

Scoping Plan Measures Implementation Timeline November 25, 2009

Row #	Scoping Plan Measure	Measure #	Page #	Responsible Agency (ies) (Lead in Bold)	Planned Approval Date	Implementation Date	MMT CO ₂ E Reductions in 2020 †	Type of Action (Regulation, Voluntary, etc.)	Staff Contact
1	Pavley (AB 1493)	T-1	C-57	ARB	Sep-2004 (Approved)	2009-2016	27.7	Regulation	Paul Hughes
2	Ship Electrification at Ports (Discrete Early Action)	T-5	C-66	ARB	Dec-2007 (Approved)	2010	0.2	Regulation	Grant Chin
3	Port Drayage Trucks	T-6	C-68	ARB	Dec-2007 (Approved)	Beginning 2010	3.5 [§]	Regulation	Michael Tollstrup
4	Limit High GWP Use in Consumer Products (Discrete Early Action); Pressurized Gas Duster GWP Limit of 150	H-4	C-179	ARB	Jun-2008 (Approved)	2010	0.23	Regulation	David Mallory
5	Heavy-Duty Vehicle GHG Emission Reduction (Aerodynamic Efficiency) (Discrete Early Action)	T-7	C-73	ARB	Dec-2008 (Approved)	Phased-In Schedule for large fleets: Beginning 2010; Final compliance 2013	0.93	Regulation	David Chen
6	Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing (Discrete Early Action)	H-1	C-175	ARB	Jan-2009 (Approved)	2010	0.26	Regulation	Tao Huai
7	SF₆ Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	H-2	C-176	ARB	Feb-2009 (Approved)	2010	0.10	Regulation	Elizabeth Scheehle
8	Reduction of Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action)	H-3	C-177	ARB , Local Air Districts	Feb-2009 (Approved)	2012	0.18	Regulation	Dale Trenschel
9	Tire Pressure Program (Discrete Early Action)	T-4	C-63	ARB	Mar-2009 (Approved)	2010	0.74	Regulation	Michael Tollstrup
10	Low Carbon Fuel Standard (Discrete Early Action)	T-2	C-64	ARB	Apr-2009 (Approved)	2010	16	Regulation	John Courtis
11	Landfill Methane Control Measure (Discrete Early Action)	RW-1	C-160	ARB	June-2009 (Approved)	2010	1.5	Regulation	Richard Boyd
12	Cool Car Standards and Test Procedures	T-4	C-63	ARB	June-2009 (Approved)	2012	0.89	Regulation	Marijke Bekken

† Executive Order S-21-09 directed ARB to use its authority under AB 32 to adopt a regulation consistent with the 33 percent renewable energy target established in Executive Order S-14-08 by July 31, 2010. ARB is working with the PUC and the CEC to ensure that this regulation builds upon the RPS Program and regulates all California load serving entities.

‡ MMTCO₂E means million metric tons of carbon dioxide equivalent. For measures Approved by ARB, reductions are current as of the adoption date. Otherwise, reductions are the same as estimated in the Scoping Plan.

§ All of the T-6 measures together add up to 3.5 MMTCO₂e.

* Scoping Plan Measure E-3 will reduce approximately 21.3 MMTCO₂e, of which 7.9 MMTCO₂e is attributed to the current RPS standard of 20% by 2010 and the remaining 13.4 MMTCO₂e attributed to the increase to 33% by 2020. [Scoping Plan, Vol II, page I-30]

** Not counted toward the 2020 total of 174 MMTCO₂e

For general questions, please contact [Bob Languell](#) at 916-322-7651
http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf

Scoping Plan Measures Implementation Timeline November 25, 2009

Row #	Scoping Plan Measure	Measure #	Page #	Responsible Agency (ies) (Lead in Bold)	Planned Approval Date	Implementation Date	MMT CO ₂ E Reductions in 2020 ‡	Type of Action (Regulation, Voluntary, etc.)	Staff Contact
13	High-GWP Refrigerant Management Program for Stationary Sources	H-6	C-183	ARB	Dec-2009	2010	8	Regulation	Pamela Gupta
14	Sulfur Hexafluoride (SF₆) Emission Reductions from the Electricity Sector and Particle Accelerators	H-6	C-186	ARB	Feb-2010	2011	0.1	Regulation	Michelle Garcia
15	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	C-150	ARB	Apr-2010	2010	N/A	Regulation	Lisa Williams
16	Natural Gas Transmission and Distribution GHG Emission Reduction	I-3	C-154	ARB , Local Air Districts	June-2010	2012	0.9	Regulation	Win Setiawan
17	Renewable Electricity Standard †	E-3	C-126	ARB	July-2010	2020	13.4*	Regulation	Dave Mehl
	Renewables Portfolio Standards (20% by 2010)	E-3	C-126	CPUC, CEC , ARB	Ongoing	2010	7.9*	Various	Paul Douglas
18	Oil and Gas Extraction GHG Emission Reduction	I-2	C-153	ARB , Local Air Districts	Sept-2010	2012	0.2	Regulation	Joe Fischer
19	Cap-and-Trade		C-11	ARB	Oct-2010	2012	34.4	Regulation	Lucille Van Ommering
20	Mitigation Fee on High GWP Gases	H-7	C-189	ARB	Dec-2010	2011	5	Regulation	Elizabeth Scheehle
21	Refinery Flare Recovery System Improvement	I-4	C-155	ARB , Local Air Districts	Dec-2010	2012	0.33	Regulation	Ron Oineza
22	Removal of Methane Exemption from Existing Refinery Regulations	I-5	C-156	ARB , Local Air Districts	Dec-2010	2012	0.01	Regulation	Reza Lorestany
23	Transport Refrigeration Units Cold Storage Prohibition and Energy Efficiency	T-6	C-69	ARB	2010	2012	3.5 [§]	Regulation (cold storage) and Guidelines (energy efficiency)	Rod Hill
24	Refrigerant Recovery from Decommissioned Refrigerated Shipping Containers	H-5	C-181	ARB	2010	2012	0.2	Regulation /Program	Tao Huai

† Executive Order S-21-09 directed ARB to use its authority under AB 32 to adopt a regulation consistent with the 33 percent renewable energy target established in Executive Order S-14-08 by July 31, 2010. ARB is working with the PUC and the CEC to ensure that this regulation builds upon the RPS Program and regulates all California load serving entities.

‡ MMTCO₂E means million metric tons of carbon dioxide equivalent. For measures Approved by ARB, reductions are current as of the adoption date. Otherwise, reductions are the same as estimated in the Scoping Plan.

§ All of the T-6 measures together add up to 3.5 MMTCO₂e.

* Scoping Plan Measure E-3 will reduce approximately 21.3 MMTCO₂e, of which 7.9 MMTCO₂e is attributed to the current RPS standard of 20% by 2010 and the remaining 13.4 MMTCO₂e attributed to the increase to 33% by 2020. [Scoping Plan, Vol II, page I-30]

** Not counted toward the 2020 total of 174 MMTCO₂e

For general questions, please contact [Bob Languell](#) at 916-322-7651
http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf

Scoping Plan Measures Implementation Timeline November 25, 2009

Row #	Scoping Plan Measure	Measure #	Page #	Responsible Agency (ies) (Lead in Bold)	Planned Approval Date	Implementation Date	MMT CO ₂ E Reductions in 2020 †	Type of Action (Regulation, Voluntary, etc.)	Staff Contact
25	Pavley II	T-1	C-56	ARB	2010	2017	4.1	Regulation	Paul Hughes
26	High GWP Reductions from Mobile Sources Low GWP Refrigerants for New Motor Vehicle Air Conditioning Systems	H-5	C-179	ARB	2010	2015	2.5	Regulation	Tao Huai
27	Tire Tread Program	T-4	C-63	CEC	2010	2010	0.3	Regulation	Ray Tuvell
28	Foam Recovery and Destruction Program	H-6	C-185	ARB	Dec-2011	TBD	0.3	Regulation	Glenn Gallagher
29	Alternative Suppressants in Fire Protection Systems	H-6	C-187	ARB , Cal Fire	Dec-2011	2012	0.1	Regulation	Elizabeth Scheehle
30	Stationary Equipment Refrigerant Management Program- Specifications for Commercial and Industrial Refrigeration	H-6	C-182	ARB and CEC	2011 (CEC)	2012	4	Regulation	Pamela Gupta
31	Reuse Urban Runoff	W-4	C-134	SWRCB	TBD	2020	0.2**	Regulation	Robert DuVall
32	Public Goods Charge for Water	W-6	C-136	DWR , ARB, CPUC, SWRCB	TBD	2012	TBD	Regulation	Robert DuVall
33	Water Recycling	W-2	C-133	SWRCB, DWR	TBD	2030	0.3**	Regulation	Robert DuVall
34	Feebates (in lieu of Pavley regs)	T-1	C-61	ARB	TBD	TBD	31.7	Regulation (if needed)	Belinda Chen
35	Solar Water Heating: AB 1470	CR-2	C-118	CPUC	2010	2020	0.1	Incentive	Nicolas Chaset
36	Million Solar Roofs: 3,000 MW by 2017	E-4	C-120	CPUC, CEC , ARB	Current Program	Through 2016	2.1	Incentive	Nicolas Chaset
37	Residential Refrigeration Early Retirement Program	H-6	C-188	ARB	Dec-2010	2011	0.1	Incentive Partnership w/ Utilities	Charles Seidler

† Executive Order S-21-09 directed ARB to use its authority under AB 32 to adopt a regulation consistent with the 33 percent renewable energy target established in Executive Order S-14-08 by July 31, 2010. ARB is working with the PUC and the CEC to ensure that this regulation builds upon the RPS Program and regulates all California load serving entities.

‡ MMTCO₂E means million metric tons of carbon dioxide equivalent. For measures Approved by ARB, reductions are current as of the adoption date. Otherwise, reductions are the same as estimated in the Scoping Plan.

§ All of the T-6 measures together add up to 3.5 MMTCO₂e.

* Scoping Plan Measure E-3 will reduce approximately 21.3 MMTCO₂e, of which 7.9 MMTCO₂e is attributed to the current RPS standard of 20% by 2010 and the remaining 13.4 MMTCO₂e attributed to the increase to 33% by 2020. [Scoping Plan, Vol II, page I-30]

** Not counted toward the 2020 total of 174 MMTCO₂e

For general questions, please contact [Bob Languell](#) at 916-322-7651
http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf

Scoping Plan Measures Implementation Timeline November 25, 2009

Row #	Scoping Plan Measure	Measure #	Page #	Responsible Agency (ies) (Lead in Bold)	Planned Approval Date	Implementation Date	MMT CO ₂ E Reductions in 2020 †	Type of Action (Regulation, Voluntary, etc.)	Staff Contact
38	Commercial Recycling	RW-3	C-161	CIWMB, ARB	2010	2020	5**	Mandate	Tracey Harper
39	High Speed Rail	T-9	C-85	HSRA	NA	2020	1	NA	Kris Deutschman
40	Green Buildings	GB-1	C-142	DGS , ARB, CEC, CPUC, HCD	Ongoing	TBD	26**	NA	Dana Papke Waters
41	Enforcement of Federal Ban on Refrigerant Release during Servicing or Dismantling of Motor Vehicle Air Conditioning Systems	H-5	C-182	ARB	2009	2010	0.1	Partnership	Tao Huai
42	Air Conditioner Refrigerant Leak Test During Vehicle Smog Check	H-5	C-180	ARB, BAR	2010	2012	0.5	Partnership	Tao Huai
43	Water Use Efficiency	W-1	C-132	DWR, SWRCB , CEC, CPUC, ARB	Spring 2009	2020	1.4**	Various	Robert DuVall
44	Regional Transportation-Related Greenhouse Gas Targets	T-3	C-74	ARB, Local Governments, Regional Planning Agencies	Sept-2010	Set targets by 2010. Local actions have begun already in some areas	5	Various	Doug Ito
45	Increasing Combined Heat and Power Use by 30,000 GWh	E-2	C-122	CPUC, CEC , ARB	2010	2020	6.7	Various	Gary Collord
46	Energy Efficiency Measures (Electricity)	E-1	C-99	CEC, CPUC , ARB	Ongoing	Through 2020	15.2	Various	Bill Knox
47	Energy Efficiency (Natural Gas)	CR-1	C-99	CPUC, CEC , ARB	Ongoing	Through 2020	4.3	Various	Bill Knox
48	Local Government Assistance	NA	C-49	ARB , CalTrans, CEC, CTC, HCD, OPR	Ongoing	NA	NA	Various	Webster Tasat
49	Medium- and Heavy-Duty Vehicle Hybridization	T-8	C-73	ARB	TBD	TBD	0.5	Various	Johanna Levine
50	Sustainable Forest Target	F-1	C-166	Board of Forestry and Fire Protection	TBD	Through 2020	5	Various	Shelby Livingston

