


Construction

Equipment and vehicles are the primary sources of GHG emissions in the construction sector. Construction equipment typically operates on construction sites and includes off-road sources like cranes, bulldozers, forklifts, and tractors. Vehicles are used for personnel, material, and equipment transport, as well as onsite material supply movement. Construction equipment and vehicles traditionally use diesel or gasoline fuel and release emissions based on the amount of fuel combusted and the emission certification level of the engine.



Equipment and vehicle emissions can be reduced by using engines that emit fewer pollutants for the same amount of work. This is typically equipment and vehicles powered by electricity or cleaner fuels (e.g., compressed natural gas, renewable diesel). The exclusive use of grid electricity by electric equipment and vehicles eliminates the diesel emissions at the site but increases indirect electricity emissions. However, grid-based emissions are typically less than the emissions from the diesel-fueled equipment (depending on the source of grid power). Hybrid-powered equipment and vehicles would decrease but not eliminate fuel use. The electricity for hybrid engines is self-generated, so it would not increase grid-based electrical generation and the associated emissions unless the equipment has plug-in capability. Likewise, depending on the fuel type, cleaner-fuel equipment and vehicles would decrease but not eliminate combustion emissions.

Emissions reductions achieved by electric-powered and cleaner-fuel equipment and vehicles are determined by finding the difference in emissions between those generated by the replacement power source and those generated by conventional fossil-fueled engines. Emissions for the mitigated scenario may consist of direct emissions from combustion fuel use, and/or indirect emissions from grid electricity. Resources and methods to quantify emissions reductions from measures that target cleaner-fuel equipment are described in this section. Measures that reduce vehicle fuel consumption through idling restrictions and local contractor provisions are also discussed. Use the below graphic to click on an individual measure to navigate directly to the measure's factsheet.

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- ☐ C-1-A. Use Electric or Hybrid Powered Equipment
- ☐ C-1-B. Use Cleaner-Fuel Equipment
- ☐ C-2. Limit Heavy-Duty Diesel Vehicle Idling
- ☐ C-3. Use Local Construction Contractors

