

**WASHINGTON ELECTRIC COOPERATIVE**  
**2017 ANNUAL PLAN FOR TIER III COMPLIANCE**  
**VERMONT'S RENEWABLE ENERGY STANDARD**

**I. INTRODUCTION**

In compliance with requirements from the Vermont Public Service Board's Order in Docket 8550, Washington Electric Cooperative (WEC) submits its 2017 Annual Plan for Tier III compliance with Vermont's Renewable Energy Standard (RES).

This Tier III Annual Plan is submitted by WEC, with support from Vermont Energy Investment Corporation (VEIC), to the Vermont Public Service Board (PSB or "Board") and to the Public Service Department (PSD or "Department"). This Annual Plan addresses the strategy that WEC will use to meet its Tier III compliance obligation for 2017.<sup>1</sup>

Overall, WEC's Annual Plan describes:

- 1) Estimated Tier III compliance obligation for 2017;
- 2) Overall strategy to be implemented to meet the Tier III compliance obligation in 2017; and
- 3) Types of energy transformation projects that will be undertaken and anticipated number of participants.

WEC's Annual Plan will offer a suite of energy transformation measures that have been screened and vetted through the Technical Advisory Group (TAG) screening process. However, a fundamental component of WEC's plan is to emphasize and match TAG screened measures with heightened weatherization efforts. WEC's plans and approach to meeting its Tier III obligation are detailed herein.

**II. PARTNERSHIP-BETWEEN WEC AND VEIC (EFFICIENCY VERMONT)**

Implementation of the projects described in WEC's Annual Plan will be closely coordinated with Vermont Energy Investment Corporation (VEIC) as the administrator of Efficiency Vermont, the statewide energy efficiency utility (EEU). In addition, coordination of data collection, management, reporting, and evaluation and verification activities will be maximized to the extent possible with protocols and schedules already in place for WEC and Efficiency Vermont. In cases where entities other than VEIC and its subcontractors deliver WEC Tier III programs and services independently, WEC will ensure coordination of data collection and reporting to provide a single deliverable to regulators.

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<sup>1</sup> See Appendix A (Background)

The Parties have reached an understanding on the implementation of energy transformation projects for WEC members. Efforts will include the coordinated use of member and supply-side incentives, standards for measuring performance, and methods to allocate savings and reductions in fossil fuel consumption and greenhouse gas emissions among VEIC and WEC with a strong emphasis on weatherization.

The eligible measures for WEC members are detailed, below in Table 2. The foundation of WEC’s Tier III program is found in statute, V.S.A. Title 10 § 581.<sup>2</sup> Vermont has an aggressive policy goal of weatherizing 80,000 existing residences by 2020; WEC’s Tier III program is, in part, intended to assist members to reduce the fossil fuels used today, as well as increase comfort and indoor air quality through comprehensive thermal energy improvements.

The details of WEC’s plan as well as discussion of roles and responsibilities of each party are outlined in table 1.

**Table 1: Roles and Responsibilities for 2017 Tier III Programs**

Washington Electric Cooperative	Efficiency Vermont
<ul style="list-style-type: none"> <li>• Leverage local presence and relationships with members</li> <li>• Utilize multiple communications channels to reach members               <ul style="list-style-type: none"> <li>• Newsletter</li> <li>• Member Service Rep staff</li> <li>• Promotional material</li> </ul> </li> <li>• Leverage existing EEU programs like Button Up to deploy savings</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain program delivery model</li> <li>• Maintain contractor and supplier network</li> <li>• Statewide marketing</li> <li>• Call center support</li> <li>• Capture sales data</li> <li>• Custom and upstream incentives</li> </ul>

WEC has an active and on-going communication with its 11,000 member households; WEC provides a widely read regular print and web-based newsletter. WEC’s board of directors works with the Co-op staff to carry out the Co-op’s long standing mission, to “develop and implement ...socially responsible, environmentally and economically sound policies and programs that will improve the well-being of our Cooperative...and the communities which we serve”...<sup>3</sup>

The primary vehicle for achieving WEC’s Tier III targets will be by leveraging the market players who operate in the residential thermal improvement sector. One primary implementation method is through the contractors who deliver Home Performance with ENERGY STAR® (HPw/ES) services, a program sponsored by Efficiency Vermont. WEC will launch a campaign

<sup>2</sup> <http://legislature.vermont.gov/statutes/section/10/023/00581>

<sup>3</sup> WEC Long Range Goals and Objectives (15 October 1990)

to promote the Tier III projects, with a goal to increase the number of WEC members who make recommended thermal improvements provided by a certified HPwES contractor.

