

SCHOOLS CHECKLIST



SCHOOLS ECOLOGICAL FOOTPRINT CALCULATOR

The Schools Ecological Footprint Calculator measures resource consumption and converts this to the amount of land needed to supply the resources and assimilate the waste generated. It may help you identify the environmental impacts of everyday activities and encourage progress towards more sustainable practices.

The following questions require information about the types and amounts of products and resources used in your school, enabling you to estimate how many global hectares are required to support your school. In other words, what sort of Footprint you are leaving on Planet Earth.

BUILDING INFORMATION

The following questions ask for information about the floor space of your school buildings, as well as building construction and maintenance across the life cycle. This is so the calculator can apportion the environmental impact of the overall building and reflect this in your Ecological Footprint.

| | | |
|-----------|---|----------------|
| 1 | What is the ground area of your school, including grounds and buildings? What is the total ground area that your school occupies in square meters of indoor and outdoor space? | m ² |
| 2 | What is the total floor area of all school buildings? Enter total floor area of buildings, adding additional floor area for buildings that have multiple levels. | m ² |
| 3 | What is the expected life of the building/s in years? Embodied energy, operational impacts and potential construction waste associated with your school buildings will be apportioned to your school's annual Ecological Footprint (proportional to the life of the built structure). If you know how old your building is and how long it is expected to last, enter the sum of these two figures. If you are not aware of the life expectancy, enter 80 years (the average life expectancy of office buildings in Australia). Materials and energy for renovation of the building are included in the footprint values. | Years |
| 4 | Do you have information about any green design features of the building/s? | Yes/no |
| 4a | Percentage of recycled aggregate in concrete | % |
| 4b | Average percentage of extenders in concrete (fly ash or slags) | % |
| 4c | Use of second-hand building products. This may include materials purchased off-site or materials remaining on-site from previous constructions – enter average % of total building materials. | % |
| 4d | Use of recycled materials and materials with some recycled content. Enter average content over entire building – exclude use of recycled aggregate in concrete as this is taken into account above. | % |
| 5 | How many students at your school? Your answer to this question will allow you to see the Ecological Footprint of your school represented per person. | |
| 6 | How many staff at your school? Your answer to this question will allow you to see the Ecological Footprint of your school represented per person. | |

FURTHER INFORMATION:

EPA Victoria

Telephone: (03) 9695 2722

Email: eco.footprint@epa.vic.gov.au

www.epa.vic.gov.au/ecologicalfootprint



ENERGY AND WATER USE

Your electricity, gas and water bills will provide information in kilowatt-hours (kWh), megajoules (MJ) and litres (L) – units required to complete the questionnaire. You will need to provide information about consumption per year for each utility item below.

If you are using the Utility calculators the Energy & Water help sheet will assist your collation of electricity, gas and water data.

| | | |
|-----|--|--------|
| 7 | How much electricity does your school use per year? If you know how much electricity is used specifically for your school annually, enter this. Alternatively you could estimate electricity consumption by using the calculator function. | kWh/yr |
| 7a | Does your school purchase energy supplied from renewable sources such as wind or solar, that is Green Power? Green Power is energy sourced from renewable sources such as wind, solar or hydro. Most energy providers give customers an option to purchase Green Power, usually at a small additional cost. Using Green Power will reduce the Footprint of your school. Enter the percentage of total energy supply from renewable sources | |
| 8 | How much natural gas does your school use per year? If you know how much gas is used specifically for your school, enter this. Alternatively you could estimate gas consumption by using the calculator function. | MJ/yr |
| 9 | How much water does the school use per year? If you know how much water is used specifically for your school, enter this. Alternatively you could estimate water consumption by using the calculator function. Include purchasing of water (not bottled for drinking), use in toilets, dust suppression and grounds watering. Ecological Footprint accounts for water usage by measuring the required energy demand associated with supplying water such as transport and reticulation infrastructure. | kL/ |
| 10 | Are generators used to power your school? If you know how many litres of fuel are used specifically for your school needs, enter this. You could estimate an average monthly consumption of fuel and then extrapolate results to enter annual data. | Yes/no |
| 10a | Estimate litres of petrol used per year | L |
| 10b | Estimate litres of diesel used per year | L |

FOOD – CATERING

Food is not something that has traditionally been associated with environmental impact. Ecological Footprint accounts for land use associated with growing crops, grazing animals for meat and absorbing emissions associated with energy required to produce and transport goods such as food.

