

Box Store Test Case Worksheet for Emission Sources and Criteria

New Construction Project

Major Commercial Center (big box store –“supercenter”)

Details:

Proposed on undeveloped land in a County’s Urban Growth Area, with wetlands, flood plain, near highway, new off-ramp, access road, parking lot, onsite wastewater treatment, new water supply, new power lines, 70 employees will travel 10-30 miles to work.

Example of this type of project analysis for GHG emissions:

Yucca Valley Retail Specific Plan Environmental Impact Report

(EIR), State of California 2008 –for Wal-Mart Supercenter –Final EIR Air Quality Section: http://www.yucca-valley.org/pdf/eir/Sections/4.3_Air_Quality.pdf

What to Measure – Criteria List

Emissions Source	Examples	Addressed in another SEPA document?	Credibly measured or assessed?	Boundary Determined?	Importance to Climate Change Impacts?	Mitigation Available?
Direct Emissions						
Construction	Generators, equipment exhaust, this includes off-site haul trucks during construction Land-clearing, paving, construction of building	Probably not	Yes	Yes	Medium?	Yes, alternative fuel, use local materials
Mobile Sources and Direct VMT	Company transportation of products Air, overseas shipping, rail, trucking of products for resale	Maybe	Yes	Yes	High?	Yes, alternative fuels, use products from more local sources
Stationary Sources and Direct Facility Emissions	On-site combustion processes usually from company-owned equipment. Cooking facilities, space heating, back-up electrical generator CO2, NO	Probably not	Yes	Yes	High?	Efficient appliances and space heating/cooling alternative fuels

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Fugitive Emissions	<p>Unintentional emissions, accidental releases such as leaks from industrial facilities, gas releases from drilling operations etc. GHG emitted from points other than tailpipes, vents, stacks, or other locations that can be collected.</p> <p>Hydrofluorocarbons from refrigerants during operation and disposal</p>	No	Yes	Yes	Medium?	Yes, more efficient appliances, better quality refrigerants, better disposal practices
Direct Agricultural Emissions	Livestock methane, land clearing, fertilizer application, and on-site manure handling.	n/a	n/a	n/a	n/a	n/a
Forestry Conversion and other land or aquatic vegetation disturbance	<p>One-time soil-carbon emissions during land clearing, and permanent annual loss of CO₂ sink following removal of trees or vegetation.</p> <p>Land conversion of upland and aquatic vegetation</p>	Possibly	Yes?	Yes	Medium?	yes
Maintenance activities	<p>Emissions from equipment, chemicals</p> <p>Landscaping, repaving, painting</p>	No	Yes	Yes	Medium?	Yes, alternative fuels, efficient equipment, low-maintenance landscaping
Indirect Emissions						
Extraction of Materials	Off-site mining, timber mining/extraction, petroleum products (e.g. fuel and plastic products) for products and materials that are used by the proposal.	Possibly some	possibly	Could be difficult to determine what materials and products to address	High?	Yes, use of recycled steel, plastic, sustainable timber
Processing of materials	Energy used and emissions from processing raw materials or end products for a proposal (e.g. cement, metals, plastics, wood, fuel).	Possibly some	Yes	Could be difficult	Medium?	Yes, see above

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Transportation of materials	Delivery of raw materials to the facility by non-company-owned trucks, and shipment of produced product from the facility by non-company-owned trucks.	Possibly by transportation plan, port plan etc.	Yes	Yes	High?	Yes, use of more local materials, choose carriers with efficient and/or alternative fuels
Employee Commute VMT	Tailpipe emissions from employee commuting	Possibly	Yes	Yes	High?	Yes, promote carpooling, mass transit, biking etc.
Other Indirect VMT	Traffic from associated development, indirect change in traffic pattern, customer VMT (vs. company owned), associated public services (parks, emergency response) Highway off-ramp, new access road,	Possibly	Yes	Yes –done for traffic studies	High?	Yes, see above
Energy Use	Usually purchased energy from off-site energy power plants.	Probably not	Yes	Yes	Medium?	Yes, efficient building, alternative energy (solar hot water, outdoor lighting) efficient appliances
Water Use and Wastewater Disposal	Quantity used during construction, operation and closure, - energy used to provide water and dispose of polluted water. GHG emitted from off-site pump stations and water treatment plants for water used by proposal. GHG emitted from off-site sewage lift stations and POTWs used to	Possibly	Yes	Yes	Medium?	Yes, water conservation measures, low flow plumbing etc.

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	convey and treat wastewater from the proposed SEPA facility. This includes fugitive methane from POTWs. It does not include biogenic CO2 emitted from POTWs.					
Solid Waste	Emissions from disposal (usually off-site) of all types of waste (construction, agriculture, general trash, food). Could include tailpipe emissions from trucks and trains used to collect refuse and haul it to the disposal site and off-site emissions from pre-processing of solid waste (e.g., transfer stations), and fugitive methane emissions from solid waste landfills. It does NOT include biogenic CO2 emissions from solid waste disposal facilities.	Probably not	Yes	Yes	Medium?	Yes, aggressive recycling (motor oil, vegy oil, on-time cameras, packaging material etc.), composting, minimize disposables,
End-use emissions from product use	Use and disposal of products by consumers, industry etc. This could include emissions generated from combustion of fuels manufactured or distributed by the proposed facility.	Possibly some	Possibly	challenging	Medium?	Yes, provide and promote “climate friendly” alternative products