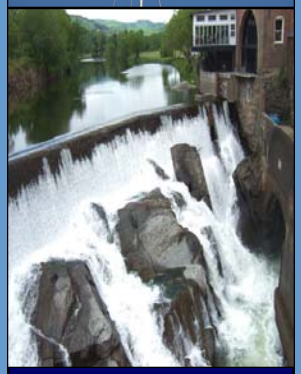

Vermont Clean Energy Development Fund

2007 Annual Report

April 2008

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Purpose of this Report

The purpose of this annual report is to provide an account of the activities of the Vermont Clean Energy Development Fund (CEDF), including how the funds were managed and distributed to meet the goals of the Fund. Because this is the first annual CEDF program report, information will be included from May 2006, when Act 208 was passed (which further defined the use and management of funds and established the Advisory and Investment Committees for oversight of the funds) through December, 2007.

Establishment of the Fund

In 2005, the Vermont General Assembly established the Vermont Clean Energy Development Fund through Act 74 (10 V.S.A. § 6523). The Act specifies that the Vermont Clean Energy Development Fund will be established and funded through proceeds due to the state under the terms of two Memoranda of Understanding between the Vermont Department of Public Service (DPS) and Entergy Nuclear VT and Entergy Nuclear Operations, Inc., and by any other monies that may be appropriated to or deposited into the Fund. The CEDF will receive payments from Entergy through 2012.

Management & Governance

DEPARTMENT OF PUBLIC SERVICE (DPS) ADMINISTRATION

In accordance with 10 V.S.A. § 6523, the CEDF is administered by the DPS. The DPS has extensive experience with issuing proposal solicitations and administering contracts and grants. The DPS also works with Vermont's ratepayers, power suppliers, and other stakeholders and interested parties on a regular basis. A permanent Fund Manager was hired in September, 2007 to manage day-to-day operation of the Fund.

The Fund Manager is responsible for:

- Updating the strategic plan
- Preparing the annual program plan and budget
- Maintaining a loan and credit policy that details underwriting criteria for all loans, grants, and investments made by the Fund
- Distributing information on the Fund, including maintaining a page on the DPS website and creating brochures
- Writing and issuing proposal solicitations, reviewing proposals, and awarding funding
- Monitoring and managing all financial assistance
- Making recommendations for loans and investments, in consultation with Vermont Economic Development Authority (VEDA) management and the DPS Commissioner, to the Investment Committee
- Preparing program and financial reports

ADVISORY COMMITTEE

The role of the Advisory Committee is to review the strategic plan and the annual program plan and operating

budget. The Advisory Committee also appoints the Investment Committee members. As defined in 10 V.S.A § 6523, the Advisory Committee consists of the Commissioner of Public Service or a designee, and the Chairs of the House and Senate Committees on Natural Resources and Energy or their designees.

INVESTMENT COMMITTEE

The Investment Committee reviews and approves the CEDF plans, budget and programs designs. The Investment Committee also assists the Fund Manager and the DPS Commissioner in the review of grants and investments; determining the viability of a project, company, product or service; and evaluating marketing and business plans. The Investment Committee consists of seven persons appointed by the Advisory Committee. The Investment Committee members appointed in October 2006 are as follows:

- Lawrence Miller (Chair)
- Patty Richards, VPPSA Director of Power Supply and Transmission (Vice-Chair)
- Jo Bradley, VEDA Chief Executive Officer
- Richard Sedano, Regulatory Assistance Project Director
- Mark Sinclair, Clean Energy Group Vice President
- Jeb Spaulding, VT State Treasurer
- Jeffrey Wolfe, gro Brilliant Energy Solutions CEO

Jeffrey Wolf resigned from the Committee in July 2007. Sam Swanson, Senior Policy Advisor of the Pace Law School Energy Project, was appointed to the Committee as his replacement in October 2007.

MANAGEMENT OF THE FUNDS

The Fund Manager and the Investment Committee work together to determine the amount of funds to be used for grants, loans, equity and/or subordinated debt investments. Since these types of financial support are markedly different in nature, the processing of requests for these types of funds are handled as described below:

1) When a request for a grant is approved by the Investment Committee and Fund Manager, funds will be dispersed by DPS based on specific requisitions by the grantee which is subject to approval by the Fund Manager.

