

State Agency Greenhouse Gas Reduction Report Card

Background

Under Section 12890 of Part 2.5 of Division 3 of Title 2 of the Government Code (as contained in SB 85, 2007), the California Environmental Protection Agency (Cal/EPA) is required to prepare a greenhouse gas emission reduction report card describing state agency actions to reduce greenhouse gas (GHG) emissions. State Agencies are required to prepare two lists of greenhouse gas emission reduction measures.

The first:

“A list of those measures that have been adopted and implemented by the state agency to meet GHG emission reduction targets and a status report on actual GHG emissions reduced as a result of these measures.”

The second:

“A list and timetable for adoption of any additional measures needed to meet GHG emission reduction targets.”

Cal/EPA is required to compile and organize the information submitted by the state agencies and to provide the information on Cal/EPA’s website. The report card compares actions taken and proposed to be taken by state agencies to state agency GHG emission reduction targets and to the statewide GHG emission reduction limits.

Approach for First Year Climate Change Report Card

Included below is a description of the methodology that Cal/EPA utilized. This is the first in a series of yearly report cards. It is important to note that the state’s Scoping Plan, under the Global Warming Solutions Act of 2006, is still under development. It is likely that items that are listed in the report card may change as they are further developed for the Scoping Plan.

The members of the Climate Action Team (CAT) have submitted their proposed activities as of December 2007. Currently nine sub-groups of the CAT are working in coordination with the Air Resources Board to develop additional GHG reduction measures that will appear in the state’s Scoping Plan. As many of these measures are still under development, they are not all

reflected in the current report card. All Scoping Plan measures developed by the CAT sub-groups will be enumerated in the first draft release of the Scoping Plan in the summer of 2008 and will be reported in next year's report card.

1. State Agency Submissions: The data for the state agency submissions were obtained from Climate Action Team (CAT) materials prepared throughout 2007, including: data developed for the updated macroeconomic impact report (completed in October 2007); CAT quarterly reports; and CAT and Air Resources Board (ARB) early action reports. Cal/EPA staff reviewed these materials to develop the information for each of the agencies. Cal/EPA then distributed the accumulated list of strategies and measures to staff working on these issues for each of the CAT subgroups to be sure the listed items accurately reflected the most current efforts. After agency staff reviewed the data, Cal/EPA then further refined the list to eliminate any duplication or overlap. The resulting spreadsheet is attached and will also be posted on the agency's website.
2. Measures That Have Been Adopted: Several measures were already in place in 2006, including: solid waste recycling; energy efficiency programs; building energy efficiency standards; and appliance energy efficiency standards. Actual emission reductions achieved in calendar year 2006 are included.
3. Additional Measures Needed to Meet Emissions Targets: The CAT quarterly reports and early action reports present emission reduction strategies currently under consideration by the CAT agencies. The list of additional measures was derived from these strategies, all of which have been presented to stakeholders during the CAT public process. The Legislature also received summaries of the strategies as part of the second and fourth CAT quarterly reports.
4. Timetables for Additional Measures: Cal/EPA staff contacted the CAT agencies to obtain implementation timeframes. The dates noted in the spreadsheet reflect current estimates based on the work of the various CAT subgroups. In some situations, the timetable has been listed as "To Be Determined" as work on these measures is in the very preliminary stages. Measures described as "on-going" are those that have already begun but for which final completion dates are still to be determined, or are programs that will be implemented on a continuous basis. Some measures, such as the Forestry Protocol, and the 50% Statewide Recycling Goal, have already been completed. Future Report Cards will update these completion dates and progress timelines as implementation efforts mature.
5. Comparison to State Emission Limit: For the first year, we have used a preliminary estimate of the emission reductions targets in 2020. The total emission reduction target for the state, in 2020, is currently estimated by the

ARB as 173 million metric tons of CO₂ equivalent (MMTCO₂E).¹ The state agency targets were chosen based on the sum of each agency's expected GHG emission reductions from the 2006 CAT Report, as contained in the recently updated analysis of the Report.² Currently the sum of the state agency targets is 128 MMTCO₂E. It is expected that the targets for each agency will change and the sum of the agency targets will equal the overall state target when the Scoping Plan is completed in 2008.