| | | |
|-----|--|-------------|
| 11 | Does your school have canteen facilities? | Yes/no |
| 12 | Over the period of a week (five days), how much money do you spend on replenishing stock as a result of staff and students purchasing? If collection of data is challenging, look at a single day's sales and then extrapolate results for an average week. Enter the total dollar amount spent (\$) on catering per category. Food is not always associated with environmental impact but there are inputs from, and outputs to, the environment associated with growing food. Your school's food Ecological Footprint includes land use associated with growing crops, grazing animals for meat and absorbing emissions from the energy required for producing and transporting your food. The following categories link to the National Accounts and link to environmental data on a per-dollar basis. | |
| 12a | Meat and meat products including fish | \$ per week |
| 12b | Dairy products | \$ per week |
| 12c | Fruit and vegetable products If your school has their own garden to supply fresh fruit and vegetables to the canteen, Ecological Footprint accounts for this through a reduction in purchasing costs of fresh produce. | \$ per week |
| 12d | Oils and fats | \$ per week |
| 12e | Flour and cereal foods | \$ per week |
| 12f | Bakery products | \$ per week |
| 12g | Confectionery | \$ per week |
| 12h | Other food products | \$ per week |
| 12i | Soft drinks and other non-alcoholic beverages | \$ per week |
| 13 | How much does your school spend on drinks and external catering per year? | |
| 13a | Beer | \$ |
| 13b | Wine and spirits | \$ |
| 13c | Soft drinks and other non-alcoholic beverages | \$ |
| 13d | External catering/restaurants and café food | \$ |



TRAVEL TO AND FROM SCHOOL

Transport to and from school can often be a significant contributor to an individual's Ecological Footprint. If your school would like to influence behaviour change in your staff and students and encourage sustainable transport to and from school, it is valuable to include the following question in your school's Ecological Footprint. This enables you to measure the success of any educational and behaviour-change programs that are implemented to encourage staff and students to walk, cycle or take public transport or school buses to school.

| | | |
|-----|---|--------|
| 14 | Would you like to include staff/student travel to and from school as part of your school's Ecological Footprint? | Yes/no |
| 15 | Please enter total distance travelled by total staff and students for each of the following modes of transport for a single day Total school data can be difficult to collect because of the large number of students you might have at your school. It may be necessary to use a sample group and extrapolate results to account for every staff member and every student. Use the supporting Travel helpsheet to assist with your data collection. Remember to include travel distance for 'to' and 'from' school. | |
| 15a | Car | km |
| 15b | School bus | km |
| 15c | Public transport (trains or buses) | km |
| 15d | Walking/cycling | km |

TRAVEL EXCURSIONS

Transport for excursions/camps/field trips can often be a significant contributor to a school's Ecological Footprint, especially when they require air travel. Different transport modes have differing ecological impacts based on infrastructure required to construct roads, rail and vehicles, together with greenhouse gas emissions when in use (Ecological Footprint allocates energy land to absorb these emissions). No impact is allocated for walking or cycling. If possible, plan for local excursions in order to reduce your Ecological Footprint.

| | | |
|-----|---|--------|
| 16 | Have there been any excursions/camps/field trips? If there is travel associated with excursions/camps/field trips, include the distances travelled that relates to this. Ensure you enter return distances for each one. For each excursion/camp/trip, multiply the total distance travelled by the number of people participating. Use the supporting Excursion helpsheet in order to calculate the total travel from excursions/camps/field trips. | Yes/no |
| 17 | What are the total distances travelled by students and teachers on excursions/camps/field trips per year? | |
| 17a | Car | km |
| 17b | Train (long-distance) | km |
| 17c | Train (short-distance) | km |
| 17d | Bus | km |
| 17e | Boat (e.g., ferry) | km |
| 17f | Domestic air travel | km |
| 17g | International air travel | km |
| 17h | Walk/ride | km |

