

Comments on timeline

With the recent passage of the Inflation Reduction Act it makes sense to use the 18 month timeline. There is a tremendous number of incentives and rebates available through this new act which will undoubtedly stimulate a lot of purchases (or planning) for weatherization, appliances, EVs, solar panels and battery storage, which will impact the net metering program, and could impact the transmission grid and distribution systems. It would be best to have the additional time to sort all this out, especially as it pertains to the “Technical & equity impact analyses conducted of potential solutions informed by stakeholder engagement” portion of the 18 month timeline.

Rethink Net Metering

Since July 2017, the net metering program has gone from incentive based (10 year positive REC and site adjustors) for all kWh of solar production to penalty based starting in 2021 (zero REC adjustor and negative site adjustor in perpetuity) for all solar kWh produced. For small systems (Category 1), this could have a negative effect on increased electrification in individual homes. While the installation of solar panels may still make sense for many, especially with the passage of the Inflation Reduction Act and the return of the 30% tax credit, the negative site adjustor penalty may prevent some from purchasing heat pumps or EVs that increase the consumption of electricity since the siting penalty will mean a reduction or loss of excess solar generation credits.

The DPS and PUC should get a better handle on how ratepayers (Category 1) that install solar panels are using their systems. Many, if not most, residential ratepayers that install net metering systems do so with the intent of using the “behind the meter” production to help offset the large increase in electrical consumption from the installation of heat pumps and/or EV chargers. However, currently some or all of the annual excess solar generation credits produced in the high production summer months is offset by the site adjustor penalty. In some cases a ratepayer with a small solar array could be responsible for penalty payments to their utility if their monthly solar production does not exceed monthly consumption, especially if their utility also has a monthly account management fee for net metering (at least two utilities do). For example a small net metering system that generates an average of 5000 kWh of electricity per year would receive \$50 per year in siting adjustors if permitted in 2017 but would be penalized \$-100 per year in siting adjustors if permitted after September 1, 2022. This means the positive site adjustors allow for \$500 in siting adjustor credits over the 10 years they are in effect while the penalized system would have a penalty of \$-2500 over a 25 year system design life. The \$-2500 in penalties may mean some smaller systems will be paying some of the penalty directly to the utility, especially if there are not enough excess generation credits to offset the penalty. Combine this with the monthly account management fee applied to some net metering customers, and it’s easy to see a significant out of pocket penalty for investing in producing all or a portion of your own power. Ratepayers may be unlikely to purchase high electricity consuming items if it means higher utility bills including penalty payments from production of their own power.

As an alternative to penalty payments for net metering (especially Category 1 systems) Vermont should allow ratepayers to install solar arrays and use the energy produced in their own homes (self-consumption) without being considered a net metering system. This would allow homeowners that make the investment in solar energy production not to be subject to the high penalties now being

imposed by net metering, to utility net metering account management fees, and to EE charges imposed on solar production self-consumed. This system could work simply with the installation of battery storage adequate to supply a home. The batteries would be used in self-consumption mode as much as possible so the majority (if not all) of solar production is used in the household and never sees the grid. Grid power would still be needed for those times when the batteries reach the minimum threshold needed for power outages or when the panels simply cannot keep up with household demand, such as the winter months. Of course, the use of the power from the grid would be charged the same as any other ratepayer and a self-consumption system would still have an account with a utility, so the monthly customer charge and EEC for grid consumption would still be charged. A system such as this would encourage maximizing self-consumption of onsite solar production while minimizing (but not eliminating) grid reliance while also eliminating net metering penalties and fees imposed by utilities and the PUC. In addition, the EE charge would only apply to power used from the grid since self-consumed solar power would not be subject to utility (or state) oversight. For many small residential systems that produce less power on an annual basis than they consume in the household, a self-consumption system free of net metering fee and credit system could actually be more cost effective, since it eliminates paying penalties to utilities and a portion of the EE charge. Another benefit of self-consumption systems would be the possibility of selling excess solar power to the local utility or a third party wholesale broker for a price per kWh to be determined. This would avoid the inevitable need to waste solar kWh production for the times when the battery is full, the house is using as much solar production as needed, but the panels are producing more.

Rethink Utility structure

One common theme among the utilities in Vermont is a cost shift due to net metering (those that can afford it shift the cost to those that can't, or don't want to net meter). This is due to a loss in revenue from net metering. It's important to point out that there will always be a loss in revenue from net metering (or energy efficiency) regardless of the penalty structure imposed by PUC or the fees imposed by utilities. This is because the power produced by net metering and used for self-consumption isn't sold by the utility, while the remainder doesn't generate as much revenue compared to if the utility had total control over the amount and rates of electricity used. The rationale goes something like this: because less power is being sold there is less revenue to cover fixed costs, which then has to be covered by increased customer charges or an increase in electricity rates. It's important to note that Vermont and utilities went through a period of time years ago to help customers reduce their power consumption by helping with energy audits and helping to switch out high energy consumption lighting and appliances. At that time there was also a loss in revenue due to less electricity being sold, but there was not talk of a cost shift as a result. Net metering is a form of efficiency since it too reduces reliance on grid power.

A thorough review of the utilities fixed costs and how to reduce them seems to be in order and should be a part of any comprehensive energy plan. It may make sense to merge utilities to reduce fixed costs (case in point: why does Vermont need two electric cooperatives). There may be generation plants owned by utilities which are no longer needed since net metering (behind the meter) production offsets or exceeds the production of those plants. Net metering should be encouraged, while fixed cost reduction within Vermont utilities should be a priority to make up for any "loss in revenue".

Rethink Distribution systems

One of the largest cost centers for consumers of grid based power is the cost of the utility owned distribution systems. Based on the wide difference in rate structure and customer charges among the utilities in Vermont, it is obvious that the fixed charges also vary widely. Why is this in a small state with a utility base of about 300,000 households and the various businesses scattered about? It's because, at least according to some utilities, their distribution systems are located and maintained to serve fewer, in some cases much fewer, customers than others. A clear example of this would be comparing Burlington Electric Department to either of the two rural electric coops in Vermont. More customers per mile to cover the distribution systems and administrative costs of BED versus the two coops. Arguably, the cost per mile for maintenance of the distribution system plus administrative costs should be roughly the same for all utilities, however those costs must be covered by fewer customers. It would be more equitable to all if the power distribution system was managed by one entity in the state, so the cost of the distribution system could be shared equally by all Vermonters. Since this is a comprehensive energy plan innovative approaches to distribution system management should be analyzed. The net result could be an increase in electrification for thermal and transportation statewide because the highest rate utilities would be able to charge less for electricity while the larger utilities could have nominal rate increases due to the economy of scale. This would also make the transition to smart grid technology more cost efficient and probably faster.