Through our newsletter and targeted marketing, that leverages Efficiency Vermont's outreach throughout WEC's 41 towns, WEC will encourage members to engage a HPwES contractor. After the contractor provides the member with a HPw/ES thermal energy audit, WEC will assist eligible members with incentives towards recommended measures identified in the HPw/ES contractor. All WEC incentives will be incremental to the Efficiency Vermont incentives and savings will be shared with Efficiency Vermont.

Income eligible members will have the cost of the HPw/ES energy audit paid for by WEC as an added incentive. Income eligibility will be based on the current criteria as provided for various support services through the Vermont Agency of Human Services.

### **III. 2017 WASHINGTON ELECTRIC COOPERATIVE TIER III COMPLIANCE OBLIGATION AND OVERALL STRATEGY**

WEC participated with VEIC and other distribution utilities through the Technical Advisory Group (TAG) process; all measures except for the weatherization measures<sup>4</sup> included in the 2017 WEC program meet TAG standards for characterization and energy savings. One distinction for measure screening which adds additional value to WEC program is due to the Co-op's qualification as 100% renewable, as defined statutorily. Utilities which have not yet met the Vermont renewability standard, based on the portfolio of power sources today, use a "blended" portfolio in the TAG modeling process; a blended portfolio reduces the savings claims for the same measure(s) compared to a utility with 100% renewability today.<sup>5</sup>

#### **A. 2017 WEC Tier III Requirements**

Vermont's RES establishes a required amount for Tier III compliance of 2% of a DU's annual retail sales in 2017, increasing by two-thirds of a percent each year and reaching 12% in 2032.

The calculation for this compliance amount for WEC for 2017 is shown in Table 2:

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<sup>4</sup> Weatherization measure savings are determined on a custom basis for each project and are therefore excluded from the TAG process.

<sup>5</sup> See Appendix B

**Table 2**

		<b>2017</b>									
Utility Sales (kWh)		<b>69,698,998</b>									
Compliance Rate		2.00%									
MWh Minimum Target		1,394									
Planned excess to assure attainment		139									
<b>Combined MWh Target</b>		<b>1,533</b>									
<b>Maximum Investment (ACP)</b>		<b>\$ 83,639</b>									
Measure		EVT	WEC	TOTAL	MWh Savings	WEC incentive	ACP	EVT \$	WEC	CEDF	
Weatherization Only (WX)	per unit	40	15	55	61.1			\$1,400	\$600		
	Total				917	\$33,000	\$ 36				
CCHP & WX	per unit		5	5	54			\$ 700	\$ 250		
	Total				270	\$1,250	\$ 5				
Heat Pump Water Heaters	per unit	25	10	35	16.5	\$250		\$600	\$250		
	Total				165	\$8,750	\$ 53				
Solar Hot Water Heaters	per unit	1	1	2	21.0	\$1,000		\$950	\$500	\$1,000	
	Total				21	\$1,000	\$ 48				
Charging Stations-L2 Work/public	per unit		4	4	9	\$0		\$0			
	Total				37	\$0	\$ -				
Pellet Boilers (no Wx)	per unit	3	1	4	179.0	\$1,000		\$2,000	\$1,000	\$3,000	
	Total				179	\$4,000	\$ 22				
					Sum of WEC Tier 3 incentives		\$ 48,000				
					MWh savings estimate		1,588				

As noted in the top portion of Table 2 WEC’s compliance target is 1,394 MWH. Adding a ten percent buffer to this estimate for planning purposes gives WEC a year one target of 1,533 MWH. The “maximum investment” (alternate compliance payment/ACP) represents the Co-op’s internal maximum potential investment to achieve a particular goal of fossil fuel reduction among its members. With a first year budget of \$48,000, this equates to a cost per kWh equivalent of 3.4¢ per kWh (compared to the ACP of 6¢ per kWh).

