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Annual Report to the President and the Congress on the State Energy Conservation Program for Calendar Year 1989

December 1990

Submitted in Accordance with
Title III, Part D, Section 365(c)
of the Energy Policy and Conservation
Act, as amended, 42 U.S.C. 6325(c)

U.S. Department of Energy
Assistant Secretary for Conservation
and Renewable Energy
Office of State and Local Assistance Programs
Washington, D.C. 20585



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Chapter I

Introduction

The Department is required by Section 365(c) of Title III, Part C, of the Energy Policy and Conservation Act (EPCA), 42 U.S.C. 6321-6327, as amended by Title IV, Part B of the Energy Conservation and Production Act (ECPA), to report annually to the President and the Congress on the operation of the State Energy Conservation Program. The report is to include an estimate of the energy conservation achieved, and the degree of State participation and achievement as well as a description of innovative conservation programs undertaken by individual States.

Together the EPCA and the ECPA constitute the State Energy Conservation Program (SECP) which has provided the States (any one of the 50 States, the District of Columbia, Puerto Rico, and the Territories and possessions of the United States) with funding to help establish and maintain their capability to plan, design, implement and coordinate a variety of programs and initiatives designed to promote energy conservation and efficiency at State and local levels. All States have operational programs funded under EPCA (no monies have been appropriated under ECPA since FY 1981). In addition, the majority of States have augmented the SECP with oil overcharge funding they have received over the past several years.

Each State is required to provide a twenty-percent match for the Federal funds received, and its Base Plan must include the following program measures:

- (1) mandatory lighting efficiency standards for public buildings (except public buildings owned or leased by the United States);
- (2) programs to promote the availability and use of carpool, vanpool, and public transportation (except that no Federal funds provided under this part shall be used for subsidizing fares for public transportation);
- (3) mandatory standards and policies relating to energy efficiency to govern the procurement practices of a State and its political subdivisions;
- (4) mandatory thermal efficiency standards and insulation requirements for new and renovated buildings (except buildings owned or leased by the United States); and
- (5) a traffic law or regulation, which, to the maximum extent practicable and consistent with safety, permits the operator of a motor vehicle to turn such vehicle right at a red stop light after stopping.

All States have implemented programs that meet the requirements of the authorizing legislation and most States have developed optional programs tailored to meet the particular energy requirements of their

Chapter II

Program Operations

Funding

The following table represents appropriations received by States for operation of the SECP and allocations States have made to SECP from Exxon and Stripper well oil overcharge funds.

(in millions of dollars)

<u>Fiscal</u>	<u>EPCA</u>	<u>ECPA</u>	<u>PVE</u>	<u>PVE</u>
<u>Year</u>	<u>Program</u>	<u>Program</u>	<u>Exxon</u>	<u>Stripper Well</u>
1976	\$ 5.0			
1977	23.0	\$12.0		
1978	47.8	23.7		
1979	47.8	10.0		
1980	37.8	10.0		
1981	30.4	10.0		
1982	24.0			
1983	24.0			
1984	24.0			
1985	23.5			
1986	18.7			
1987	9.5		\$154.6	\$28.5
1988	9.2		146.4	23.2
1989	9.5		304.9	16.4
Total	\$334.2	\$65.7	\$605.9	\$68.1

Although appropriated funds for this program have decreased since 1979 (from \$57.8 million to 9.2 million in 1989), additional monies have become available in the form of oil overcharge refunds. These petroleum violation escrow (PVE) funds have been distributed to States for use in energy-related programs, the vast majority coming from the Exxon Court Order and the Stripper Well Settlement Agreement. As of March 31, 1990, 54 States have allocated to the SECP, through their approved State plans, \$605.9 million in Exxon funds, and 40 States have allocated \$78.1 million in Stripper Well funds. Additional information on States' use of PVE funds may be found in the quarterly "Report to Congress on Enforcement Actions and Comprehensive Status of Exxon and Stripper Well Oil Overcharge Funds."

