

2005 INNOVATIONS AWARDS PROGRAM

APPLICATION

Deadline: April 4, 2005

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1. Program Name: Comprehensive Environmental Resource Management Plan (CERMP)
2. Administering Agency State of Vermont
3. Contact Person (Name and Title) Dave Burley, Chief of Engineering; Marci Young, Environmental Management
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9. Please provide a two-sentence description of the program.

The CERMP establishes for the first time a single source within State government for identifying and advancing the environmental sustainability of State government operations. There are four (4) philosophical underpinnings for the CERMP.

1. **Reduce the environmental impact of State government daily operations.**
 2. **Reduce the costs of operating State government through energy and programmatic savings.**
 3. **Create new and sustain existing Vermont businesses that develop, produce or market environmentally preferable products.**
 4. **Demonstrate to other states and the private sector that fiscal responsibility does not have to be sacrificed for environmental stewardship.**
10. How long has this program been operational (month and year)? **Note: the program must be between 9 months and 5 years old on May 1, 2005 to be considered. April 2004**
 11. Why was the program created? What problem[s] or issue[s] was it designed to address? **Indicate how the program applies to the “change driver” that you listed above. Governor Douglas created CERMP in recognition that the accumulation of greenhouse gases from human activities is**

causing global climate change. Vermont has been a leader in environmental stewardship; instituting numerous separate initiatives over the last several decades to address environmental and energy related concerns. These initiatives met with varying degrees of success in responding to critical needs of the time. Governor Douglas has concluded that the time has come for the State to take a comprehensive approach to the environmental impact of State governmental operations. CERMP was created to take action to reduce greenhouse gases and to unify the many previously enacted initiatives into a coherent state policy.

The problems that CERMP specifically addresses include:

- **Infrastructure Management**
 - Significantly change the State's environmental footprint.
 - Reduce Greenhouse Gas emissions from 1990 baseline level.
 - 25% by 2012.
 - 50% by 2028.
 - 75% BY 2050.
 - Reduce overall energy consumption to reduce emissions.
 - Change fuel energy sources.
 - Implement renewable energy strategies.
 - Design, construct, maintain and operate facilities with environmental awareness of effects of activities.
 - Save significant financial resources through intelligent energy management decisions.
 - Base decisions on life cycle cost analyses.
 - Create new funding mechanisms to fund energy saving initiatives.
 - Establish annual energy consumption reduction goals.
 - On square foot basis.
 - On building uses basis.
 - Help create markets for sustainably produced and environmentally responsible products as well as goods and services utilizing "best practices."
 - Measure and publicize results demonstrating fiscal responsibility and environmental accomplishments for export of practices to other sectors of the economy.

- **Transportation Management**

- Reduce environmental footprint:
 - Consume less fuel through optimization of travel requirements.
 - Purchase vehicles right sized for application.
 - Increase use of hybrid vehicles and low-emission vehicles.
- Reduce State operational cost:
 - Reduce reimbursed mileage expenditures.

- Reduce mileage traveled through video-conferencing and RideShare
 - Reduce number of trips.
 - Measure vehicle usage patterns annually and create incentives to modify behavior.
- **Statewide Purchasing Management**
 - Reduce environmental footprint

Create and maintain a set of best practices that incorporates current and future objectives established within the Materials Management Plan, the Environmental Management System findings of the Climate Neutral Working Group, and applicable executive orders. EPP objectives will be strengthened and enhanced by firmly putting in place the following practices:

 - Create "level field" bidding environment for EPP products.
 - Chlorine free paper.
 - Biodegradable cleaning compounds.
 - Full circle purchase contracts
 - Create new markets

Establish that environmentally preferable purchasing practices are inherent in determining "best interests of the state."

 - Specify locally produced products or products produced within a certain distance to destination.
 - Specify sustainability harvested or manufactured products.
 - Specify products that are produced with low environmental impacts.
 - Specify products produced through best practices.

