



Demand Billing Rates: Frequently Asked Questions

What is demand billing?

Broadly speaking, demand billing is a billing rate, or tariff, under which users are charged both for the energy they use and the capacity, or demand, they require from on the system.

What types of VEC accounts are subject to demand billing?

Per our PUC approved tariff, VEC charges demand rates to any account using over 15,000 kilowatt-hours (kWh) per month for any two consecutive months. (Thresholds for demand rates vary from utility to utility.)

What are the components of a demand billing rate?

The first component is the energy (measured in kWh). The second component is the highest rate of power required, or demand (measured in kilowatts or kW). A good analogy is a water delivery system. The “energy” component is analogous to the number of gallons a consumer uses each month. The “demand” component is analogous to the highest rate of flow (gallons per minute) that entity uses.

Demand rates also include a demand “ratchet” provision. That provision requires that the user not pay less than 80 percent of the prior 11 months’ demand.

What is the purpose of demand billing?

Many of VEC’s costs are based on energy peaks. Therefore, when power is used matters as well as how much power is used. Demand billing benefits the VEC membership because it helps us understand, properly size and cover the associated costs of our system so it can reliably handle peaks.

What effect do demand rates have on overall bills?

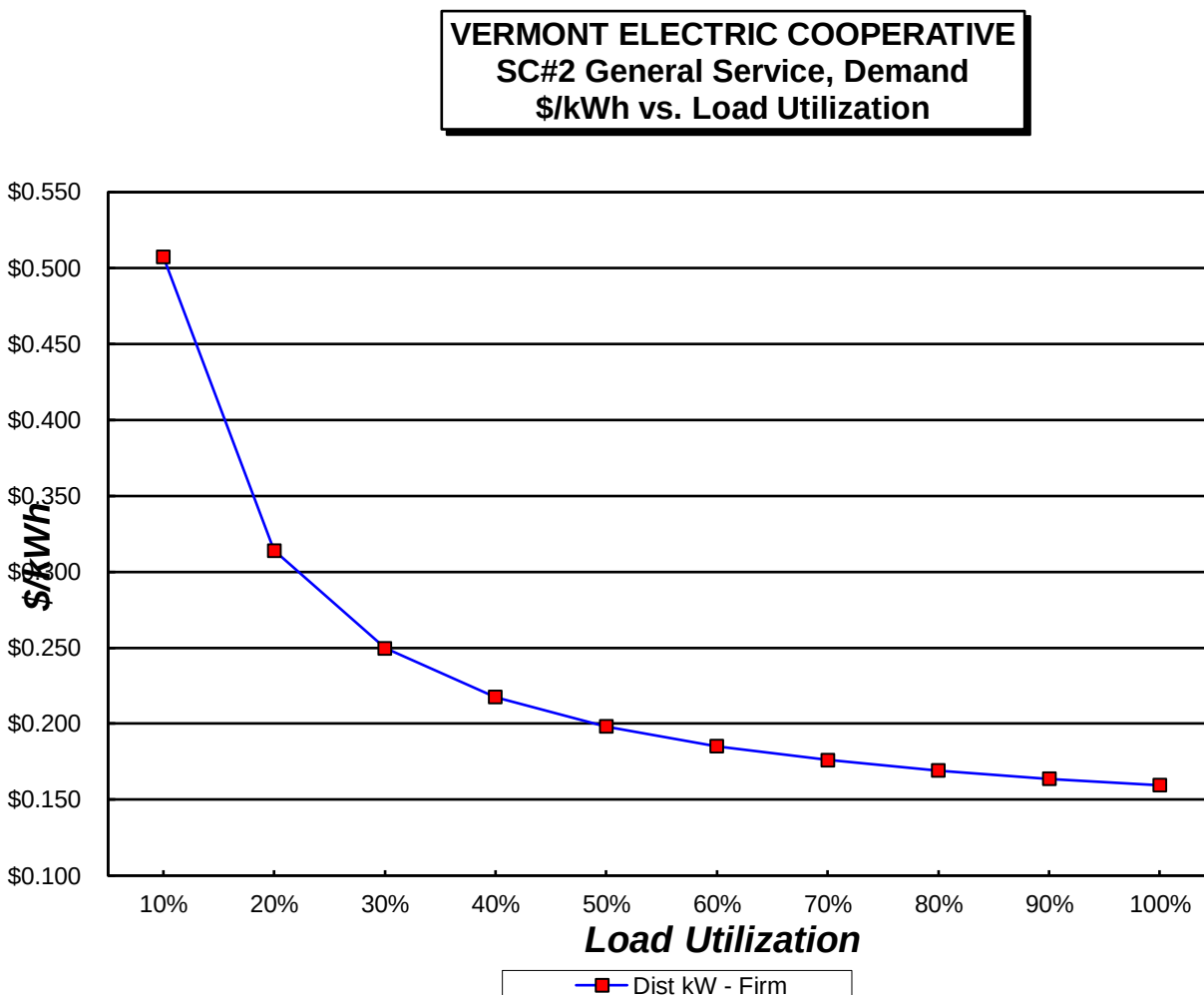
It depends on the user. Steady electricity users and multi-shift facilities often do much better on demand rates. These sorts of accounts are often larger farms, businesses with refrigeration loads and manufacturing facilities with longer hours of use and/or low peak demand requirements.

