need monitor the total miles traveled.

Train

For train transportation, the number of passengers changes frequently, so an **average number of passengers is assumed** so the participant only need monitor the total miles traveled.

Ferry

For ferry transportation, it is not feasible to count the number of passengers so an **average number of passengers is assumed** and the participant only need monitor the total miles traveled. An average trip Washington State Ferry is 11 miles; this number can be used to assist in reporting miles traveled if the WSF system was used..

Airplane

For airplane travel, the number of passengers is difficult to know and there are many other variables that affect emission per mile, so average values are assumed and the participant only needs to monitor the total miles traveled.

NON-RECYCLED GARBAGE

Units: pounds. Weighing the amount of garbage destined for the landfill is the preferred method for the calculator. Stepping on a bathroom scale with and without the garbage bag is an easy method. One full trash bag will typically weigh about 18 lbs; more if heavily packed. A less precise approach is to count the number of large trash bags filled. Rough rules of thumb if counting bags is to assume bagged curbside garbage weighs 95 lbs./cu. yd and bagged dump garbage weighs 150 lbs./cu. yd. Large outdoor trash cans are typically 35 gallons in volume. [Refs: <http://www.aqua-calc.com/page/density-table/substance/garbage-coma-and-blank-household-blank-rubbish>
<http://recycle-bowl.org/wp-content/uploads/Recycle-Bowl-Estimating-Data-Fact-Sheet.pdf>].

FOOD

Meat

Store-bought red meat has a higher carbon footprint than any other broad food category.

Units: # of meals that include red meat as a main entrée. Red meat purchased in a food store has a higher carbon footprint than any other broad food category so this category is included as an indicator. Portion size varies among people, but main entrée is intended to mean a 4 oz. portion, which for most people would only include dinners.

Local Source

Units: % of total food purchased originating from local sources. This also serves as an indicator item rather than attempting to be a comprehensive measure. Actual percentage can be difficult to estimate.

Organic fruits & vegetables

Units: % of purchased fruits and vegetables that is grown organically.

SHOPPING

It is very difficult to quantify carbon footprint contributions from shopping behavior because there is so much variation in the manufacture of similar products themselves and the energy that must be expended to get them to stores. Online shopping is becoming more popular, but for the savings in transportation that are realized, there are greater costs in packaging materials. Examining a number of on-line carbon calculators, there are two categories that were selected to incorporate into this calculator.

Clothing

Units: dollars spent on new clothing.

Paper reading material

Units: dollars spent on paper reading material such as newspapers and books.