12. Describe the specific activities and operations of the program in chronological order. See attached timeline.

A. General

Strategy	Target	Date Completed	Responsible Party
Ratification of Comprehensive Environmental & Resource Management Program (CERMP)	June 1, 2004	June 2004	
Gain legislative authorization for Resource Management Revolving Fund (RMRF)	July 1, 2004	June 2004	
The Commissioner of Buildings and General Services shall maintain accurate and complete records of all such receipts and expenditures and shall report to the general assembly on January 15 of each year, projects approved through this fund, the status of the RMRF fund, and a consolidated amortization schedule.	January 15, 2005 Bulletin Issued	10/04/04	Tom Torti
Present findings to legislature for funding and	January 2006		Tom Torti

implementation strategy determination			
Complete first fiscal year measurements	July 1, 2006		
Analyze and develop systemic strategy for improvements:	November 2006		
Present findings to legislature for funding and implementation strategy determination	January 2007		
Present findings to legislature for funding and implementation strategy determination	January 2008		
Present findings to legislature for funding and implementation strategy determination	January 2009		
Determine GHG reduction quantity and compare to objective - 25%	July 1, 2013		
Determine GHG reduction quantity and compare to objective - 50%	July 1, 2029		
Determine GHG reduction quantity and compare to objective - 75%	July 1, 2051		

B. Building Infrastructure

Strategy	Target	Date Completed	Responsible Party
Continued resource conservation improvements funded through Efficiency Vermont, Burlington Electric Department (BED) major maintenance capital bill funding resources: <ul style="list-style-type: none"> • Pavilion Office Building • Efficiency Vermont Projects • BED Projects 	Annually		Dave Burley
Obtain appropriation for measurement devices installation and 1 st phase physical plant improvements, estimated at \$1,000,000.	July 1, 2004	July 2004	
Begin implementation of conservation measures using RMRF sources on a case-by-case basis:	September 2004	December 2004	Tom Torti
Guidelines/Practice Standards – design practice standards shall be created, approved and implemented within 6 months of the adoption of this policy.	December 2004 Updated	June 2004	David Burley
Guidelines/Practice Standards –construction standards shall be created, approved and implemented within 6 months of the adoption of this policy.	December 2004	Draft Jan 2005 Complete March 2005	Bob Rea
Guidelines/Practice Standards – maintenance practice standards shall be created, approved and implemented within 6 months of the adoption of this policy.	December 2004	March 2005	Bill Laferriere
Demand management strategies – shall be created within three months and shall be implemented once appropriate approvals are	September 2004		Dave Burley Marci Young

obtained as necessary.			
The Commissioner of Buildings and General Services, by means of procedures, shall develop life cycle cost guidelines for use in all state buildings. These guidelines shall require all new construction and major renovations to meet or exceed the document titled "The Vermont Guidelines for Energy Efficient Commercial Construction" as published in its most recent edition by the Department of Public Service as that document may be amended.	September 2004	DONE	David Burley
In the aggregate, achieve 50% recycling rate of total waste stream on construction projects; use ANR recycling/waste stream metric.	January 2005	DONE	David Burley Marci Young
Instrumentation Installation: <ul style="list-style-type: none"> • Capital Complex, Montpelier (\$200,000) • Waterbury State Complex, Waterbury (\$200,000) 	March 2005		Dave Burley
Physical Plant Improvements Waterbury State Complex window replacement project (\$400,000; phase 1 of \$3,000,000 project)	March 2005	October 2004 Refer to H.P. DONE	Dave Burley
The Secretary of the Agency of Administration with the cooperation of the Commissioners of the Department of Public Service and the Department of Buildings and General Services shall develop and oversee the revision and implementation of a state agency energy plan for state government. The plan shall be adopted by June 30, 2005 modified as necessary, and readopted by the Secretary on or before January 15 th of each fifth year subsequent to 2005.	June 30, 2005		Tom Torti

Strategy	Target	Date Completed	Responsible Party
Each state agency shall, after review by the Commissioner of Buildings and General Services and approval by the Secretary of the Agency of Administration adopt an implementation plan to ensure compliance with the state agency energy plan. Thereafter, each agency shall readopt and file its implementation plan biennially, to ensure that its agency implementation plan remains compatible with the stage agency energy plan.	January, 2006		Tom Torti

Each state agency and department, designated by the secretary of administration, which constructs or manages state buildings shall, by June 30, 2005, assure that new construction or major renovation of such structures incorporates practical energy efficiency measures and energy consuming systems that result in the lowest life cycle cost as required by the commissioner of buildings and general services. New construction of state buildings shall be highly efficient and shall employ optimal siting and design, given the uses to which the buildings are to be put, with respect to solar gain and temperature control. State buildings shall be shaded and ventilated and their air circulation managed, to the extent practical, instead of being cooled by air conditioning.	June 30, 2005		Tom Torti
Begin implementation of complete systemic infrastructure strategy consistent with the goals of this initiative	July 1, 2007		Dave Burley
The state will convert to alternative fuels (e.g. biodiesel) with lower environmental externalities, where practical <ul style="list-style-type: none"> • Buildings • Equipment 	January 2005 Update every six months	October 2005 In process 6 month updates December 2004	Dave Burley Marci Young

