

## GUIDANCE FOR CONSTRUCTION GHG EMISSIONS REDUCTIONS

These measures are considered best management practices providing options for reducing greenhouse gas emissions from construction projects. Emission reductions must be quantified and documented on a case-by-case basis.

- Improve fuel efficiency from construction equipment:
  - Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 3 minutes (5 minute limit is required by the state airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.
  - Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.
  - Train equipment operators in proper use of equipment.
  - Use the proper size of equipment for the job.
  - Use equipment with new technologies (repowered engines, electric drive trains).
- Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines).
- Use alternative fuels for generators at construction sites such as propane or solar, or use electrical power.
- Use an ARB approved low carbon fuel for construction equipment. (*NO<sub>x</sub> emissions from the use of low carbon fuel must be reviewed and increases mitigated.*)
- Encourage and provide carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes.
- Reduce electricity use in the construction office by using compact fluorescent bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones.
- Recycle or salvage non-hazardous construction and demolition debris (goal of at least 75% by weight).

- Use locally sourced or recycled materials for construction materials (goal of at least 20% based on costs for building materials, and based on volume for roadway, parking lot, sidewalk and curb materials). Wood products utilized should be certified through a sustainable forestry program.
- Minimize the amount of concrete for paved surfaces or utilize a low carbon concrete option.
- Produce concrete on-site if determined to be less emissive than transporting ready mix.
- Use SmartWay certified trucks for deliveries and equipment transport.
- Develop a plan to efficiently use water for adequate dust control.

**References:**

1. California Green Building Standards Code. <http://www.bsc.ca.gov>
2. US EPA. *Potential for Reducing Greenhouse Gas Emissions in the Construction Sector*, February 2009. <https://archive.epa.gov/sectors/web/pdf/construction-sector-report.pdf>
3. US EPA SmartWay Program. <http://www.epa.gov/smartway/index.htm>
4. US Green Building Council. LEED Green Building Rating System. <http://www.usgbc.org/>