Using the Alternative Compliance Payment rate of 6¢ per kWh, WEC’s maximum budget for incentives, program delivery and administration is \$83,639. Based on WEC’s anticipated offering of measures combined with weatherization WEC plans to spend \$48,000 in incentive dollars in its first year effort. WEC plans to do its own program reporting in the first year, and therefore costs and dollars are limited to incentives.

**B. Proposed Measures & Program Design**

- **Weatherization** – Weatherization efforts are the bedrock to WEC’s Tier III plans. Through the use of weatherization and added incentives beyond EVT’s, WEC will share savings with the EEU. Savings will result from the installation for insulation and air leakage reduction measures in a residential application. Weatherization (WX) for WEC member residences will be supported by direct incentives from WEC and the EEU. Income eligibility will be based on current

Vermont Agency of Human Services (AHS) levels. Low Income customers will be served through the Weatherization Assistance Program administered by the Office of Economic Opportunity. WEC will not provide incentives nor claim savings for these projects.

In coordination with Efficiency Vermont (EVT), WEC will promote weatherization services to its members. WEC will also work with EVT regarding its fall Button Up Vermont grassroots action and media campaign that drives engagement in weatherization around the state.

- **Cold-Climate Heat Pumps** - This measure claims savings for the installation of single or multi head variable speed mini-split heat pumps in a residential application, within a thermal shell meeting an energy efficiency performance standard. The measure is characterized as a custom retrofit measure claiming thermal energy savings for fossil fuel heating. Since WEC's mix of generation is 100% renewable, there are no efficiency savings reductions as a result of electricity increases from moving from fossil to electric.
- **Heat-Pump Water Heaters** - This measure claims savings for the installation of an ENERGY STAR heat pump water heater (HPWH) in place of the existing fossil fuel fired water heater in a residential application. The measure is characterized for retrofit applications. Savings are presented dependent on the existing water heater fuel type. Since WEC's mix of generation is 100% renewable, there are no efficiency savings reductions as a result of electricity increases from moving from fossil fuel to electric.
- **Solar Hot Water** - This measure is characterized as a retrofit and applies to the installation of a new solar water heating system that has a Solar Rating Certification Council (SRCC) OG-300 qualified performance rating in a residential building. Backup hot water is provided by resistance electric within the solar hot water storage tank.
- **EV Charging Stations** - This measure applies to the installation of Level 2 charging stations at a public location or a residential building. WEC has been responsible for the installation of four EV stations in its service territory.

**Table 3** (below) summarizes WEC first year aggregate Tier III program costs, including incentives, administration and proposed cost of audit service to income eligible members. This total comprises approximately 80% of the maximum allowed (compared to the ACP), and reflects an estimated cost per kwh saved around 4.8 cents per kilowatthour.

Table 3

<b>WEC Tier 3 2017 program budget</b>			
program incentives (Table 2)			\$ 48,000
audit cost for income eligible members			\$ 3,000
WEC project management 2017			\$ 12,270
EVT MOU/technical assistance to file Annual Plan			\$ 3,000
			\$ 66,270

**C. Estimated Number of Participants, Program Goals and Shared Responsibilities**

By building on existing programs, efficiencies and the benefits of shared information, the services to be provided by WEC are expected to increase the number of members who participate in weatherization. Through WEC’s involvement, we plan to increase the installation of measures such as qualifying heat pump hot water heaters and cold climate heat pumps above what would have happened in absence of WEC’s Tier III program. The net result is to thereby grow the market for the measures targeted by WEC.

WEC’s plan and estimates of the number of participants, incentives, and MWh savings are provided in **Table 2 and Table 3 (above)**. While all WEC members are eligible to participate, based on the budget constraint of the Alternate Compliance Payment (ACP), in actuality WEC will promote participation and services on a “first come, first served” basis up to the numbers noted in Table 2.

