

Hybrid Engine or Vehicle: Emission Reduction Calculation

Here is a method for estimating emission reductions from hybrid engines or vehicles using the DEQ.

1. Do a DEQ run for the existing engine and the new engine that will be part of the hybrid system.
2. Do a DEQ run for the existing engine and the alternative power source that will be part of the hybrid system. Enter 100% reduction for all pollutants (if that is not already the default).
3. Estimate the percent of running time that will come from the engine and the percent that will come from the alternative power source. For example, let's say you expect the engine to run 40% of the time and the alternative power source to run 60% of the time.
4. Take the 'lifetime results' for the 'amount reduced after upgrades' from the first DEQ run and multiply the amount for each pollutant by 40%.
5. Take the 'lifetime results' for the 'amount reduced after upgrades' from the second DEQ run and multiply the amount for each pollutant by 60%.
6. Add the results from Steps 4 and 5 for each pollutant to get the total amount reduced for each pollutant.
7. Take the total amount reduced for each pollutant from Step 6 and divide it by the 'lifetime results for 'baseline for Upgraded Vehicles' for each pollutant to get the percent reduction for each pollutant.
8. To calculate on this on an annual rather than lifetime basis, select the annual amounts in place of the lifetime.