¹ Air Resources Board. "Staff Report: 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit" November 16, 2007. (http://www.arb.ca.gov/cc/inventory/pubs/reports/staff_report_1990_level.pdf)

² Economics Subgroup of the Climate Action Team. "Updated Macroeconomic Analysis of Climate Strategies Presented in the March 2006 Climate Action Team Report: Final Report." October 15, 2007. (http://climatechange.ca.gov/events/2007-09-14_workshop/final_report/2007-10-15_MACROECONOMIC_ANALYSIS.PDF)

Agency and State Target Comparison

Agency *	GHG Emission Reductions in 2006	GHG Emission Reductions Expected from Proposed Strategies	Agency GHG Emission Reduction Target*
ARB	0.5	73	67
CIWMB	-	6	8
CalFIRE	0	9	6
DWR	0	0.5	1
CEC	0.4	7**	8**
BTH	0	19	19
CDFA	0	11	1
SCSA	0	2	2
PUC	1.3	18	16
TOTALS	2.2	145.5	128
Total Statewide Emissions Reduction Target:			173

NOTES:

* Emission Reduction Targets have been calculated based on the updated strategies from the 2006 CAT report, as described in the Update Macroeconomic Analysis of October 2007. As the Scoping Plan, required under the Global Warming Solution Act, is constructed the state agency targets will be adjusted and the sum of the agency targets will equal the total statewide emission reduction target.

** The CEC emission reduction numbers do not include the Municipal Utilities strategy whose emission reductions are currently being recalculated

Timetable for Adoption of Additional GHG Reduction Measures

	Agency *	Strategy Name	Implementation Timeline	** Expected GHG Reductions in 2020 (MMT CO ₂ e)
ARB - 1	ARB	Above ground storage tanks	2007-2012	TBD
ARB - 2	ARB	Add AC Leak Tightness to Smog Check	2010-2012	TBD
ARB - 3	ARB	Alternative Fuels for Cement Production	TBD 2010	TBD
ARB - 4	ARB	Cool Automobile Paints	2009-2012	1.2
ARB - 5	ARB	Cool Communities: Light colored paving, cool roofs, shade trees	2008-2012	TBD
ARB - 6	ARB	Detection, repair and recycling equipment for SF ₆	2009-2012	0.7
ARB - 7	ARB	Diesel Anti-Idling	2008-2012	1.5
ARB - 8	ARB	Diesel-Port Trucks	2007-2012	TBD
ARB - 9	ARB	Diesel-Vessel main engine fuel specifications	2007-2012	TBD
ARB - 10	ARB	Electrification of Stationary Agricultural Engines	Ongoing	TBD
ARB - 11	ARB, Caltrans, CEC	Forestry Protocol	Initial Protocol Adopted	TBD
ARB - 12	ARB	Green ports-shore electrification	2008-2010	TBD
ARB - 13	ARB	Guidance/protocols for businesses	2008-2010	TBD
ARB - 14	ARB	Guidance/protocols for Local Governments	2008-2010	TBD
ARB - 15	ARB	Heavy-Duty Vehicle Emission Reduction Measures	2008-2012	3.2
ARB - 16	ARB	HFC Reduction Strategies: - Enforce Federal Ban on HFC Release During Service/Dismantling of MVACs, - Reduction of HCFs from Foam Production, - Reduction of HFC-134a Emissions from Non-professional Servicing of Motor Vehicle Air Conditioning Systems (MVACs) - Foam Recovery/Destruction Program - Require Low GWP Refrigerants for New MVACs	2008-2012	8.7
ARB - 17	ARB/CIWMB	Landfill Methane Capture	2008-2010	2.7
ARB - 18	ARB	Low Carbon Fuel Standard	2008-2012	10
ARB - 19	ARB	Other New Light Duty Vehicle Technology Improvements	2008-2012	4
ARB - 20	ARB	PFC Emission Reduction for Semiconductor Manufacturers	2008-2012	0.5
ARB - 21	ARB	Reduce leaks from oil/gas systems	2008-2012	1
ARB - 22	ARB	Reduced Venting and Leaks in Oil and Gas Systems	2010-2012	1
ARB - 23	ARB	Reduction of High GWP GHG's used in consumer products	2008-2010	TBD