C. Transportation

Strategy	Target	Date Completed	Responsible Party
The Department of Buildings and General Services (BGS) will provide a consolidated state fleet to all agencies and departments within state government.	December 2004	50% Completed	Robin Orr
BGS will operate a centralized vehicle reservation system to maximize the use of state vehicles in lieu of reimbursing for miles traveled in personal vehicles.	March 2005		Robin Orr
BGS will maintain the state fleet utilizing best management practices.	Review annually July 1, 2005		Robin Orr
BGS will participate in a no-idling promotional campaign through signage and employee education.	November 2004		Marci Young
BGS will purchase 50 LEV vehicles to supplement state fleet	December 2004		Robin Orr
BGS will negotiate with public transportation purveyor (GMTA) to provide shuttle service for state employees between Montpelier, Middlesex and Waterbury state office complexes.	December 2004		Marci Young
Videoconference as an alternative to face-to-face meetings will be investigated as a means to	December 2004		Tom Torti DII

decrease vehicle miles traveled.			
The state will convert to alternative fuels (e.g. biodiesel) with lower environmental externalities, where practical	January 2005		Marci Young

D. Purchasing

Strategy	Target	Date Completed	Responsible Party
The Department of Buildings and General Services (BGS) will flag all products on contracts that have been identified as having a significant environmental impact and shall review these products annually to determine if there are new alternatives	April 2004	Done and ongoing	Deb Damore
BGS shall develop a list of all products covered by contracts that can be categorized as environmentally preferable purchasing practices (EPP) and shall promote the use of these green product contracts to political subdivisions and state agencies.	April 2004 Catalog (12/04)	List done Promotion ongoing	Deb Damore Marci Young
BGS shall review and update standard language for insertion into all Requests for Proposals issued on behalf of the State of Vermont to advance the use of EPP.	November 2004	DONE	Deb Damore
All state agencies shall be notified and required to use EPP contracts established by the Department	January 2005		Tom Torti/ Mike Smith
BGS shall ensure that Life Cycle Cost Analyses are completed on commodities prior to a contract award	February 2004 + ongoing		Deb Damore
Annually review products on contracts for alternatives	Ongoing		Marci Young
BGS shall work with departments, vendors, and the Clean State Council to develop specifications and locate new products that will lessen environmental impact and comply with the goals of the Materials Management Plan	Ongoing	Done and ongoing	Deb Damore
BGS shall have in place a contract for certified hardwood lumber.	January 2005	In Progress	Deb Damore
BGS shall review products on contract with a mercury content and seek no or low levels of mercury	Ongoing	Done and ongoing	Robin Orr (Mike Blanchet)
Where practicable, state agencies will purchase only energy efficient consuming equipment and devices that meet or exceed Energy Star standards	June 2004	Done and ongoing	Deb Damore
BGS will develop a list of products categorized as EPP and promote throughout state government and to political subdivisions	See above (item 2)	See above (item 2)	See above (item 2)
When the current contracts end, the next generation of custodial cleaning product contracts will be based on Green Seal Standards wherever possible.	April 2005		Deb Damore

13. Why is the program a new and creative approach or method? **This was perhaps the largest most comprehensive change impacting State government operations undertaken in the last 30 years and perhaps in our State history. Affecting the entire building infrastructure system of about 8,000,000 gross square feet, redefining all of our purchasing policies and practices and establishing a single state fleet system for all but, AOT fleet (trucks), state police and game warden vehicles. This program will have a major impact on our annual energy related expenditures of \$20,000,000.**

One of the most unique concepts of this program was the creation of the State Resource Management Revolving Fund (SRMRF). This fund, for the first time, creates a financial mechanism bridging the gap between capital revenue and operating or general fund revenue. This fund, in essence, eliminates the excuse that we can't afford the increased first costs for incorporating energy features in our buildings. Due to our self-imposed ceiling on capital indebtedness, our capital appropriations are extremely competitive. We bond in the neighborhood of \$40,000,000 per year and our annual requests for appropriations is about \$100,00,000 per year. This ensures that the State will benefit from excellent bond ratings. However, as a result of the competition for these capital funds, energy initiatives are generally not funded except in very extraordinary situations. The SRMRF allows us to expend general fund revenue for capital expenditures without direct authorization by the legislature, without increasing our bonded indebtedness and without increasing the overall amount required in general fund, i.e. without raising taxes. The limitations are that the user of SRMRF must show through life cycle cost analysis that energy measure has a payback within the life of the product and not in excess of 20 years. SRMRF has a cap of \$500,000 per year and the user must pay SRMRF back from the anticipated annual savings whether or not they actually exist.