What this means is once WEC hits the target rates of participation it will no longer offer extra incentives toward the measures. The EEU program incentive dollars will continue but any incremental WEC incentives will cease once we hit the participation targets. The pace of the program incentives is budget constrained, and will be monitored closely for alignment with savings goals. WEC and VEIC will coordinate on field results, and project completions to ensure achievement of both parties’ goals.

- D. WEC plans to perform the bulk of the work necessary for program reporting, verification and tracking responsibilities. Efficiency Vermont will track measure details and savings and by March 15, 2018, WEC shall submit a report to the Board and the Department that establishes its savings claim regarding its 2017 energy transformation projects. Adjustments and final claims will be filed following PSB determination of verified savings.
  
- E. Low Income Plan – WEC will pay for the expense of a home energy audit for those qualifying as low income up to \$300. WEC will use eligibility standards of the Agency of Human Resources to determine whether a WEC member household qualifies for the cost of the HP/wES audit service. A member would simply declare

that the household already is determined to be eligible for various state-wide services, in order to then be eligible for WEC to also provide the HPw/ES audit as an incentive

- F. Tier II Distributed Generation – The Board noted in its June 28, 2016 order in Docket 8550 that utilities considered 100% renewable would have limitations regarding the use of Tier II RECs counting toward Tier III goals. In WEC’s Annual Plan filing, WEC is not planning to use Tier II RECs toward its Tier III program goals, but WEC seeks clarification from the Board on this issue.

The Department stated in its comments that a provider qualifying under Section 8005(b)(1) should only be allowed to count Tier II RECs towards its Tier III obligation to the extent that those Tier II RECs exceed what the provider’s Tier II compliance obligation otherwise would have been absent the language of Section 8005(b).

WEC supports the Department’s position. Further WEC requests the Board adopt this recommendation which will allow WEC to use Tier II RECs in the event we exceed the Tier II obligation absent the language of Section 8005 (b). To deny use of REC’s that are over and above the Tier II requirement levels that are implemented for non reduced amount providers, limits an option to those DUs that are 100 percent renewable and have already invested significantly in achieving the state’s goals early. WEC seeks to only to use RECs that exceeds the standard had it not been granted status as a “reduced amounts provider: 100% renewable” utility.

The Board noted in its order:

Any DU that qualifies for the modified requirement is likely to possess a meaningful portfolio of generation eligible for Tier II. Allowing such generation to count towards Tier III is likely to eliminate, or at least substantially reduce, a DU’s Tier III obligation. As we find that this was not the intent of the statute – had it been, there would have been no need to include the additional mechanism reducing Tier III requirements – we conclude that a qualified DU seeking to apply generation from Tier II-eligible units must also show that this generation was in excess of that used to meet its ongoing obligation to demonstrate its ownership of RECs or renewable attributes under Section 8005(b)(1).

WEC seeks to use only Tier II RECs that are in excess of its obligation (ie greater than 1% of its retail energy sales in year one) had it not qualified as 100% renewable under Section 8005(b)(1). In this way WEC will retain the flexibility to offer incentives or roll out efforts that enhance Tier II participation in its service territory.

# APPENDIX A (BACKGROUND)

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## BACKGROUND

On June 11, 2015, the Governor of Vermont signed into law Public Act No. 56, an act relating to establishing a renewable energy standard ("RES"). Vermont's RES is categorized into three tiers of required resources that must be met by Vermont electric utilities to meet the requirements of the States' renewable energy standard: total renewable energy, distributed renewable generation and energy transformation.

The third tier of the RES ("Tier III") (Energy Transformation Tier) requires that DUs either procure additional renewable distributed generation eligible for Tier II or acquire fossil-fuel savings from energy transformation projects. Energy transformation projects are those that reduce fossil fuel consumed by DU customers and the emission of greenhouse gases attributable to that consumption. For Tier III, the RES establishes a required amount of 2% of a DU's annual retail sales in 2017, increasing by two-thirds of a percent each year and reaching 12% in 2032.

