From: Johanna Miller [jmiller@vnrc.org]
Sent: Thursday, March 26, 2015 8:50 PM
To: Springer, Darren
Subject: Fwd: RESET Saves $275M? Not So Fast.

Guessing you get these/have seen this. If not, some entertaining reading for you. Thought I'd share. Would welcome your thoughts at some point.

Sent from my iPad

Begin forwarded message:

> **From:** Energize Vermont <mark@energizevermont.org>
> **Date:** March 26, 2015 at 5:35:27 PM EDT
> **To:** <jmiller@vnrc.org>
> **Subject: RESET Saves $275M? Not So Fast.**
> **Reply-To:** Energize Vermont <mark@energizevermont.org>

Read on for why RESET isn't ready for Vermont. View this email in your browser

The RESET Program Will Save 275M? Not So Fast.

Energize Vermont Commentary by Mark Whitworth

RESET is the enormously complicated, 15-year energy program that the Shumlin administration proposes as a replacement for the troubled SPEED program.

Economist Tom Kavet told the House Ways and Means Committee that the full economic impact of RESET is unknown. Yet, RESET won easy approval in the

House. Was it the $275M savings that proponents promised? Or was it the threat that only RESET could save Vermont from the unintended consequences of SPEED.

RESET will continue SPEED's tradition of unintended consequences. It will affect the Vermont economy for decades. RESET's Tiers 1 and 2 will impose renewable electricity requirements on utilities without reforming the destructive and abusive siting practices that have turned so many Vermonters against state government. Tier 3 will enable utilities to take ratepayer money to finance "energy transformation projects" that will weatherize some ratepayers' homes and incent the purchase of electric appliances like heat pump/air conditioning systems and electric vehicles.

Energize Vermont obtained the administration's analysis of RESET through a Public Records Act request. It is a collection of spreadsheet models that calculate RESET's impacts upon rates, greenhouse gas emissions, and electricity consumption.

The models are fragile. That means that small changes in the inputs bring about large changes in the outputs. This is a very bad thing when input values are uncertain. And the models contain hundreds of highly speculative assumptions—oil prices in 2020, electricity prices in 2025, interest rates in 2030, inflation in 2032, just to name a few.

The "heat pump model" says that if heating oil costs $3.25 per gallon and electricity costs $.15 per kWh, then a $4,000 heat pump will save a homeowner $5,000 over its lifetime. But, in 2015, oil has cost as little as $2.61 and electricity from Vermont's second largest utility has cost $.17. Plug those numbers into the model and you don't get savings; you get over $2,500 in extra cost.

Another model, the "RESET model," takes that fragile $5,000 savings and applies it to every heat pump to be installed between 2017 and 2032. The model does the

same thing for similarly derived savings for home weatherization, buying an electric car, installing a pellet boiler, etc. This is where the promise of RESET's $275M savings comes from.

The RESET model has structural problems: if you install a heat pump, the model racks up an immediate savings of $5,000. (We would prefer to accrue any savings over the life of the heat pump). In addition, the model adjusts costs for inflation, while not adjusting savings. Each of these flaws overstates RESET's savings.

One of the bill's sponsors explained that Tier 3 will be "customer-driven" and sure enough, the model includes guesses about the energy transformation projects that customers will choose over RESET's 15 years. The model's economic predictions are highly dependent upon these guesses.

What will customers want in 2025 or 2030? How many customers will there be? Will improved solar and battery technologies enable residential customers to flee from utilities? Will hydrogen vehicles leapfrog electric vehicles? Will locally-manufactured wood pellets emerge as the best option for affordable home heating?

The administration determined that customers will install 67,240 heat pumps and weatherize 19,745 homes under RESET. We wondered if the imbalance in these numbers meant that heat pumps would be installed in uninsulated homes.

When we fixed the RESET model's structural problems, toned down some of the sketchier assumptions, and brought the mix of heat pumps and weatherization into better balance, we saw RESET's $275M savings turn into a ratepayer burden that ranged between $25M and $75M. With less optimistic assumptions, the burden grew into the hundreds of millions.

We discovered that the RESET models are also fragile with respect to impacts on carbon emissions and electricity consumption. For example, increasing the biofuel

component of Vermont's heating oil blend would not only increase the cost of carbon abatement under RESET, it would increase the ratepayer cost of the entire RESET program. And we think that RESET may bring about far larger increases in demand for electricity than the model predicts (the model does not account for the potential use of 67,240 heat pumps for air conditioning in the summer).

Finally, the models don't tell us who will foot the bill for RESET investments and who will get to enjoy the savings, if there are any. (An amendment to ensure that ratepayers wouldn't have to pay for home improvements for other ratepayers failed on the House floor.)

It is our opinion that RESET is not ready for Vermont.

We ask the Senate to require the Public Service Department to conduct a real, honest-to-goodness study of RESET, tighten up its models, and release them to the public. The models should be reconfigured to allow Vermonters to experiment with the assumptions and evaluate the results. We will all benefit from this open-source approach.

Who knows? This might even lead to some adult conversations about effective responses to climate change.

Mark Whitworth is Executive Director of Energize Vermont, which advocates for sensible energy policies for Vermont.