

### Criteria for Evaluating Measures:

- Is the measure technologically feasible? (H & S Code 38560)
- Does it have disproportionate impacts on EJ communities?
- Does the measure contribute to rises in criteria or air toxics emissions (backsliding)?
- Is the measure regressive or does it have an impact on EJ communities?
- Are there co-pollutant reduction benefits from the measure?

Note that where electrification is recommended the Committee recommends that renewable energy is used as the power source

### Recommendations Regarding Currently Proposed Early Action Measures

(Table 1: Group 1 – ARB Discrete Early Action Measures per Health & Safety Code Section 38560.5)

Number	Sector	Description	Discussion	Recommendation
1-1	Transportation	Low Carbon Fuel Standard (LCFS)	<p>We recommend that this not be an early action measure because the current ethanol/bio fuels path is not compatible with key requirements of AB 32.</p> <p>Incompatibilities with the requirements of AB 32 include:</p> <ol style="list-style-type: none"> <li>1) serious unanswered questions about the possibility of increasing criteria and/or air toxics (For any fuel stock, ARB should compete a life-cycle analysis, including a sustainability index);</li> <li>2) likelihood of disproportionate negative impacts on communities of color and low-income communities because of the over all backsliding, location of production facilities in heavy-impacted communities, creation of food insecurity due to use of food for fuel, and the destabilization of local food economies;</li> </ol> <p>For further treatment on each of these issues, see, e.g., <b>Effects of Ethanol (E85) versus Gasoline Vehicles on Cancer and Mortality in the United States</b> Mark Z. Jacobson, Environ. Sci. Technol.; 2007; ASAP Web Release Date: 18-Apr-2007 (<a href="http://pubs.acs.org/cgl-bin/sample.cgi/esthag/asap/pdf/es062085v.pdf">http://pubs.acs.org/cgl-bin/sample.cgi/esthag/asap/pdf/es062085v.pdf</a>); and</p> <p>United Nations, <i>Sustainable energy: A framework for decision-makers</i>, May 2007 (can be accessed at <a href="http://www.fao.org/newsroom/en/news/2007/1000553/index.html">http://www.fao.org/newsroom/en/news/2007/1000553/index.html</a>)</p> <p>Other issues: What are the emissions from various types of fuel blends; what are the feed stocks? Are we using petrochemicals to fertilize fuel crops; what are the impacts of that on climate and the environment?</p> <p>Sustainability Issues:</p>	Remove from Early Action list.

Number	Sector	Description	Discussion	Recommendation
			<p>What is the sustainability index of the LCFS and the cradle to cradle analysis? EJ impacts of the ethanol production cycle at the local level could be severe. The LCFS, on an ethanol path, could create backsliding on air quality issues since ethanol looks like it increases ozone levels.</p> <p>Food security. There are serious concerns about the regressivity of a low carbon fuel standard. Ethanol production has the potential to create starvation and destabilize local food economies. The Amazon Rainforest is being bulldozed to create sugarcane crops for fuels—the net effect of this activity is to destroy the tropical sinks for carbon, destabilize local indigenous populations, and could create food insecurity. Using corn based ethanol to meet the requirements of the LCFS could have far reaching effects on national security due to the destabilizing nature of starvation on national governments. Since corn is such a critical food staple, corn based ethanol would have significant EJ impacts.</p> <p>Is the LCFS technology forcing? Does it move us toward plug in hybrids that use true renewables for their energy source? That is the long term sustainable path, as well as an increased investment in public transportation.</p>	
1-2	Transportation	Reduction of HFC134a emissions from non-professional servicing of cars.	<p>We recommend instead that ARB undertake a broader review of possible HFC reductions and strongly encourage a focus on larger sources of HFCs such as refrigerants in de-commissioned cargo containers, commercial and residential HVAC system leakage, auto dismantling/crushing facilities (i.e., requiring HFCs be removed from cars prior to scrapping).</p> <p>Given that this proposed measure is so regressive and there seem to be other viable, higher reduction measures which ARB could undertake which would not be regressive, this measure should be replaced with one (or more) of the other HFC134a reduction approaches suggested to ARB by this Committee and others.</p> <p>Detection and repair of leaking auto air conditioning systems is a reasonable goal, however, this measure as proposed seems unlikely to achieve that goal. Instead, the measure will seem to result in placing a large burden on low-income people and people of color who are likely to disproportionate rely upon home-based auto repair and stop-gap repair options such as using the small can of HFC134a to fill leaking air conditioning units.</p>	Remove from Early Action list.

Number	Sector	Description	Discussion	Recommendation
			We recommend also that finding a "green" alternative to HFCs be a priority of the new Cal/EPA Green Chemistry Program.	
1-3	Waste	Improved Landfill Methane Capture	This measure was recommended by the Climate Action Team. Is would have co-pollutant benefits, it is not regressive nor would it have adverse impacts on the EJ communities. This measure can be the subject of a CARB rulemaking.	Recommended for Early Action.