Each State has the flexibility to expend PVE funds (including earned interest) as it may deem appropriate to the needs of the State's energy consumers as long as the expenditures are in accordance with applicable terms and conditions of the sources of funding, such as those stipulated in the Exxon Court Order and the Stripper Well Settlement Agreement. States have undertaken programs in nearly all areas of energy use sectors, including residential, commercial/industrial, transportation, utility, government, non-profit organizations, agriculture, and general energy awareness. These funds offer both an opportunity and a challenge to develop and implement programs that promote increased energy efficiency and use of renewable energy within the State, and to decrease the State's dependency on non-renewable energy.

Energy Savings

States have employed various techniques to evaluate and estimate SECP energy savings achieved. These techniques include DOE provided standard methods for calculating energy savings for certain measures as well as State developed energy savings methodologies, which are subject to DOE approval. Because different methodologies are used to estimate energy savings, one should not draw broad conclusions about the program as a whole. According to the latest energy savings reports submitted by the States (1989), a total estimated annual energy savings of 4.910 quads has been achieved. Of the total savings, 2.100 quads are associated with the five required program measures, while the remaining 2.810 quads are attributed to additional or optional program measures.

A State-by-State breakdown of the savings from the required program measures can be found in Attachment A, and savings from the additional program measures can be found in Attachment B. Attachment C contains data on 1989 estimated energy savings by individual States and the national total.

Innovative Conservation/Efficiency Programs

California

California's Fuel Efficient Traffic Signal Management Program is integrating the operation of both major signalized streets and freeways within a corridor through the Smart Corridor Demonstration Program (SMART). Upon completion SMART will link the traffic surveillance system, ramp meters, and changeable message signs on five major parallel streets. This entire corridor

(freeway and streets) will then be centrally monitored and operated from a computerized control center staffed by State and local personnel. This will allow the most efficient use of existing capacity since motorists can be directed around congested highway segments to under utilized ones, with traffic signal and ramp meter timing adjusted accordingly. SMART will also transmit real-time traffic conditions and rerouting information to motorists through various media including in-vehicle navigation systems.

Montana

Using a combination of Exxon and other funds, Montana has begun construction of a centralized shipping facility to handle intermodal transportation at the Port of Montana in Butte. Although it is located in a rural area, the port is an ideal distribution center to all parts of Montana, the Western U.S. and Canada. Construction was completed in July 1989 on three stations, each handling different types of commodities including bulk fertilizer, forest products and a Trailer on Flat Car Facility (TOFC). Short-haul shippers bring their commodities to the facility where they are loaded into or onto the appropriate container or trailer. The TOFC can handle the newest doublestack unit trains, transferring trailers or containers to other modes of transportation. If rail cars are run at optimum loads, the potential for saving diesel fuel is estimated at 2.5 million gallons annually.

North Carolina

Located in the North Carolina State University's Solar House, the Solar Center provides printed information and referral services to those interested in solar technology implementation. A toll-free hotline to answer public inquiries concerning solar energy is also maintained. Activities reach both the professional community and the general public. The Solar House itself is maintained as a working model which incorporates the latest in available solar technology with energy conservation measures.

Oklahoma

The Oklahoma Department of Commerce has developed a Community Energy Management Program (CEMP). The CEMP is a community-based, infrastructure development and technical assistance program which provides cost-effective solutions for rural and local governments' energy use problems. The program will include components such as Local Energy Officers, who will receive training in energy accounting systems and assessment of local energy opportunities, as well as support in the form of marketing assistance, employee education resources, technical and economic feasibility analysis and assistance in identifying financing possibilities for energy savings projects. Involvement of citizen committees and peer advisory groups will be encouraged, and all interested persons will be provided technical bulletins and newsletters.

Washington

The Washington State Energy Office is conducting a telecommuting project in the Puget Sound region. Telecommuting provides partial or total substitution of telecommunications and computer technologies for transportation, particularly the trips to and from the workplace. Workers

involved in the generation, processing, and dissemination of information are the specific target audience for telecommuting. Workers who telecommute make fewer trips to their place of employment and save on energy consumption. The project evaluates the effects of telecommuting on traffic congestion, energy use, air quality, and productivity. The project will also examine managerial and social implications of telecommuting. If successful, telecommuting could be a relatively low cost part of the answer to the growing transportation related problems of petroleum vulnerability and traffic congestion, and could help maintain energy security and traffic mobility.