TRAVEL FLEET

| | | |
|-------|--|-------------|
| 18 | Does your school own/lease fleet vehicles? | Yes/no |
| 18a | Which of the following information do you have? | |
| 18ai | Total amount spent on fuel for the school fleet cars per year Collect data on the total amount of fuel spent on the school fleet cars per year. | \$ per year |
| or | | |
| 18aii | Total km travelled per year by staff in your school Collect data on the total distance (km) travelled per year in the fleet cars by staff. | km/yr |
| | To finalise Question 18, please complete the following Use the supporting Fleet help sheet to collect data for each type of fleet car in your school. | |
| | Type Hybrid/small/medium/large | |
| | No. of cars How many cars does your school have of each type of car? | |
| | % of total school use What percentage of use is for school purposes? | % |
| | Fuel Petrol/diesel/LPG | |
| | Fuel price/litre | \$ |
| | Proportion of travel with more than driver only Never or almost never / occasionally (about 25%) / often (about 50%) / very often (about 75%) / almost always. | |



| | | |
|-----|---|----|
| 19a | Copy paper used per year For total paper consumption provide volume per year, or extrapolate a week's or month's results to provide an annual figure. One ream of paper (500 sheets) at 80 gsm is equivalent to approximately 2.5 kg. Include paper used in copiers, printers and fax machines purchased by your school. | kg |
| 19b | Average recycled content of all office paper consumed Identify the recycled content of the paper by consulting your purchasing officer or the specification on the packaging label. Provide an average recycled percentage across all paper purchased. (For example, if 50 % of paper has a recycled content of 80 % and 50 % has no recycled content, the average is 40 % recycled content.) | % |
| 20 | Cost of printed materials and publications produced for your school by an external publisher per year This includes printed products produced for your school by an external organisation, such as an annual report, year book or newsletters sent out for publishing. | \$ |
| 21 | How much does your school spend on subscriptions to publications? | \$ |
| 22 | Amount spent on printed books and journals for the school library per year | |
| 23 | How much does your school spend on computers and printer equipment in a year? | \$ |
| 24 | How much does your school spend on other stationery for staff per year? | \$ |
| 25 | How much does your school spend on other stationary supplies for students per year? This includes items such as pens, pencils, rulers, exercise books etc. | \$ |

GOODS

Ecological Footprint accounts for goods such as paper, pens, photocopiers and computers (common school items) by measuring inputs across the life cycle (from material extraction to construction, distribution, use and disposal).

There may be someone in your school who is responsible for purchasing a particular item or a product financial code under which you can search in your school's financial management system.

| | | |
|----|--|--------------------------------|
| 26 | Enter the total amount of waste generated by your school in a week Estimate how many 240 L bins (the larger of the two sizes of kerbside wheelie bin) have been filled during a week (include recyclable waste and landfill waste). If your total is not a whole number, enter the percentage filled in decimal form (e.g., if ten bins and half of another 240 L bin are filled, enter 10.5 for the number of bins). If your school's landfill waste is collected in smaller classroom/yard bins and emptied straight into a large dumpster, you will have to calculate the equivalent number of 240 L wheelie bins that are being thrown out per collection. Firstly, work out how many 240 L bins would fit into one full dumpster (your facilities manager will be able to tell you the volume of the dumpster). Then work out how full the dumpster is on an average week before it is emptied (stick a digital camera over the edge and take a photo rather than trying to climb up the side to see!) and then multiply the proportion it is full by the maximum number of 240 L bins that could fit in it. | Total no. of 240 L bins |
|----|--|--------------------------------|

RECYCLING AND WASTE

The Ecological Footprint calculator will assign credits to items that are recycled, offsetting part of your Ecological Footprint. For items that have recycled content and are also recycled after consumer use, credits will be apportioned across the two areas to avoid double counting.

| | | |
|--|--|---|
| Waste recycled This question asks for information about how much waste is generated by your school in order to measure how much land is required to assimilate this waste. The Ecological Footprint Calculator will assign credits against the items that are recycled. Think about your total waste generated each week. Estimate the % of the total for each waste stream. The total of all waste streams must equal 100%. | | |
| 27a | Paper and cardboard | % |
| 27b | Aluminium | % |
| 27c | Commingled glass, plastic and steel | % |
| Compost | | |
| 27d | Food and other organic waste | % |
| Waste to landfill | | |
| 27e | General waste to landfill | % |

RESULTS

Once you have used the calculator to obtain your results, record them here:

Planets

GHA

NEXT STEP

Now you have all the necessary information to complete the Ecological Footprint Calculation for your school. Return to EPA's website and use the appropriate link to calculate the amount of land needed to sustain your school. You can then refer to some of the tips for reducing the environmental impact of you and your school. You could also use your calculation to encourage friends and family to take a moment to think about the impact they have on the Earth, and how you might all work together to make your school and lifestyles more sustainable.