**Recommendations Regarding  
Table 2: Group 2 – Additional GHG Reduction Measures Underway or to be Initiated by ARB in 2007-2009 Period**

Number	Sector	Description	Discussion	Recommendation
2-1	Agriculture	Manure management (Methane digester protocol)	<p>The California Climate Action Registry released the Draft Manure Management Project Reporting Protocol for public review. The protocol provides guidance to account for and report greenhouse gas (GHG) emissions reductions associated with installing a manure biogas control system for livestock operations, such as dairy cattle and swine farms. It appears that the proposed Protocol does not account for emissions caused by burning biogas. This is a potential significant hole in the Protocol which must be addressed.</p> <p>During the development of this measure ARB must identify methods that would eliminate the NOx emissions which result from this technology in order to comply with the prohibition in AB 32 against backsliding on criteria pollutants.</p>	Recommend for Early Action.
2-2	Agriculture	Electrification of stationary agricultural engines	<p>There is already a voluntary program to electrify ag engines in the Central Valley that seems to be working well. More than 1000 engines have already been changed from diesel and natural gas to electricity, there are 5000 engines that need converting. The program seems to be moving forward at a good pace and has support from the ag community.</p> <p>The ARB should encourage renewable energy sources for the electrification of ag engines.</p>	We recommend that ARB support the existing voluntary program that is rapidly replacing dirty ag engines in California, and assist in efforts to address statutory and regulatory barriers to replacing diesel engines with electric and solar powered engines.
2-4	Commercial	Reduction of PFCs from the semiconductor industry	The public and this Committee needs more information on this measure. Follow-up: request information for ARB staff	ARB did not supply the Committee with sufficient information to formulate a recommendation on this measure.
2-5	Commercial	Reduction of HFC from foam	The public and this Committee needs more information on this measure. Follow-up: request information for	ARB did not supply the Committee with sufficient information to formulate a

		production/installation including extruded polystyrene and block foam	ARB staff  We make a prior comment about ARB evaluating potential opportunities for reductions of this greenhouse gas. The Committee notes, however, that many (if not all) Expandable Polystyrene (EPS) Molding Operations in the South Coast Air Quality Management District operate in violation of the existing emissions limitations (SCAQMD Rule 1175).	recommendation on this measure.
2-6	Education	Guidance/protocols for local governments to facilitate GHG reductions	ARB could certainly pursue this under its other programs. Some great ideas for GHG reductions could be implemented with this measure and it could complement the cool cities program.	The Committee supports this non-regulatory action.
2-7	Education	Guidance/protocols for businesses to facilitate GHG reductions		The Committee supports this non-regulatory action.
2-8	Electricity	Detection, repair, and recycling equipment for sulfur hexafluoride.	The public and this committee needs more information on this measure. Follow-up: request information for ARB staff	ARB did not supply the Committee with sufficient information to formulate a recommendation on this measure.
2-9	Energy efficiency	Light covered paving, cool roofs, and shade trees.	The public and this Committee needs more information on this measure. Follow-up: request information for ARB staff  While this is a wonderful idea, the Committee recognizes that ARB may not have authority in this area to create a regulatory program.	ARB did not supply the Committee with sufficient information to formulate a recommendation on this measure.
2-10	Fire suppression		The public and this Committee needs more information on this measure. Follow-up: request information for ARB staff  The question of the toxicity of the alternatives is	The Committee agrees with ARB that this is not an Early Action Measure, but should be proposed /developed.

			important and lingering and must be addressed before adopting such a regulation.  We urge ARB to undertake a complete life cycle analysis of any proposed substitutes		
2-11	Forestry	Forestry protocol	The committee recognizes that the science on carbon sequestration in trees has not reached scientific consensus. One of the latest studies indicates that it is only tropical trees which sequester carbon. Therefore the committee does not recommend this measure for early action. It encourages ARB to carefully review the science on this issue before taking any action.	The Committee agrees with ARB that this is not an Early Action Measure.  The Committee has deep concern about the appropriate use of forest-based carbon sequestration and it's potential as a long term solution for meeting California's GHG reduction targets.	
2-12	Oil and gas	Reduce venting leaks from oil and gas systems	The potential for emissions reductions from the whole production and distribution chain for oil and gas has great potential.  This measure should include a requirement for periodically inspecting all abandoned oil wells and capping any wells found to be leaking green house gases.	<b>Recommend for Early Action.</b>	
2-13	Transportation	Strengthen light duty vehicle standards	The public and this Committee needs more information on this measure. Follow-up: request information for ARB staff	ARB did not supply the Committee with sufficient information to formulate a recommendation on this measure	
2-14	Transportation	Heavy Duty vehicle emissions reductions efficiency improvements	This measure includes a number of sub-measures, each which could be their own early action measures. We evaluate each one separately and found that most of these measures could be the subject of a regulatory program. There are questions about the negative impacts of creating new requirements for trucks unless such a program would sources of funds for low-interest loans to truck owners to replace and/or retrofit trucks. All these measures appear to be technically feasible.	<b>Recommend for Early Action.</b>  Particularly promising avenues include requiring or incentivizing: <ul style="list-style-type: none"> <li>• Use of wide base tires</li> <li>• Use of automatic tire inflation systems</li> <li>• Use of low viscosity lubricants</li> <li>• Improving freight logistics</li> <li>• Pursuit of hybrid truck technology</li> </ul>	