West Virginia

The Cabell County Courthouse Demonstration Project was undertaken in Huntington, West Virginia. This building, listed in the U.S. Department of Interior and Park Service Register, is similar to most of the other 54 courthouses in West Virginia, constructed of brick and stone, and difficult to heat. This project utilizes a commercially available, under utilized, natural gas technology through the installation of a state-of-the-art modular pulse gas boiler and heat distribution system. This project demonstrates the applicability of using modular pulse natural gas systems spaced in remote locations of the courthouse as an alternative to a large-scale centralized boiler. It is expected that the implementation of this type of system will decrease energy costs by 53 percent.

1989 REPORTED ESTIMATED SAVINGS FOR REQUIRED AND ADDITIONAL
PROGRAM MEASURES, BY STATE (QUADRILLION BTUS)

STATE	REQUIRED	ADDITIONAL	TOTAL
ALASKA	0.000 (2)	0.000	0.000
ALABAMA	0.002	0.043	0.045
ARKANSAS	0.018	0.006	0.025
AMERICAN SAMOA	0.000	0.000	0.000
ARIZONA	0.005	0.011	0.016
CALIFORNIA	0.113	0.017	0.129
COMM NOR MARIANA ISLS	0.354 *	0.110 *	0.464 *
COLORADO	0.000	0.002	0.002
CONNECTICUT	0.058	0.072	0.130
DISTRICT OF COLUMBIA	0.000	0.000	0.000 (1)
DELAWARE	0.013	0.021	0.035
FLORIDA	0.221	0.197	0.419
FED STATES MICRONESIA	0.000	0.000	0.000 (1)
GEORGIA	0.059	0.170	0.229
GUAM	0.000	0.000	0.001
HAWAII	0.005	0.018	0.023
IOWA	0.046	0.053	0.099
IDAHO	0.001	0.002	0.003
ILLINOIS	0.073	0.262	0.335
INDIANA	0.082	0.001	0.083
KANSAS	0.000	0.000	0.000
KENTUCKY	0.026	0.114	0.140
LOUISIANA	0.000 (2)	0.002	0.002 (4)
MASSACHUSETTS	0.102	0.132	0.234
MARYLAND	0.055	0.051	0.106
MAINE	0.012	0.000	0.013
REP OF MARSHALL ISLS	0.000 (2)	0.030 *	0.030 *
MICHIGAN	0.061	0.013	0.075
MINNESOTA	0.082	0.028	0.110
MISSOURI	0.001	0.049	0.050
MISSISSIPPI	0.030	0.151	0.181
MONTANA	0.028	0.020	0.047
NORTH CAROLINA	0.073	0.113	0.186
NORTH DAKOTA	0.003	0.004	0.007
NEBRASKA	0.003	0.000	0.004
NEW HAMPSHIRE	0.003	0.044	0.047
NEW JERSEY	0.079	0.012	0.092
NEW MEXICO	0.014	0.006	0.020
NEVADA	0.004	0.000 (3)	0.004

**1989 REPORTED ESTIMATED SAVINGS FOR REQUIRED AND ADDITIONAL
PROGRAM MEASURES, BY STATE (QUADRILLION BTUS)**

STATE	REQUIRED	ADDITIONAL	TOTAL
NEW YORK	0.193	0.292	0.485
OHIO	0.112	0.181	0.292
OKLAHOMA	0.001	0.114	0.114
OREGON	0.001	0.005	0.006
PENNSYLVANIA	0.126	0.030	0.157
PUERTO RICO	0.000	0.000	0.000 (1)
REP OF PALAU	0.000 (2)	0.003 *	0.003 *
RHODE ISLAND	0.026	0.003	0.029
SOUTH CAROLINA	0.000 (2)	0.162	0.162
SOUTH DAKOTA	0.000	0.106	0.106
TENNESSEE	0.013	0.119	0.131
TEXAS	0.144	0.150	0.294
UTAH	0.039	0.001	0.040
VIRGINIA	0.042	0.000	0.042
VIRGIN ISLANDS	0.000	0.000	0.000 (1)
VERMONT	0.023	0.019	0.042
WASHINGTON	0.004	0.001	0.005
WISCONSIN	0.063	0.000 (3)	0.063
WEST VIRGINIA	0.014	0.012	0.027
WYOMING	0.025	0.000 (3)	0.025
TOTALS (QUADRILLION BTUS):	2.100	2.810	4.910