Timetable for Adoption of Additional GHG Reduction Measures

	Agency *	Strategy Name	Implementation Timeline	** Expected GHG Reductions in 2020 (MMT CO ₂ e)
ARB - 24	ARB	Replacement of High GWP Gases in Fire Protection Systems	2011-2012	TBD
ARB - 25	ARB	Tire Inflation Program	2009-2010	TBD
ARB - 26	ARB	Transportation Refrigeration-Electric Standby	Ongoing	0.1
ARB - 27	ARB	Truck Stop Electrification	Ongoing	TBD
ARB - 28	ARB	Vehicle Climate Change Standards	2009-2016*	30
ARB - 29	ARB	Diesel-Commercial Harbor Craft	2007-2012	TBD
ARB - 30	ARB	Diesel-Off-road equipment (agricultural)	2007-2012	TBD
ARB - 31	ARB	Diesel-Off-road equipment (non-ag)	2007-2012	TBD
ARB - 32	ARB	Diesel-Privately owned on-road trucks	2008-2012	TBD
ARB - 33	ARB/CIWMB	Diesel-Vessel Speed Reduction	Ongoing	TBD
ARB - 34	ARB	Gasoline dispenser hose replacement	2008-2012	TBD
ARB - 35	ARB	High GWP tracking, reporting and recovery program	2011-2012	TBD
ARB - 36	ARB	Portable outboard marine tanks	2008-2012	TBD
ARB - 37	ARB	Smart Truck Efficiency	2008-2012	1.3
ARB - 38	ARB	Specifications for Commercial Refrigeration	2010-2012	7.3
ARB - 39	ARB	Standards for off-cycle driving conditions	2008-2012	TBD
Total Reductions Expected from ARB Led Strategies				73
ARB Target				67
CIWMB - 1	CIWMB	Achieve 50% Statewide Recycling Goal	Full implementation achieved	3
CIWMB - 2	CIWMB, ARB	Commercial Recycling	Program to be developed by 2010	TBD
CIWMB - 3	CIWMB	Zero Waste - High Recycling	on-going	3
CIWMB - 4	CIWMB, PUC, ARB, CEC	Waste Technology Demonstration & Development	TBD	TBD
CIWMB - 5	CIWMB	Extended Producer Responsibility	TBD	TBD
CIWMB - 6	CIWMB	Optimization of Organics Diversion	Contract complete - July 2009	TBD
Total Reductions Expected from CIWMB Led Strategies				6
CIWMB Target				8
SWRCB - 1	SWRCB, DWR, CEC	Water Recycling	TBD	TBD
SWRCB - 2	SWRCB	Storm Water Reuse	TBD	TBD
Total Reductions Expected from SWRCB Led Strategies				0
SWRCB Target (not a member of CAT in 2006)				0
CalFIRE - 1	CalFIRE	Conservation Forest Management	2005-2020	2.4
CalFIRE - 2	CalFIRE	Forest Conservation	2005-2013	0.4
CalFIRE - 3	CalFIRE	Fuels Management/Biomass	2005-2020	3
CalFIRE - 4	CalFIRE	Urban Forestry	2005-2020	0.9
CalFIRE - 5	CalFIRE	Afforestation/Reforestation	2008-2020	2
Total Reductions Expected from CalFire Led Strategies				9
CalFire Target				6
DWR - 1	DWR, SWRCB, CEC, CPUC	Energy Intensity of the Water System	TBD	TBD
DWR - 2	DWR, SWRCB	Water Use Efficiency	dependent upon resources; BCP submitted for FY 08-09	0.5
Total Reductions Expected from DWR Led Strategies				0.5
DWR Target				1
CEC - 1	CEC	Building Energy Efficiency Standards in Place	Ongoing	2.1
CEC - 2	CEC	Appliance Energy Efficiency Standards in Place	Ongoing	4.5

Timetable for Adoption of Additional GHG Reduction Measures

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CEC - 3	CEC	Fuel-Efficient Tire Program	Ongoing	0.3
CEC - 4	CEC	Comprehensive Municipal Utility Program	Ongoing	TBD
Total Reductions Expected from CEC Led Strategies				7
CEC Target				8
BTH - 1	BTH	Measures to Improve Transportation Energy Efficiency and Smart Land Use and Intelligent Transportation	TBD	19
BTH - 2	Caltrans, ARB, CEC,	Cement Sector Carbon Sequestration	TBD	TBD
BTH - 3	Caltrans, ARB, CEC	Cement Replacement	TBD	TBD
BTH - 4	Caltrans, ARB, DWR	Cement - Construction Related Strategies	TBD	TBD
BTH - 5	Caltrans, ARB	Cement Dilution with Inert Limestone	TBD	TBD
BTH - 6	Caltrans, ARB, CEC	Cement - Raw Material Processing Efficiency	TBD	TBD
BTH - 7	Caltrans, ARB, CEC	Cement - Determination of GHG Equivalence	TBD	TBD
Total Reductions Expected from BTH Led Strategies				19
BTH Target				19
CDFA - 1	CDFA	Conservation Tillage/Cover Crops	TBD	TBD
CDFA - 2	CDFA	Photovoltaic Installation	TBD	TBD
CDFA - 3	CDFA	Hydrogen Fuel Standards	TBD	TBD
CDFA - 4	CDFA, ARB, IWMB	Reduce Emissions from Livestock (Enteric Fermentation, Dairy Digesters)	TBD	3.9
CDFA - 5	CDFA, ARB, IWMB, Water Board, DPR, CEC	Improve Agricultural Operational Efficiency	TBD	2
CDFA - 6	CDFA, ARB, IWMB, Water Board, PUC, CEC	Increasing Renewable Energy Production in Agriculture	TBD	5.1
CDFA - 7	CDFA, ARB, Water Board, PUC, CEC, Resources, DOC, WCB	Agricultural Carbon Sequestration and Land Management	TBD	TBD
CDFA - 8	CDFA, ARB, Resources, Cal/EPA	Agricultural Research	Ongoing	TBD
Total Reductions Expected from CDFA Led Strategies				11
CDFA Target				1
SCSA - 1	SCSA	Green Buildings Initiative: New State Buildings - Existing State Buildings - Leased Buildings Schools - Distributed Generation	Ongoing	1.8
SCSA - 2	SCSA	Transportation Policy Implementation	Ongoing	TBD
SCSA - 3	DGS, DMV, state agencies	State Fleet Information Reporting	August 2008	TBD
SCSA - 4	DGS, ARB, CEC, Caltrans	State Fleet Coordinate Fueling Information with Infrastructure Funding	Early 2008	TBD
SCSA - 5	DGS, ARB, CEC, Caltrans, Resources, AQMDs, CalFire	State Fleet - Alternative Fuel Infrastructure	Ongoing	TBD

