

Takeaway #1: LESS IS MORE: NO NEW CAR UNTIL 2025

For three years--say, roughly until 2025--do not buy ANY NEW car, either electric or conventional. Whatever you are driving now, keep it repaired, tuned up, and running--and as little as possible. If you MUST buy a vehicle, buy a used one.

Why?

- 1) **Flatten the Curve:** Demand for EVs is exploding. A slower acceleration of that demand will relieve the intense pressure for new mines right now. By "flattening the curve" of the demand for new battery minerals, you will help relieve the pressure for new mines and buy time to make mining cleaner and less destructive.
- 2) **Reduce Manufacturing Energy:** A significant proportion of the carbon cost of a car comes in its manufacture--not just its operation. The manufacture of an EV currently requires about twice the energy of a conventional car, and constitutes almost half the lifetime emissions of the vehicle. By avoiding or delaying purchase of a new car, you are avoiding this carbon.
- 3) **Steel:** Another significant part of a car's environmental footprint is the steel it contains. The manufacture of steel also requires large inputs of nickel. Again, by reducing your demand for nickel, you are helping reduce the pressure for destructive new mines.
- 4) **Buying Time**
 - **For Better Battery Technology:** In three years' time, there is a high likelihood that new, less mineral-intense, less destructive batteries will be available compared with now.
 - **For More Battery Recycling:** Battery recycling efforts have begun and are receiving a lot of attention, but right now, most batteries are being wasted rather than recycled.
 - **For More Recycled Content:** Right now, most batteries contain zero recycled content and are made entirely from newly mined materials. As time goes on, hopefully that will change.
 - **For More Charging Stations:** By waiting to buy a new car, and then buying an EV, you allow time for charging stations to become more widespread. With more charging stations, you may be able to buy an EV with a shorter range, which is likely to have a much more eco-friendly battery than a high-range, high-performance EV.
- 5) **Less is More:** Waiting to buy is a powerful form of reducing your overall consumption. In the course of your lifetime, if you drive fewer cars, and drive them for as long as they'll go, you will vastly reduce your overall consumption of resources, as compared with getting a new car more often. Again, remember the resources (steel, minerals, energy) required to manufacture a car. A person who drives a car for 20 years consumes, over their lifetime, about half as much of those resources compared to a person who drives a car for only 10 years.

Takeaway #2: REDUCE YOUR PERSONAL VEHICLE TRAVEL

Another way to live "less is more" is to be conscious of the amount we use our vehicles and to take steps to reduce that amount. Here are some ways to reduce the amount that you use your personal vehicle by traveling less, or by using alternative and public transportation:

- Reduce the number of weekly trips you take by 1 trip (or more): walk, bike, use public transportation, or carpool with friends and neighbors.
- Start tracking your monthly mileage:
 - Then reduce your mileage by 10% per month for 3 months
 - Or, just as you set a budget with your money, set a mileage budget each month, and stick to it!
- Name and commit to one "car free" day each week (it can change).
- Make a point of increasing your attention to and use of public transportation in all the ways that you can. Urge your legislators to prioritize investment in public transportation improvements such as expansion of public transportation services, electrification of bus and rail systems, and Solutionary Rail.

Why?

- 1) Reducing the amount you use your vehicle is the best way to lower your vehicle carbon footprint without contributing to material consumption.
- 2) Your vehicle will last longer and require less frequent maintenance, thus reducing your contribution to material use and carbon output from vehicle manufacturing.
- 3) Most car alternatives are healthier for you. Walking and biking are good exercise and public transportation and carpooling can be more social and less stressful than waiting in traffic.
- 4) Driving less will save you money
- 5) Reducing personal vehicle use reduces air pollution from exhaust and water pollution resulting from tire wear and road runoff.
- 6) Decreasing personal vehicle use reduces the strain on transportation infrastructure. Less vehicle travel means less traffic congestion and less road maintenance, which reduces the need for asphalt and other construction materials with high carbon and mining footprints.
- 7) Reduced personal vehicle travel will reduce the amount of extra energy we are predicted to need, whether that energy comes in the form of gasoline for our conventional cars or electricity for our EVs.
- 8) Reduction in reliance on personal vehicles and improvements in public transportation will decrease transportation inequity.



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