				ARB should undertake a complete life cycle analysis before suggesting the use of fuel additives
2-15	Transportation	Cool automobile paints	Can the paints be made to be low-VOC paints? This could be the subject of an incentive program. This measure is technologically feasible, and since the cost is low for the consumer, it is not regressive. The committee is concerned about the backsliding issues of the paint content. Any regulation developed would have to ensure that the new paint formulations did not cause backsliding on criteria pollutants.	Recommend for Early Action.
2-16	Transportation	Port electrification		Recommend for Early Action.
2-17	Transportation	Transportation refrigeration, electric standby	This measure would have the co-benefit of reducing toxic diesel emissions.	Recommend for Early Action.
2-18	Transportation	Enforce federal ban on HFC release funding services and dismantling of MVACs'	This looks like more of an enforcement issue than a regulatory program. ARB should look into beefing up resources for this program.	The Committee agrees with ARB that this is not an Early Action Measure, but should be proposed/developed.
2-19	Transportation	Truck stop electrification with incentives for truckers	This measure would have co-pollutants benefits, can be the subject of a regulatory program since it is controlling mobile source emissions of both diesel and GHGs, and would not be regressive.	Recommend for Early Action.
2-20	Transportation	Tire Inflation Program	This measure was part of the subset of an earlier which we recommended.	Recommend for Early Action.
2-21	Transportation	Promote telework policies/incentives		The Committee agrees with ARB that this is not an Early Action Measure, but should be proposed/developed.
				Recommend for Early

2-22	Transportation	Require low GWP refrigerants for new MVACs.	It is impossible to know if this is a good idea without knowing what the replacement refrigerant would be.	Action. However any chosen replacements must first undergo a complete life cycle analysis and multi-media toxicity analysis.
2-23	Transportation	Add AC leak tightness test and repair to Smog Check		Recommend for Early Action.

**Recommendations Regarding  
Table 3: Group 3 – ARB Air Pollution Controls for 2007-2009 Adoption With  
Potential GHG Reductions or Other Climate Co-Benefits**

All the Table 3, Group 3 actions seem to be already underway and therefore any comments the Committee may have would be given in the context of the Rulemaking Process.

**Recommendations Regarding  
Attachment A  
STAKEHOLDER SUGGESTIONS UNDER ARB JURISDICTION**

The following measures from Attachment A are recommended for early action, other Attachment A measures did not have enough information in the record to evaluate them.

A-12	Concrete	Wafflemat systems for concrete slab foundations	This measure would reduce the amount of concrete used in foundations, information before the committee indicates that meets the criteria set forth.	Recommend for Early Action.
A-14	Transportation	Demonstrate use of shoreside generators as bridge to electrical hook-up	This measure would reduce the amount of emissions from ships and information before the committee indicates that meets the criteria set forth.	Recommend for Early Action.



A-15	Transportation	Green ship incentive program	This measure would reduce the amount of emissions from ships and information before the committee indicates that meets the criteria set forth.	Recommend for Early Action.
A-19	Transportation	Anti-idling requirement for cargo handling equipment at ports	This measure would reduce the amount of emissions from cargo handling equipment and information before the committee indicates that meets the criteria set forth.	Recommend for Early Action.
A-20	Transportation	Require the electrification of airport ground support equipment	This measure would reduce the amount of emissions from cargo handling equipment and information before the committee indicates that meets the criteria set forth.	Recommend for Early Action.
A-21	Construction	Require the electrification of construction equipment at construction sites	This measure would reduce the amount of emissions from construction equipment and information before the committee indicates that meets the criteria set forth.	Recommend for Early Action.
A-22	Transportation	Pursue hybrid truck technology	This measure would reduce the amount of emissions from trucks and information before the committee indicates that meets the criteria set forth.	Recommend for Early Action.

### Recommendations Regarding Attachment B

### STAKEHOLDER SUGGESTIONS FOR THE CAT FORWARDED FROM THE ARB

B-1	Cement	Energy savings from the cement	This measure would reduce the	Recommend for Early
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		Industry	amount of emissions from trucks and information before the committee indicates that meets the criteria set forth.	<b>Action.</b>
B-2	Cement	Explore a GHG and mercury emission performance standard for cement kilns.	This measure would reduce the amount of emissions from the cement industry and information before the committee indicates that meets the criteria set forth.	<b>Recommend for Early Action.</b>

All the other measures in Attachment B could be pursued by other agencies, however there was not enough information in the record for the committee to review most of these measures. The committee noted that the water efficiency measures and the recycling measures were especially attractive because of the opportunities for reductions and the co-pollutant benefits, and that efforts to create the transmission necessary to bring renewables online is critical if California is to reach its 2050 goals for GHG reductions.