Conversely, businesses with electric heat, significant seasonal fluctuations, high peak demand requirements and/or shorter hours of operation tend to have higher charges under demand billing. For instance, a convenience store might have a demand of 30kW. A sawmill, by contrast, might have

demand of 300 kW yet they could both consume the same number of kWh monthly. In this example, the sawmill would have a much higher peak load requirement, and therefore would have a higher demand cost.

If I'm on a demand rate, how can I lower my operating cost?

Spreading energy use out over the available hours in the month and/or lowering demand during your facility's peak periods can help lower operating costs. Below is a chart that illustrates the range of costs that could conceivably be paid on demand rates. The left-most extreme would be a member with high demand and a short work week. On the right would be a member that manages peak demand periods and who operates over two or three shifts.



What are some of strategies for getting the most competitive prices on demand rates?

The first step is to understand the impact demand rates have on your operations. In some cases, you can avoid them altogether. In other cases, they are inevitable, but you can manage them by lowering overall demand through efficiency measures or by taking steps to spread your usage out over a longer number of hours. In still other cases, being on demand rates can be more competitive than being on non-demand rates.

What's the difference between Actual kW and Billing kW on my monthly statement?

The actual demand appears on the back of the bill in the “Meter Detail.” This is the actual metered demand for the month. It is the highest 15-minute interval for the month. Billing demand is the kW that you are being billed for in the current month. It may be the same as the actual demand, or it may be based on the ratchet from a prior month.

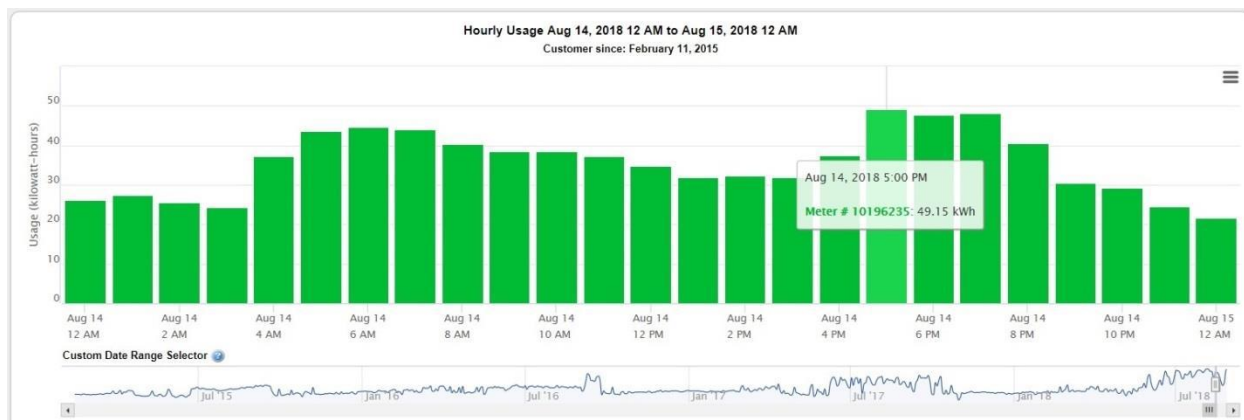
What are the potential benefits to members of demand rates?

In a word: control. Demand billed members can often leverage more competitive overall rates by managing their power needs. Moving discretionary loads to non-peak periods is one way they can do that. A manufacturer might charge electric pallet carts outside of their peak hours, for example.

How can I monitor my demand, without having to wait to receive my bill at the end of the month?

VEC's online tool, SmartHub, provides VEC members with a range of information. Among other things, it can show members their monthly, daily and hourly usage, which is a pretty good indicator of where and when demand peaks occur. You can also compare months and set daily or hourly “usage alerts” here: <https://vermontelectric.coop/smarthub>

Below is a small manufacturer's usage through a 24-hour period (hourly data). Note that the peak usage for this day is between about 4 -8 PM.



Can I lower my demand if we don't start all of our equipment at once on Monday morning?

No. The metered demand is based on a 15-minute block. Unless a process has an extremely long ramp-up start, the peak demand is more likely to be the culmination of all the needed loads that must be on at any given time. For a school this might be 11 a.m.-1 p.m. weekdays when the lunch period equipment gets added to the normal (e.g. lights, computers, air-handling equipment) load.

Do efficiency improvements lower demand costs?

Yes. They likely will result in both energy and demand reductions, though not necessarily in equal parts. If you are working with Efficiency Vermont they will know that you are on demand rates and should be able to help quantify savings.

Lowering demand during peak months may be particularly beneficial. Let's take an example:

A ski facility might have four peak months in the winter and the remaining eight months with relatively low demand. If, through efficiency improvements, they lower demand in the peak season by 10 kW, they might save $[(10 \text{ kW} \times 4 \times \$27.83) + (10 \text{ kW} \times 8 \times 80\% \times \$27.83)] = \$2,894$ in demand charges annually, PLUS any energy savings afforded by the improvement at approximately \$.12/kWh. What that means is that going after peak months for load management can offer a bigger "bang for the buck."

Do power factor improvements lower demand costs?

Generally, no. Power factor is more of a power quality consideration, and not all demand accounts are subject to power factor charges.

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