ENERGY AND WATER HELPSHEET

| Electricity estimator | Answer |
|--|--|
| (a) Number of computers | |
| (b) % of computers left on after hours | |
| (c) Number of photocopiers | |
| (d) Number of printers | |
| (e) Number of fridges | |
| (f) Main type of lighting (circle one) | High efficiency lighting & natural High efficient (T8 or T5 ballasts) High level of natural lighting Normal fluorescent |
| (g) % of lighting left on after hours | |
| (h) Type of water heating (circle one) | None Solar heating Electric water heating Gas water heating |
| (i) Type of space heating (circle one) | None Electric space heating Gas space heating |
| (j) Greenhouse rating of building (circle one) | Don't know 1 2 (average building rating) 3 4 5 |
| (k) Space cooling (circle one) | None Evaporative air cooling Air conditioners Centralised chillers (electric) Centralised chillers (gas) |
| Natural gas estimator | Answer |
| (a) Type of water heating | None Solar heating Electric water heating Gas water heating |
| (b) Type of space heating | None Electric space heating Gas space heating |
| (c) Greenhouse rating of building | Don't know 1 2 3 4 5 |
| (d) Space cooling | None Evaporative air cooling Air conditioners Centralised chillers (electric) Centralised chillers (gas) |
| (e) Greenhouse rating of space cooling | Don't know 1 2 3 4 5 |
| Water estimator | Answer |
| (a) Dishwasher cycles per day | |
| (b) Hand washes in the staffroom per day | |
| (c) Showers per week at the school | |
| (d) Waterless urinals in school toilets | Yes/No |



TRAVEL HELPSHEET

CLASS:

DATE:

Record the total kilometres travelled by students to and from school, and the modes of transport, on a typical day. Use one sheet per class. Survey all students in each class and tally the distances for each mode of transport for all classes. If a student uses different modes of transport this can also be recorded. For students who share car lifts, ie 'car pool', you can either divide the total distance on a typical day by the number of students in the car and each student record their share of the distance in their own class tally, or record the total distance only once in one students travel helpsheet. Other students in the car will have 0 km recorded against their names. This will avoid double or triple counting of kilometres travelled. Repeat this process to record the distances and modes of transport for the teachers and support staff in your school. Add together the student and teacher totals for each mode of transport to give the total kilometres travelled per day for your school.

| Student | Name | Car | Bus/train | Walking/cycling |
|---------------|------|-----|-----------|-----------------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| 25 | | | | |
| 26 | | | | |
| 27 | | | | |
| 28 | | | | |
| 29 | | | | |
| 30 | | | | |
| Totals | | | | |



SCHOOL EXCURSION HELPSHEET

| Date | Excursion/camp/field trips | Type of transport | Distance (km) | No. of staff/students | Total distance (Distance km x no. of staff/students) |
|------|---|-------------------------------|---------------|-----------------------|--|
| | <i>E.g., School to Melbourne CBD (return)</i> | <i>Bus</i> | <i>50</i> | <i>50</i> | <i>2500</i> |
| | <i>School to Melbourne CBD (return)</i> | <i>Bus</i> | <i>50</i> | <i>60</i> | <i>3000</i> |
| | | | | | |
| | <i>Melbourne-Paris-Melbourne</i> | <i>International air</i> | <i>34000</i> | <i>20</i> | <i>680000</i> |
| | | | | | |
| | <i>School to Flinders St Station (return)</i> | <i>Train (short distance)</i> | <i>50</i> | <i>50</i> | <i>2500</i> |
| | <i>School to Flinders St Station (return)</i> | <i>Train (short distance)</i> | <i>50</i> | <i>100</i> | <i>5000</i> |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Totals summary | km |
|--|--------|
| Total car transport: | |
| Total train transport (long distance) | |
| Total train transport (short distance) | 7500 |
| Total bus transport | 5500 |
| Total boat transport (eg. Ferry) | |
| Total domestic air travel | |
| Total international air travel | 680000 |
| Total Walk/Ride distance: | |

Hints: Enter all of the trips with the same mode of transport together so a total kilometres can be easily calculated. Enter the total for each mode of transport into the above summary table. Make sure you include the return trip distance.