14. What were the program's start-up costs? (Provide details about specific purchases for this program, staffing needs and other financial expenditures, as well as existing materials, technology and staff already in place.) **Staff time, and we have hired a consultant to help rewrite the State Agency Energy Plan as part of the CERMP program. The consultant costs are about \$50,000.**

15. What are the program's annual operational costs?
So far, it appears that on an ongoing basis, there may be a need for a dedicated state employee to administer and coordinate the program and that each other State agency or major department that has infrastructure holdings or significant vehicle use will also have to devote some staff time for measuring performance of their respective interests.

16. How is the program funded?
Infrastructure changes to reduce GHGs or to save energy may be funded in any of several mechanisms:

- Direct Capital appropriations (rare)

- Indirect capital appropriations, using major maintenance appropriations so energy saving initiatives (sometimes)
- Rebates and grants (sometimes)
- SRMRF
- Performance contracts (ESCOs)

Transportation initiatives may be funded using:

- General fund, such as for fleet purchases.

Purchasing initiatives are generally funded by the purchasing entity without a specific funding mechanism. Any incremental increased costs for purchasing environmentally preferable products will be borne by the purchasing entity.

17. Did this program require the passage of legislation, executive order or regulations? If YES, please indicate the citation number. The creation of the CERMP did not require changes to legislation or even an executive order; it was done at the direction of the Secretary of Administration as directed by the Governor. However, CERMP does require numerous changes to state statute including:

A. Legislative:

- Contracting with Energy Services Companies (Authorizing language in capital bill - Acts of 2004)
- Amends the time frame for "ESCO contracts", multi-year contracts with energy service companies for energy efficiency and fuel switching improvements to state facilities, the cost of which is recovered through the avoided fuel, utility, operating and maintenance costs resulting from the improvements. Existing authorization permits Commissioner of Buildings & General Services (BGS) to enter into contracts with the approval of the emergency board for cost-recovery periods of up to 10 years, with a \$1 million dollar cap on the total cost of all improvements made pursuant to this authority. The capital bill language proposes to increase the cost recovery period to 20 years and remove the \$1 million dollar total cap for all such projects so that these self-financing efficiency projects may be implemented on a broad-scale throughout state government facilities.
- Vermont Energy Initiative (Authorizing language in capital bill - Acts of 2004)

Proposes to authorize the Commissioner of Buildings and General Services to enter into performance contracts with private sector providers to create energy smart state government facilities and to work with a private energy contractor and the State's utility companies to develop a creative and innovative plan that will analyze the State government's energy needs, improve purchasing procedures for efficient acquisition of new technology, and propose an audit method to identify best-practices for new energy-saving technologies.

- Resource Management Program

Proposal for a multi-faceted program to enhance existing policies and to create new initiatives that are appropriate given today's technological advancements for energy conservation. Proposal includes:

- 1) Amendments to the State Agency Energy Plan [for state government], 3 V.S.A. § 2291.
- 2) Adds a requirement for State Agency Planning and Coordination, 3 V.S.A. §2291a.
 - Requires state agencies to engage in a continuing planning process coordinated, in a manner established by the commissioner of the Department Of Buildings And General Services, to assure that programs and actions are consistent with the goals established in the State Agency Energy Plan.
 - By June 30, 2005, after review by the commissioner of buildings and general services and approval by the secretary of the agency of administration, each state agency shall adopt an implementation plan to ensure compliance with the State Agency Energy Plan. These plans will be readopted and filed biennially, to ensure that each agency implementation plan remains compatible with the Stage Agency Energy Plan.

- 3) Amends 29 V.S.A. § 903, to:
 - Increase the purchasing preference for comparable products containing recycled materials from five percent to ten percent;
 - Set the goals for the purchase of recycled materials (which include, but are not limited to, recycled paper products, re-treaded automobile tires, re-refined lubricating oil, used automotive parts, reclaimed solvents, recycled asphalt, recycled concrete and compost materials) to at least 40 percent by the end of 2008
 - Remove the specific requirement for increased procurement of recycled paint products, and
 - Remove the requirement for consultation with the commissioner of public service when considering alternative fuels for vehicle operation.