† Executive Order S-21-09 directed ARB to use its authority under AB 32 to adopt a regulation consistent with the 33 percent renewable energy target established in Executive Order S-14-08 by July 31, 2010. ARB is working with the PUC and the CEC to ensure that this regulation builds upon the RPS Program and regulates all California load serving entities.

‡ MMTCO₂E means million metric tons of carbon dioxide equivalent. For measures Approved by ARB, reductions are current as of the adoption date. Otherwise, reductions are the same as estimated in the Scoping Plan.

§ All of the T-6 measures together add up to 3.5 MMTCO₂e.

* Scoping Plan Measure E-3 will reduce approximately 21.3 MMTCO₂e, of which 7.9 MMTCO₂e is attributed to the current RPS standard of 20% by 2010 and the remaining 13.4 MMTCO₂e attributed to the increase to 33% by 2020. [Scoping Plan, Vol II, page I-30]

** Not counted toward the 2020 total of 174 MMTCO₂e

For general questions, please contact [Bob Languell](#) at 916-322-7651
http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf

Scoping Plan Measures Implementation Timeline November 25, 2009

Row #	Scoping Plan Measure	Measure #	Page #	Responsible Agency (ies) (Lead in Bold)	Planned Approval Date	Implementation Date	MMT CO ₂ E Reductions in 2020 †	Type of Action (Regulation, Voluntary, etc.)	Staff Contact
51	State Government	NA	C-25	Cal/EPA, ARB, DGS	TBD	Ongoing	1-2**	Various	John Blue
52	Small Business Toolkit	NA	86	ARB	Apr-2009 (update)	Ongoing	NA	Voluntary	Kyra Naumoff
53	Local Government Toolkit	NA	C-54	ARB	May-2009 (Approved)	Ongoing	NA	Voluntary	Dana Papke Waters
54	Increasing the Efficiency of Landfill Methane Capture	RW-2	C-160	CIWMB	June-2009	2020	TBD**	Voluntary	Scott Walker
55	Increase Production and Markets for Compost (studies underway for data development)	RW-3	C-161	CIWMB	2009	Ongoing	2**	Voluntary	Gerald Beruman
56	Cargo Handling Equipment-Anti-Idling, Hybrid, Electrification	T-6	C-69	ARB	2010	2010-2011	3.5 [§]	Voluntary	Cherie Rainforth
57	Commercial Harbor Craft-Maintenance and Design Efficiency	T-6	C-69	ARB	2010	2010-2011	3.5 [§]	Voluntary	Kirk Rosenkranz
58	Goods Movement System-Wide Efficiency Improvements	T-6	C-67	ARB	2010-2012	2012-2015	3.5 [§]	Voluntary	Peggy Taricco
59	Methane Capture at Large Dairies	A-1	C-194	ARB	2014	2017-2020	1**	Voluntary	Kitty Howard
60	N₂O collaborative research	NA	C-195	ARB, CEC, CDFA	Ongoing	Sept. 2012	NA	Voluntary	Shelby Livingston
61	Greening New and Existing State Buildings	GB-1	C-142	DGS	Ongoing	TBD	TBD	Voluntary	Dana Papke Waters
62	Greening Public Schools	GB-1	C-143	DGS	Ongoing	TBD	TBD	Voluntary	Dana Papke Waters
63	Forest Conservation, Forest Management, Afforestation/Reforestation, Urban Forestry, and Fuels Management	NA	C-167	Cal Fire	Ongoing	2020	Potentially 2**	Voluntary	Shelby Livingston

† Executive Order S-21-09 directed ARB to use its authority under AB 32 to adopt a regulation consistent with the 33 percent renewable energy target established in Executive Order S-14-08 by July 31, 2010. ARB is working with the PUC and the CEC to ensure that this regulation builds upon the RPS Program and regulates all California load serving entities.