Timetable for Adoption of Additional GHG Reduction Measures

	Agency *	Strategy Name	Implementation Timeline	** Expected GHG Reductions in 2020 (MMT CO ₂ e)
SCSA - 6	DGS, state agencies	State Fleet - Coordinate Usage and Procurement	Ongoing	TBD
SCSA - 7	DGS, state agencies	State Fleet - GPS tracking	TBD	TBD
SCSA - 8	DGS, State Agencies	Green Buildings - Demand Response	Ongoing	TBD
Total Reductions Expected from SCSA Led Strategies				2
SCSA Target				2
PUC - 1	PUC	Accelerated PRS to 33% by 2020	Requires Legislation; program currently limited to 20%	8.2
PUC - 2	PUC	California Solar Initiative	Program began in 2007; projected completion by 2016	0.9
PUC - 3	PUC	IOU Energy efficiency Programs	Ongoing through 2013	3.7
PUC - 4	PUC	IOU Additional Energy Efficiency Programs	Begins 2014 (extension of same strategy above)	5.6
PUC - 5	PUC	IOU CHP (Self Generation Incentive Program)	Began in 2001; ongoing	TBD
PUC - 6	PUC	IOU Electricity Sector Carbon Policy	Began in 2007 (emissions performance standard); 2008 recommendations expected to ARB for AB 32 implementation (2012)	TBD
PUC - 7	PUC	Carbon Capture & Sequestration	Projected to begin 2009 or after	TBD
PUC - 8	PUC, CIWMB, ARB	Expand Awareness of AB1969	TBD	TBD
Total Reductions Expected from PUC Led Strategies				18
PUC Target				16
Other - 1	CBSC, CEC, DGS, State Architect, HCD, OSHPD	Green Building Code Development	Ongoing	TBD
Other - 2	Green Action Team, DOC, CBSC, CEC	Private Sector Buildings	Ongoing	TBD
Other - 3	LUSCAT	State Agency Land Use Guidelines	4th quarter 2009	TBD
Other - 4	LUSCAT	Land Use - Regional Collaboration	Ongoing	TBD
TOTAL ESTIMATED EMISSION REDUCTIONS				145.5
TOTAL ESTIMATED STATE EMISSION REDUCTION TARGET				173

NOTES:

* Where multiple agencies are noted, the first is the lead agency and the rest work in collaboration to achieve strategy goals..

** Strategies without GHG reduction figures are still in early development stages.

Measures Adopted and Implemented – 2006

Agency	Program Title	Description	2006 Emission Reduction (MMT CO ₂ e)
California Air Resources Board	Diesel Anti-Idling	This Air Toxic Control Measure limits general idling of all commercial and publicly owned diesel-fueled vehicles with a gross vehicle weight of greater than 10,000 pounds. The measure reduces diesel particulate matter emissions and also reduces diesel fuel combustion in California, saving 50 million gallons in 2006. Each gallon saved reduces climate change emissions by 0.01005 MtCO ₂ .	0.5
California Energy Commission	Appliance Energy Efficiency Standards	The Appliance Efficiency Regulations are designed to increase the efficiency of appliances sold or offered for sale to California consumers and businesses. Emission reductions result from energy efficient appliances consuming less electricity and natural gas, thereby avoiding emissions associated with electricity generation and natural gas. Reductions in 2006 were 0.3 million MWh of electricity and 0.5 million MMBtu of natural gas. Each MWh of electricity avoided reduces emissions by 0.499 MtCO ₂ , and each MMBtu of natural gas saved prevents emissions of 0.0529 MtCO ₂ .	0.2
California Energy Commission	Building Energy Efficiency Standards	The Building Energy Efficiency Standards are designed to increase the efficiency of all newly constructed residential and nonresidential buildings and additions and alteration to existing buildings in California. The principal strategy is to develop, implement, and enforce standards that require and result in reduction in energy use in these buildings. Reductions in 2006 were 0.4 million MWh of electricity and 0.7 million MMBtu of natural gas. Each MWh of electricity avoided reduces emissions by 0.499 MtCO ₂ , and each MMBtu of natural gas saved prevents emissions of 0.0529 MtCO ₂ .	0.2
California Public Utilities Commission	Investor-Owned Utilities Energy Efficiency Programs	The CPUC directs the investor owned utilities to implement energy efficiency programs. The programs reach residential, commercial, industrial, and agriculture customers. In 2006 the programs reduced 2.2 million MWh of electricity and 25.6 million Therms of natural gas. Each MWh of electricity avoided reduces emissions by 0.499 MtCO ₂ , and each Therm of natural gas saved prevents emissions of 0.00529 MtCO ₂ .	1.3
California Integrated Waste Management Board	Statewide Recycling	This program reduces climate change emissions by: (1) increasing the availability of recycled materials, which can substitute for energy-intensive raw materials; and (2) reducing methane emission from landfills. In 2006 the diversion rate of 54%, exceeded the state mandate of 50%, reducing climate change emissions by several MMtCO ₂ e. Additional analysis is ongoing to assess the portion of the emission reductions that occur within California.	(not available)