2) If a loan is requested and approved by the Investment Committee and Fund Manager based in part on a due diligence write -up prepared by VEDA, VEDA will prepare the loan documents, close the loan, monitor it and manage the relationship with the borrower. VEDA will handle the accounting for the loan and apply payments as they are received, and manage any loan collection activity that may become necessary with the approval of the Fund Manager and Investment Committee. VEDA charges a fee for its services that is negotiated between VEDA and DPS.

3) The Investment Committee decides on a case-by-case basis whether to allocate funds for equity/subordinated debt investments and will identify resources to participate in due diligence and negotiate on the Fund's behalf. The preference would likely be to co-invest with

other established investment firms.

Funds that accumulate in the CEDF will be temporarily managed by the State Treasurers office prior to their being granted, loaned, or invested as outlined above.

Every attempt will be made to fully obligate all CEDF funds each year with the exception of setting aside a small portion that can be used for equity investments should the opportunity arise.

Goals and Objectives

GOALS

The goal of the Fund is to increase the development and deployment of cost-effective and environmentally sustainable electric power resources – primarily with respect to renewable energy resources, and the use of combined heat and power technologies - in Vermont. The Fund is managed to promote:

- The increased use of renewably produced electrical, thermal energy, and combined heat and power technologies in the state;
- The growth of the renewable energy-provider and combined heat and power industries in the state;
- The creation of additional employment opportunities and other economic development benefits in the state through the increased use of renewable energy and combined heat and power technologies;
- The stimulation of increased public and private sector investment in renewable energy and combined heat and power related enterprises, institutions, and projects in the state.

RATIONALE

The further development of clean energy generation in Vermont will provide environmental benefits, increased energy diversity, price stability, and a thriving clean energy market to enable clean energy businesses to develop and expand.

The promotion of clean energy businesses and industry in the state will create additional employment opportunities. Creation and retention of quality jobs is important for current and future generations of Vermonters.

Fulfillment of the Fund goals will also support Vermont's greenhouse gas emission reduction targets as well as supporting the objectives set forth in 30 V.S.A. § 8004 to meet all incremental energy growth in Vermont between 2005 and 2012 through renewable energy generation.

SCOPE

The CEDF funds a wide variety of clean electric energy technologies and programs. 10 V.S.A. § 6523 specifies that "clean energy resources" means electric power supply and demand-side resources that are combined heat and power facilities, cost-effective energy efficiency resources, or renewable energy resources.

Renewable energy includes the following:

- solar photovoltaic and solar thermal energy;
- wind energy;
- geothermal heat pumps;
- farm, landfill, and sewer methane recovery;
- low emission, advance biomass power, and combined heat and power technologies using biomass fuels such as wood, agricultural or food wastes, energy crops, and organic refuse-derived waste, but not municipal solid waste;
- advanced biomass heating technologies and technologies using biomass-derived liquid fuels such as biodiesel, bio-oil, and bio-gas.

In addition, the CEDF will also consider small hydroelectric as renewable energy.

OBJECTIVES

- Increase the installation of renewable energy systems for homes, businesses, farms, and public buildings.
- Increase the amount of combined heat and power (CHP) systems in the state.
- Facilitate clean energy distributed generation that enhances grid stability.
- Facilitate and support efforts by Vermont communities to develop small-scale renewable energy projects.
- Help developers secure project financing for construction of eligible renewable energy generating facilities and support pre-development activity.
- Continued growth of clean energy related businesses and industry in Vermont.
- Provide financial and technical assistance for the design, development, and commercialization of clean energy technologies and products.

Guiding Principles

1. Support diversified portfolio of clean energy technologies that will benefit ratepayers and municipalities; leverage private and public investment; and have positive impacts in terms of economic development, additional employment opportunities, and environmental attributes.

2. Allow for sufficient risk taking in fund use to stimulate development of clean energy products, businesses, and market initiatives by investing the funds through grants, loans, and equity investments in the most appropriate fashion for each project to maximize the mission related public benefit return over the life of the Fund.

3. Seek to remove market barriers related to the development and deployment of renewable energy and combined heat and power technologies in Vermont through the support of transformational technology, market and cultural developments.

4. Ensure maximum value from the CEDF by supporting initiatives and activities that are reliable, cost effective (or reasonably likely to become cost effective), and utilize commercialized or nearly commercialized technologies.

5. Pursue geographic distribution of projects throughout the state consistent with system needs, while providing citizens the maximum exposure to alternative generation opportunities.

6. Pursue organizational development that results in the least administrative cost to maximize funds for direct investment.

7. Participate in projects in which the funds will make a meaningful difference.

Funding

The CEDF offers a portfolio of funding opportunities to accelerate the development, commercialization, and production of clean energy in Vermont, including: grants and contracts; loans; equity investments; and direct incentive payments to individuals, businesses, state and local government, and non-profit organizations.

SMALL-SCALE RENEWABLE ENERGY INCENTIVES

The CEDF has provided funding for the *Vermont Solar and Small Wind Incentive Program*. The program currently provides an incentive to individuals, businesses, and multi-family low-income housing projects for solar electric, solar hot water, and small wind grid-connected systems.

CEDF funding has been provided in two installments-$500,000 in August, 2006 and $500,000 in September, 2007. As of December 31, 2007 a total of 125 incentives have been reserved and 480 systems have been installed (since the inception of the program in October, 2003.) The table below shows the number of wind, solar PV, and solar hot water systems installed as well as the capacity of the systems.

	Wind	Solar PV	Solar Hot Water
Systems Installed	52	248	180
Installed Capacity	137.7 kW	711.5 kW	17,383 kBtu/d
Systems w/ Incentive Reservations	22	42	61
Proposed Capacity of Systems	95.4 kW	150.6 kW	5,182 kBtu/d

The current incentive levels are as follows:

Solar Electric
- $1.75/Watt for individuals and businesses
- $3.50/Watt incentive for multi-family low-income housing projects

Solar Hot Water
- $1.75/100 Btu/day for individuals and businesses
- $3.50/100 Btu/day incentive for multi-family low-income housing projects

Wind
- $2.50/Watt for individuals and business ($4.00/Watt for Vermont-made components)
- $4.50/Watt for schools, farms and local/state governments

The Vermont Solar and Small Wind Incentive Program is currently administrated by the Renewable Energy Resource Center. A Request for Proposals will be issued in 2008 for

continuing administration of the program.

GRANTS

A competitive request for proposals was issued in June 2007 for projects in the following categories:

Pre-Project Financial Assistance

This category includes feasibility studies and pre-development activities to develop new renewable energy generation facilities and combined heat and power systems, which may require high-risk, early-stage activities and for those projects that do not have the resources to finance pre-project activities. Projects under this category may include: renewable energy resource assessments; site assessments; environmental impact and regulatory analysis; technical and engineering feasibility studies; engineering designs; and economic and financial feasibility studies.

The maximum grant award for this category was $25,000 and required a 20% cash match.

Small-Scale Systems

This category includes the installation of microturbines, solar air heating systems, geothermal heating systems, and fuel cells at residential or small commercial buildings. Renewable energy systems totaling no more than 15kW of capacity per installation such as micro-hydroelectric were also eligible. All electric generation projects must be grid-connected.

The maximum grant award for this category was $60,000 and required a 50% match, no more than 25% of which can be in-kind match. Projects must be completed within 2 years of award.

Large-Scale Systems

This category includes renewable energy and combined heat and power projects greater than 15 kW in capacity located at commercial, industrial, institutional, and public facilities. Renewable energy projects may include, but is not limited to: solar electric; farm, landfill and sewer methane recovery; low emission, advanced biomass power; and wind. This may include utility-scale installations. All electric generation projects must be grid-connected. The installation of microturbines, solar air heating systems, geothermal heating systems, and fuel cells at large commercial or industrial buildings are also eligible.

The maximum grant award for this category was $250,000 and required a 50% match, no more than 25% of which can be in-kind match. Projects should be completed within 2 years of award.

Special Demonstration Projects

This category includes projects that demonstrate and facilitate the development and commercialization of innovative renewable energy products, technologies, technology applications, and processes. All electric generation projects must be grid-connected. These projects must be designed to focus on market building and technology deployment strategies as opposed to traditional research and development activities. Projects should also include the following: a technical and economic analysis of the technology application or demonstration; expected project impact on the near-term commercialization of this technology; and dissemination of project

information to potential users of the technology.

The maximum grant award for this category was $250,000 and required a 50% match, no more than 25% of which can be in-kind match. Projects should be completed within 2 years of award.

Grant Awards

The DPS received 34 proposals, requesting over $4.7 million in funding, in response to the CEDF grant solicitation. Seventeen projects were awarded funding totaling $2,058,992. The table below contains a list of the projects that were selected for grant awards and the estimated kWh generated per year as well as the projected avoided CO2 emissions for each project. The total capacity for the projects (excluding the pre-project financial assistance projects) is approximately 3,517 kW.

Project Highlight:
Boucher BioPower Crop Digester

The Boucher family dairy farm, a 250 cow operation in Highgate, is poised to become the first farm in the U.S. to employ biogas technology to generate electricity from manure and crops. With a grant and loan from the CEDF, the farm will be able to install a $2 million digestion facility, which will generate about 5,000,000 kWh of electricity per year. Thousands of farms in Germany currently use this technology to take advantage of the many environmental and energy benefits of methane recovery, as well as to generate a new revenue source for farms. The success of the Boucher project could lead to a farm-based renewable energy revolution in Vermont and the United States.

Project	Location	kWh/year (Estimated)	Avoided CO_2 emissions (in short tons)
Pre-Project Financial Assistance:			
Greensboro Hydro Feasibility Study Greensboro Town Energy Committee	Greensboro	N/A	N/A
Biomass CHP System Evaluation at Otter Creek Brewing Otter Creek Brewing	Middlebury	N/A	N/A
Lyndon State College Biomass Plant with CHP potential Lyndon State College	Lyndon	N/A	N/A
Georgia Mountain Community Wind Project HW Ventures, LLC	Georgia	N/A	N/A
Montpelier Community Energy System City of Montpelier	Montpelier	N/A	N/A
Small-Scale Systems:			
Demonstration of a 4.7 kW micro-CHP System Steven Winter Associates	Lyndonville	18,000	N/A
Champlain College Carriage House CHP Project Vermont Gas Systems	Burlington	4,500	N/A
Large-Scale Systems:			
Westminster Farms Anaerobic Digester Clayton Goodell	Westminster	1,401,600	4,109
Neighborhood Energy Anaerobic Methane Digester Neighborhood Energy, LLC	Coventry	1,401,600	4,553
Boucher BioPower Crop Digester Gilbert Boucher	Highgate	5,102,400	3,935
Gervais Family Farm Methane Biogas Project Gervais Family	Bakersfield	1,401,600	9,219
Bennington Hydroelectric Project Town of Bennington	Bennington	140,000	2,325
Gas-Watt Energy Williston Landfill Gas Project Gas-Watt Energy, LLC	Williston	748,980	415
Large-Scale Solar Energy System at Green Mtn Coffee Green Mountain Coffee Roasters, Inc.	Waterbury	111,526	1,222
Large-Scale Solar Energy System at RSD Companies RSD Transportation, Inc	White River Junction	116,455	1,276
Southern VT Recreation Center Solar PV System Southern VT Recreation Center	Springfield	86,583	1,185
Special Demonstration Projects:			
AgNorth BioPower LLC Crop Digester Guy Palardy	Alburgh	13,315,200	7,370

LOAN PROGRAM

The CEDF loan program was launched in November, 2007. The program will fund a wide variety of clean and/or renewable electric energy technologies, including but is not limited to the following: solar photovoltaic, wind energy, farm, landfill and sewer methane recovery, CHP, and hydroelectric. All electric generation projects must be grid-connected. CEDF will make loans that meet the Fund's objectives and advance

the overall goals of the Fund as more specifically set forth in 10 V.S.A § 6523 and the CEDF Strategic Plan.

Eligible Borrowers

Individuals, sole proprietorships, partnerships, limited liability companies, corporations, non-profit corporations, Subchapter S corporations, municipalities, and foreign corporations with Vermont subsidiaries/affiliates

Borrowing Limitations

- Loans cannot be used for more than 90% of the cost of a project
- Minimum loan: $50,000
- Maximum loan: $250,000

Use of Funds

Funds can be used for the following:
- Purchasing land and buildings (when specific to project)
- Purchasing and installing machinery and equipment
- Working capital

All financing must be used for activities or assets directly related to the project.

Loan Rates & Terms

- Interest rate fixed at 4%
- Term for real estate loans is 10 years, amortized on a 15-year basis
- Term for machinery and equipment loans is a maximum of 7 years
- Term for working capital loans is 3 years

Fees

- Borrowers must pay an application fee of 1% on the loan amount, which is capped at $1,500, once the loan is approved.
- Borrowers are responsible for paying all closing costs.

Application Process

1. Contact DPS for application form
2. Applications are due by the first Thursday of every month
3. Investment Committee reviews applications and will either send applications on for underwriting or will reject application
4. Underwriting is performed by VEDA
5. Final approval or denial of loans by the Investment Committee

The typical review period will be 60 days for complete applications. If applications are incomplete or unforeseen circumstances arise the review period could be longer.

Loan Awards

Three loan applications were received in November and December 2007. The following two loans were approved:

- Draker Laboratories, Inc-$100,000
- Boucher BioPower LLC-$250,000

Project Highlight:
Draker Laboratories

Draker Laboratories in Burlington manufactures a new product with a bright future – high performance monitoring equipment for the burgeoning renewable energy industry. This unique product monitors the output of systems to ensure better performance, and to allow owners to monitor electricity output in order to realize the full economic benefits from renewable energy certificates, tax incentives, and other tradable renewable attributes. The CEDF awarded Draker a loan of $100,000 which will assist the company in launching two new product versions, grow to seven employees, and continue its commitment to quality job growth in Vermont.

Funding Criteria

Before committing to any expenditure, the Fund Manager and the Investment Committee ensure that all potential programs and projects are rigorously evaluated to insure that the resources are allocated in a fair and cost-effective manner. Selection also takes GHG emission reductions, Sustainably Priced Energy Enterprise Development (SPEED) Program, and other related goals into consideration. A general description of the funding criteria that may be considered when making funding decisions is included below. Actual funding criteria for grant and loan solicitations may differ from the descriptions below and/or may change over time.

PROGRAM AND PROJECT EVALUATION CRITERIA

Financial Viability

Projects or Programs must demonstrate financial viability (i.e. adequate collateral and/or cash flow to service related financing) so as not to pose an unreasonable risk of loss to the CEDF, as determined by the Investment Committee.

Financial Leverage

To maximize use of the available funds, the degree of financial leverage (through funding obtained from the federal government, private investors, companies and consumers, etc.) will be a component of investment decisions.

Energy Available to Vermont Consumers

Programs and projects will be evaluated in terms of the degree to which they are likely to contribute to an increase in the renewable energy generating capacity available to Vermont consumers.

Economic Impact

The extent of the additional economic value created by support of a project/program will be evaluated.

Market Impact

The Fund will be used to meet the existing demand for renewable energy, reduce barriers to market entry, and to create new markets in Vermont.

Public Benefit

Projects will be evaluated in regards to the benefit to Vermont ratepayers and/or system benefits, and in meeting state renewable energy objectives and policies. Projects that benefit public buildings and/or will be located in constrained areas may receive preference in the evaluation process.

Reductions in Greenhouse Gas Emissions

The Fund will consider the degree to which investments contribute to a reduction in carbon dioxide emissions and other greenhouse gas and air pollutants.

Energy Efficiency

Installations at residential and commercial buildings must show that the building has met required energy codes. Additional preference may also be given for high performance buildings

or beyond code energy efficiency improvements.

Accomplishments

Below is a summary of the CEDF accomplishments from May, 2006 through December, 2007.

- DPS worked with the CEDF Advisory Committee to determine how the initial $1.3 million from the fund would be distributed. The following programs and projects were selected for funding:
  - Solar and Small Wind Incentive Program
  - 3-Phase Power Line Extensions for Farm Methane Systems
  - Agency of Agriculture Economic Development Special Account
  - Wood pellet system at Valley Cares senior housing project
  - CHP feasibility studies
  - Small hydro feasibility studies
  - Public Engagement Process

- DPS revised the CEDF report to the Legislature (originally submitted January 15, 2006) to add proposed program design; set the foundation for a five-year strategic plan; and include recommendations for the distribution of the initial $1.3 million in funds. This report was posted on the front page of the DPS website from April, 2006 - December 2007, with a request for comments to be submitted to the Department. Comments were received from approximately 20 individuals/organizations.

- The Advisory Committee appointed seven members to the Investment Committee in October, 2006.

- A five-year Strategic Plan draft was completed by DPS in November, 2006. The Plan was discussed and revised by the Investment Committee and adopted in May, 2007.

- In January, 2007 after receiving approval from the Dept. of Administration to establish a CEDF Coordinator position, DPS began a lengthy recruitment process. After two postings and wide advertisement the position was filled in September, 2007.

- In May, 2007 the CEDF Investment Committee Policies and Procedures were adopted.

- In June, 2007 the Investment Committee finalized a financial projection for funds, including determining the grant to loan funding ratio for the life of the fund.

- A competitive request for proposals was issued in June 2007. The DPS received 34 proposals, requesting over $4.7 million in funding. Seventeen projects were awarded funding totaling $2,058,992.

- The Investment Committee adopted loan and equity investment policies in September, 2007.

- In November, 2007 the CEDF loan program was launched. DPS developed and distributed a loan brochure.

- In December, 2007 two loans were approved.