FOOTNOTES

- (1) No reports were received from the District of Columbia, Federal States of Micronesia, Puerto Rico, and the Virgin Islands prior to publication.
 - (2) The State provided no information on estimated energy savings from any required program measure.
 - (3) The State provided no information on estimated energy savings from any additional program measure.
 - (4) Estimated actual energy savings will not be completed for most programs until after the programs are completed in 1990-1993.
- * Figures shown are in billion BTUS and are given for reference, but were not included in the totals.

**REPORTED 1989 STATE ENERGY SAVINGS ESTIMATES FOR REQUIRED
PROGRAM MEASURES (TRILLION BTUS)**

STATE	LIGHT	THERM	COMBINED	PROCR	TRANS	RTOR	COMBINED	TOTAL
			LIGHT/ THERM				MANDATORY	
ALASKA	**	**	**	**	**	**	**	0.000 (2)
ALABAMA	**	**	1.706	0.387	0.057	**	**	2.150
ARKANSAS	**	**	**	**	**	**	18.280	18.280
AMERICAN SAMOA	**	**	**	0.059	**	**	**	0.059
ARIZONA	0.350	**	**	0.380	4.380	**	**	5.110
CALIFORNIA	**	**	112.730	**	**	**	**	112.730
C. NOR MARIANA I.	**	**	**	0.354	**	**	**	0.354 *
COLORADO	**	**	**	0.004	0.015	0.089	**	0.108
CONNECTICUT	**	**	**	**	**	**	57.850	57.850
D.C.	**	**	**	**	**	**	**	0.000 (1)
DELAWARE	**	**	**	**	3.750	**	9.720	13.470
FLORIDA	**	**	170.582	25.752	24.911	**	**	221.245
FED. MICRONESIA	**	**	**	**	**	**	**	0.000 (1)
GEORGIA	**	**	59.260	**	0.060	**	**	59.320
GUAM	**	**	**	**	0.093	**	0.340	0.433
HAWAII	**	**	4.538	**	0.115	**	**	4.653
IOWA	**	**	**	**	**	**	45.919	45.919
IDAHO	**	**	0.680	0.120	0.020	**	**	0.820
ILLINOIS	**	**	**	**	**	**	72.920	72.920
INDIANA	**	**	81.580	**	0.520	**	**	82.100
KANSAS	0.015	0.286	**	**	**	**	**	0.301
KENTUCKY	**	**	16.700	7.230	2.400	**	**	26.330
LOUISIANA	**	**	**	**	**	**	**	0.000 (2)
MASSACHUSETTS	**	**	99.130	0.390	2.250	0.450	**	102.220
MARYLAND	**	**	41.210	1.900	11.36	**	**	54.670
MAINE	**	**	2.880	3.000	6.100	0.200	**	12.180
MARSHALL ISLS.	**	**	**	**	**	**	**	0.000 (2)
MICHIGAN	**	**	59.404	**	**	**	1.920	61.324
MINNESOTA	**	**	**	**	**	**	81.570	81.570
MISSOURI	**	**	**	**	0.432	**	0.665	1.097
MISSISSIPPI	**	**	28.530	1.300	0.024	0.160	**	30.014
MONTANA	**	**	11.660	**	**	16.080	**	27.740
NORTH CAROLINA	**	**	71.740	0.380	1.230	**	**	73.350
NORTH DAKOTA	**	**	**	**	0.016	**	3.367	3.383
NEBRASKA	**	**	**	**	**	**	3.246	3.246

**REPORTED 1989 STATE ENERGY SAVINGS ESTIMATES FOR REQUIRED
PROGRAM MEASURES (TRILLION BTUS)**

STATE	LIGHT	THERM	COMBINED	PROCR	TRANS	RTOR	COMBINED	TOTAL
			LIGHT/ THERM				MANDATORY	
NEW HAMPSHIRE	**	**	**	**	2.984	**	0.010	2.994
NEW JERSEY	**	**	**	**	**	**	79.300	79.300
NEW MEXICO	**	**	13.500	0.158	0.618	**	**	14.276
NEVADA	**	**	3.852	**	**	**	**	3.852
NEW YORK	**	**	186.100	5.030	2.236	**	**	193.366
OHIO	**	**	111.710	**	**	**	**	111.710
OKLAHOMA	**	**	**	**	0.566	**	**	0.566
OREGON	**	**	1.001	**	**	**	**	1.001
PENNSYLVANIA	**	**	**	**	**	**	126.380	126.380
PUERTO RICO	**	**	**	**	**	**	**	0.000 (1)
REP OF PALAU	**	**	**	**	**	**	**	0.000 (2)
RHODE ISLAND	**	**	**	**	**	**	26.020	26.020
SOUTH CAROLINA	**	**	**	**	**	**	**	0.000 (2)
SOUTH DAKOTA	**	**	**	**	**	**	0.067	0.067
TENNESSEE	**	**	9.145	0.244	3.195	0.176	**	12.760
TEXAS	**	**	**	**	0.404	**	143.652	144.056
UTAH	**	**	36.100	**	2.460	**	**	38.560
VIRGINIA	**	**	**	**	**	**	42.292	42.292
VIRGIN ISLANDS	**	**	**	**	**	**	**	0.000 (1)
VERMONT	**	**	10.272	**	12.258	**	**	22.530
WASHINGTON	**	**	4.075	**	**	**	**	4.075
WISCONSIN	16.720	**	**	**	**	**	46.171	62.891
WEST VIRGINIA	**	**	13.290	1.030	0.069	**	**	14.389
WYOMING	**	**	1.910	0.050	**	22.700	**	24.660
TOTALS	17.085	0.286	1153.285	47.414	82.723	39.855	759.689	2100.337
(TRILLION BTUS):								

FOOTNOTES

(1) No reports were received from the District of Columbia, Federal States of Micronesia, and the Virgin Islands prior to publication.

(2) The State provided no information on estimated energy savings from any required program measure.

* Figures shown are in billion BTUS and are given for reference, but were not included in the totals.

** The State report did not specify energy savings from the required program measure.

REPORTED 1989 STATE ENERGY SAVINGS ESTIMATES FOR ADDITIONAL PROGRAM MEASURES, BY SECTOR (TRILLION BTUS)

STATE	SECTOR:	AGRIC	INDUST	TRANSP	UTILITY	BLDGS	GOVMNT	OTHER	TOTAL
ALASKA		na	**	**	0.010	0.007	**	**	0.017
ALABAMA		na	16.173	**	0.043	25.030	1.834	**	43.080
ARKANSAS		na	1.250	na	**	5.188	**	**	6.438
AMERICAN SAMOA		**	na	na	na	0.005	0.005	na	0.010
ARIZONA		na	na	**	na	7.220	3.850	na	11.070
CALIFORNIA		0.001	na	0.740	2.733	9.733	3.333	**	16.540
COMM NOR MARIANA ISL		na	na	na	0.037 *	0.037 *	0.037 *	na	0.110 *
COLORADO		0.020	0.008	**	**	0.391	1.019	0.170	1.608
CONNECTICUT		na	na	**	**	67.455	4.445	**	71.900
DISTRICT OF COLUMBIA		na	na	na	na	na	na	na	0.000 (1)
DELAWARE		0.600	1.205	1.205	**	13.010	**	5.360	21.380
FLORIDA		0.048	9.493	na	135.235	25.911	26.785	0.011	197.483
FED STATES MICRONESIA		na	na	na	na	na	na	na	0.000 (1)
GEORGIA		na	163.500	na	na	1.170	5.280	**	169.950
GUAM		na	na	0.098	**	0.098	na	na	0.195
HAWAII		na	1.962	na	na	9.123	na	7.162	18.247
IOWA		5.332	**	0.064	na	0.046	0.017	47.550	53.009
IDAHO		0.060	0.060	na	0.050	0.650	0.110	1.120	2.050
ILLINOIS		na	na	40.445	0.440	105.043	65.665	50.497	262.090
INDIANA		0.010	0.460	**	0.230	na	**	**	0.700
KANSAS		na	**	na	**	0.020	**	**	0.020
KENTUCKY		na	0.650	0.293	0.074	93.189	12.840	6.507	113.553
LOUISIANA		0.667	0.667	**	**	0.667	**	**	2.000
MASSACHUSETTS		na	3.302	na	102.267	25.857	0.545	0.170	132.141
MARYLAND		3.260	na	na	na	na	8.153	39.597	51.010
MAINE		0.017	na	na	0.017	0.029	na	0.400	0.463
REP OF MARSHALL ISLS		na	na	na	na	0.015 *	0.015 *	na	0.030 *
MICHIGAN		0.025	**	**	0.000	12.091	1.240	**	13.356
MINNESOTA		**	12.760	0.003	1.897	6.485	2.878	4.119	28.142
MISSOURI		**	6.265	**	0.002	31.237	11.636	0.011	49.151
MISSISSIPPI		na	26.109	52.297	52.207	20.494	0.050	**	151.157
MONTANA		**	na	**	na	18.433	1.177	**	19.610
NORTH CAROLINA		5.970	6.630	0.640	50.067	32.297	7.142	10.390	113.136
NORTH DAKOTA		1.229	na	na	na	2.032	**	0.339	3.600
NEBRASKA		**	na	0.225	na	0.049	**	**	0.274
NEW HAMPSHIRE		10.995	1.338	0.098	12.832	9.902	8.784	na	43.949
NEW JERSEY		na	**	na	na	12.310	**	na	12.310
NEW MEXICO		na	na	na	2.667	0.326	2.496	0.103	5.592
NEVADA		na	na	na	na	na	**	**	0.000
NEW YORK		11.610	11.610	**	99.090	115.519	1.530	52.210	291.569
OHIO		na	75.500	na	na	77.198	0.380	27.600	180.678
OKLAHOMA		2.230	2.230	6.100	na	17.664	27.412	58.182	113.818
OREGON		na	na	na	0.722	3.971	**	**	4.693
PENNSYLVANIA		**	7.095	na	7.627	14.108	1.600	**	30.430
PUERTO RICO		na	na	na	na	na	na	na	0.000 (1)
REP OF PALAU		na	na	na	na	na	0.002 *	0.001 *	0.003 *
RHODE ISLAND		na	0.283	na	0.494	1.336	0.630	0.141	2.884
SOUTH CAROLINA		**	0.007	**	**	162.275	0.002	**	162.284

REPORTED 1989 STATE ENERGY SAVINGS ESTIMATES FOR ADDITIONAL PROGRAM MEASURES, BY SECTOR (TRILLION BTUS)

STATE	SECTOR:	AGRIC	INDUST	TRANSP	UTILITY	B/DGS	GOVMNT	OTHER	TOTAL
SOUTH DAKOTA		na	na	na	**	**	106.209	**	106.209
TENNESSEE		0.106	na	na	0.053	118.555	**	**	118.714
TEXAS		na	33.001	na	na	116.687	**	na	149.688
UTAH		0.220	0.010	na	0.380	0.480	0.370	**	1.460
VIRGINIA		na	**	0.003	na	0.003	0.069	**	0.075
VIRGIN ISLANDS		na	na	na	na	na	na	na	0.000 (1)
VERMONT		6.421	1.866	na	na	6.421	4.555	**	19.263
WASHINGTON		0.232	**	**	**	0.037	0.015	0.251	0.535
WISCONSIN		na	na	na	na	na	na	na	0.000
WEST VIRGINIA		na	2.845	na	na	4.775	4.595	**	12.215
WYOMING		**	**	na	na	**	na	na	0.000
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TOTALS (TRILLION BTUS):		49.053	386.279	102.211	469.174	1174.564	316.688	311.890	2809.746

FOOTNOTES

(1) No reports were received from the District of Columbia, Federal States of Micronesia, Puerto Rico, and the Virgin Islands prior to publication.

na = The State did not have any programs in the additional sector.

* Figures shown are in billion BTUS and are given for reference, but were not included in the totals.

** The State report did not specify energy savings from the additional program measure.

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