- 4) Amends 29 V.S.A. § 906, to:
 - Require that the commissioner of buildings and general services manage a supply program in order to ensure the disbursement of equipment for use by state government rather than maintain a physical location for central stores of such supplies, and

- 5) Amends 3 V.S.A. § 217 to:
 - Authorize the Commissioner of Buildings and General Services to provide and maintain a fleet of passenger vehicles for state employees other than sworn law enforcement officers
 - Use proceeds of the sale of fleet vehicles to be applied to future replacement of the fleet.
 - Delete the requirement a state employee be offered the option of purchasing a state car particularly assigned to that employee if the Commissioner has determined the car should be disposed of by sale.

- 6) Creates a Resource Management Equipment Revolving Fund, 29 V.S.A. § 168.
 - Provides a source of revenue for implementation of resource conservation measures anticipated to generate a life cycle cost benefit to the State and for the administration of state agency energy planning.

B. Executive Orders:

In addition, revised versions of two existing Executive Orders have been proposed to the Governor in order to ensure coordination with the implementation of the CERMP:

- **Executive Order No. 06-94 Vermont Clean State Program**
- **Executive Order #14-03 Climate Change**

18. What equipment, technology and software are used to operate and administer this program?

Infrastructure:

- Changes to "Vision" financial management software program.
- Extensive use of excel spreadsheets to automate conversion of costs to quantities to energy to greenhouse gas calculations.
- Building Life Cycle Cost (BLCC5) software for determining life cycle cost benefits and analysis.
- COMcheck-EZ software for energy code analysis.
- Energy Star Portfolio Manager software for comparative building rating analysis (benchmarking). (www.energystar.gov)
- Infrared, thermal imaging camera, owned jointly by BGS and the Department of Public Service, used to conduct building envelop analyses.

Transportation:

- Expanding the use of Fleet management software package (Maximus upgrade). All state fleet management, including AOT, Fish and Wildlife (game wardens) and Public Safety is being moved to this web based system.
- On line reservation system.

Purchasing: transitioning to a web based information and access system including:

- Commodity contracts are available for downloading from the web.
- Posting of notices for commodity contracts in excess of \$5,000.
- Posting of bid results on web.
- Sending, electronically, 1 page notification to prospective bidders rather than full compliment of bid documents prior to posting on web.

19. To the best of your knowledge, did this program originate in your state? If YES, please indicate the innovator's name, present address, telephone number and e-mail address. **Yes. Tom Torti, Commissioner, Department of Buildings and General Services State of Vermont.**

- **Present title: Secretary of the Agency of Natural Resources.**
- **103 S. Main Street, Waterbury, Vermont, VT 05671-0301**
- **802-241-3600**
- **tom.torti@state.vt.us**

20. Are you aware of similar programs in other states? If YES, which ones and how does this program differ? **No.**

21. Has the program been fully implemented? If NO, what actions remain to be taken? **No.** See attached timeline. **No.** Adoption of State Agency Energy Plan and the individual state agency/department plans has yet to occur but is quickly approaching. See timeline above.

22. Briefly evaluate (pro and con) the program's effectiveness in addressing the defined problem[s] or issue[s]. Provide tangible examples.

Pros:

- Unify overlapping or redundant legislation, executive orders and administrative directives.
- Reenergize the state's commitment to environmental stewardship.
- Coordinate the State's effort to reduce energy costs.

Cons:

- Difficult to overcome bureaucratic inertia.
- Difficult to consolidate state statute.
- Difficult to be patient while change is occurring.
- Communication has proven difficult.
- Difficult to find time given staff workload.

23. How has the program grown and/or changed since its inception?

As we have begun implementing the program it is becoming apparent how many different entities have been charged with goals, which have also been charged to others. While coordination and consolidation are desirable, there is a strong sense of ownership for each member of the various committees that have overlapping goals not to be deemed redundant. The CERMP is progressive and challenging undertaking. Members of previously established committees want to know how their work will be folded into CERMP and whether they will be able to participate. The program must change to consider how to move forward most effectively taking more advantage of work that has been done by other committees and also taking advantage of the skills possessed by other committee members.

24. What limitations or obstacles might other states expect to encounter if they attempt to adopt this program?

- **The political will to undertake a comprehensive effort.**
- **Depending on how other states are structured, programmatic jurisdiction might need to be addressed.**
- **Funding sources, willingness to spend additional resources as may be necessary.**
- **Availability to baseline energy data.**