This category encourages Vermont retail electricity providers to support additional distributed renewable generation or to support other projects to reduce fossil fuel consumed by their customers and the emission of greenhouse gases attributable to that consumption. A retail electricity provider may satisfy the energy transformation requirement through distributed renewable generation in addition to the generation used to satisfy subdivision (a)(2) of this section or energy transformation projects or a combination of such generation and projects.

"Energy transformation projects" are defined in 30 V.S.A. § 8002(25) to mean:

"an undertaking that provides energy-related goods or services but does not include or consist of the generation of electricity and that results in a net reduction in fossil fuel consumption by the customers of a retail electricity provider and in the emission of greenhouse gases attributable to that consumption. Examples of energy transformation projects may include home weatherization or other thermal energy efficiency measures; air source or geothermal heat pumps; high efficiency heating systems; increased use of biofuels; biomass heating systems; support for transportation demand management strategies; support for electric vehicles or related infrastructure; and infrastructure for the storage of renewable energy on the electric grid."

(C) Eligibility criteria. For an energy transformation project to be eligible under this subdivision (a)(3), each of the following shall apply: (i) Implementation of the project shall have commenced on or after January 1, 2015. (ii) Over its life, the project shall result in a net reduction in fossil fuel consumed by the provider's customers and in the emission of greenhouse gases attributable to that consumption, whether or not the fuel is supplied by the provider. (iii) The project shall meet the need for its goods or services at the lowest present value life cycle cost, including environmental and economic costs. Evaluation of whether this subdivision (iii) is met shall include analysis of alternatives that do not increase electricity consumption. (iv) The project shall



cost the utility less per MWH than the applicable alternative compliance payment rate. Act 56 p.18 (3)(A)

Section 8 of Vermont's Renewable Energy Standard (RES) requires the Vermont Public Service Board ("Board") to commence a rulemaking proceeding to determine details for the implementation of Tier III. The outcome of this rulemaking requires that a DU shall file a Tier III annual plan no later than the November 1st immediately prior to the start of the next compliance year.

This Annual Plan is filed to meet this requirement.

# APPENDIX B

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WEC qualifies as a 100% renewable distribution utility, as defined by statute:

(b) Reduced amounts; providers; 100 percent renewable.

(1) The provisions of this subsection shall apply to a retail electricity provider that:

- (A) as of January 1, 2015, was entitled, through contract, ownership of energy produced by its own generation plants, or both, to an amount of renewable energy equal to or more than 100 percent of its anticipated total retail electric sales in 2017, regardless of whether the provider owned the environmental attributes of that renewable energy; and
- (B) annually each July 1 commencing in 2018, owns and has retired tradeable renewable energy credits monitored and traded on the New England Generation Information System or otherwise approved by the Board equivalent to 100 percent of the provider's total retail sales of electricity for the previous calendar year.

(2) A provider meeting the requirements of subdivision (1) of this subsection may:

(A) satisfy the distributed renewable generation requirement of this section by accepting net metering systems within its service territory pursuant to the provisions of this title that govern net metering; and (B) if the Board has appointed the provider as an energy efficiency entity under subsection 209(d) of this title, propose to the Board to reduce the energy transformation requirement that would otherwise apply to the provider under this section.

(i) The provider may make and the Board may review such a proposal in connection with a periodic submission made by the provider pursuant to its appointment under subsection 209(d) of this title.

(ii) The Board may approve a proposal under this subdivision (B) if it finds that:

- (I) the energy transformation requirement that would otherwise apply under this section exceeds the achievable potential for cost-effective energy transformation projects in the provider's service territory that meet the eligibility criteria for these projects under this section; and
- (II) the reduced energy transformation requirement proposed by the provider is not less than the amount sufficient to ensure the provider's deployment or support of energy transformation projects that will acquire that achievable potential.

(iii) The measure of cost-effectiveness under this subdivision (B) shall be the alternative compliance payment rate established in this section for the energy transformation requirement.