‡ MMTCO₂E means million metric tons of carbon dioxide equivalent. For measures Approved by ARB, reductions are current as of the adoption date. Otherwise, reductions are the same as estimated in the Scoping Plan.

§ All of the T-6 measures together add up to 3.5 MMTCO₂e.

* Scoping Plan Measure E-3 will reduce approximately 21.3 MMTCO₂e, of which 7.9 MMTCO₂e is attributed to the current RPS standard of 20% by 2010 and the remaining 13.4 MMTCO₂e attributed to the increase to 33% by 2020. [Scoping Plan, Vol II, page I-30]

** Not counted toward the 2020 total of 174 MMTCO₂e

For general questions, please contact [Bob Languell](#) at 916-322-7651
http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf

Scoping Plan Measures Implementation Timeline November 25, 2009

Row #	Scoping Plan Measure	Measure #	Page #	Responsible Agency (ies) (Lead in Bold)	Planned Approval Date	Implementation Date	MMT CO ₂ E Reductions in 2020 †	Type of Action (Regulation, Voluntary, etc.)	Staff Contact
64	Extended Producer Responsibility (EPR)	RW-3	C-162	CIWMB	Pending Legislation	2020	TBD**	Voluntary	Kathy Frevert
65	Anaerobic Digestion	RW-3	C-162	CIWMB	TBD	2020	2**	Voluntary	Clark Williams
66	Environmentally Preferable Purchasing (EPP)	RW-3	C-162	CIWMB, DGS	TBD	TBD	TBD**	Voluntary	Bob Tetz
67	Water System Energy Efficiency	W-3	C-133	CEC, CPUC, DWR, SWRCB	TBD	2020	2**	Voluntary	Robert DuVall
68	Increase Renewable Energy Production (from Water sector)	W-5	C-135	CEC, CPUC	TBD	2020	0.9**	Voluntary	Robert DuVall
69	Greening Existing Homes and Commercial Buildings	GB-1	C-146	CEC, CPUC	Ongoing	TBD	TBD	Voluntary/ Incentive	Dana Papke Waters
70	Greening New Residential and Commercial Construction (Green Building Code)	GB-1	C-145	CEC, CPUC, Building Standards Commission	Ongoing	TBD	TBD	Voluntary/ Incentive	Dana Papke Waters
71	Vessel Speed Reduction	T-6	C-68	ARB	2010	2010	3.5 [§]	Voluntary/ Regulation	Michelle Komlenic
72	Clean Ships	T-6	C-68	ARB	TBD	TBD	3.5 [§]	Voluntary/ Regulation	Peggy Taricco

† Executive Order S-21-09 directed ARB to use its authority under AB 32 to adopt a regulation consistent with the 33 percent renewable energy target established in Executive Order S-14-08 by July 31, 2010. ARB is working with the PUC and the CEC to ensure that this regulation builds upon the RPS Program and regulates all California load serving entities.

‡ MMTCO₂E means million metric tons of carbon dioxide equivalent. For measures Approved by ARB, reductions are current as of the adoption date. Otherwise, reductions are the same as estimated in the Scoping Plan.

§ All of the T-6 measures together add up to 3.5 MMTCO₂e.

* Scoping Plan Measure E-3 will reduce approximately 21.3 MMTCO₂e, of which 7.9 MMTCO₂e is attributed to the current RPS standard of 20% by 2010 and the remaining 13.4 MMTCO₂e attributed to the increase to 33% by 2020. [Scoping Plan, Vol II, page I-30]

** Not counted toward the 2020 total of 174 MMTCO₂e

For general questions, please contact [Bob Languell](#) at 916-322-7651
http://www.arb.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf