**Net Metering and Grid Modernization**

**Restructuring Roundtable**

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I’m going to give a primer on net metering for the only partly initiated. Sort of the Cliff notes version. To do the deep statutory analysis, we may have to turn to the real gurus on the DPU staff: my colleagues Laura Bickel, Nathan Phelps, and Mike Wallerstein. I do want to warn you that even the Cliff notes version of net metering quickly gets nerdy.

In the simplest terms, think about net metering as providing two main benefits to a customer. It allows a customer to (1) offset its usual electricity purchase with its on-site generation; and (2) spin the electric meter backwards if the electricity it generates exceeds its on-site use. It’s an incentive program for promoting the development of distributed generation, primarily renewables, which aligns with a number of other Patrick administration policies.

You may know of a number of other related administration initiatives that are under way. One is an effort to address the barriers to interconnection, which you’ll hear more about later this morning. Another is a notice of inquiry on grid modernization that the DPU just initiated, intended to launch us on the path toward a grid that can better monitor and self-heal during outage events, that can support electric vehicles, and that will give consumers price signals that will enable them to control their energy costs. We welcome participation in our all-day kick-off workshop on November 14. Registration closes next Tuesday.

And here’s what we’re seeing since close to the start of the Patrick administration, in terms of the growth in distributed generation, most of which is renewables. **[slide 2]**

Net metering in the Commonwealth is all about before and after the passage of the Green Communities Act in 2008.

There *was* net metering in MA before the GCA. It applied to *all* generating resources up to 60 kW, not just renewables, and those resources got paid the *wholesale* rather than the *retail*

rate for generation that exceeded on-site use. These 1981 regulations, which were adopted pursuant to the Public Utility Regulatory Policy Act of 1978, were not very detailed.

The real plot starts with the GCA in 2008. The GCA largely retained the net metering status quo for all types of generating resources up to 60 kW. However, it gave additional benefits to wind, solar, and renewables on farms. Most notably, wind, solar, and farm-based renewables could net meter up to 2 MW and receive a rate that is closer to retail than wholesale for excess generation.

The GCA mainly did the following:

* It created three classes of net metering facilities: class I, up to 60 kW; class II, from 60 kW up to 1 MW; and Class III, from 1 MW up to 2 MW.
* Although Class II and III net metering facilities are limited in size to 1 MW and 2 MW, respectively, if the owner or operator is “a municipality or other governmental entity,” in other words, “a public entity,” its generating capacity may be 1 MW (for Class II) or 2 MW (for Class III) *per unit*. Whatever “per unit” means—I’ll come back to that. Note: no cap there. Theoretically, a wind farm of a public entity of *any size* could net meter under the 2008 statute, as long as each turbine was no larger than 2 MW.
* The aggregate capacity of net metering was limited to one percent of each distribution company’s peak load.
* The GCA provides that if a customer has net excess generation at the end of a billing cycle, the customer gets a “net metering credit.” The formula used to calculate net metering credits varies somewhat according to a number of factors, like the size of the system and the rate class of the customer. The credits never expire; any excess just continues to roll over.
* The GCA has a provision commonly referred to as “virtual” net metering. That means that you can share net metering credits with other customers. In other words, if you regularly generate more electricity on site than you use, you can share the resulting benefits, in the form of net metering credits, with other customers.

The GCA also creates an animal known as a “neighborhood net metering facility.” Don’t let this fake you out. It offers no advantages over virtual net metering.

This captures the 2008 version of net metering.

The October, 2010 budget bill added the following three changes:

* First, the budget bill created two categories of net metering facilities *for the purposes of the cap on net metering*. Remember that in 2008, the GCA distinguished public and private facilities through (1) the “per unit” clause. That is, public net metering facilities had no limit on size, as long as no single unit exceeded 1 MW or 2 MW, depending on whether the facility was class I or class II. In 2010, the legislature altered the one percent cap for all facilities to create a one percent cap for private facilities and a two percent cap for public facilities. In other words, the cap was raised from one percent to three percent in total.
* Second, the budget bill imposed a cap on the total generating capacity of a public entity of 10 MW. In other words, no more potential for mega-projects that limited each *unit* to less than 1 MW or 2 MW.
* Third, the bill required the DPU to create a system of assurance, commonly referred to as “the queue,” for public facilities. Nothing in the statute required the DPU to include private net metering facilities in the queue, but it left us with the discretion to do so.

The end of the statutory story, at least so far, comes in July of 2012, with “An Act Relative to Competitively Priced Electricity in the Commonwealth,” which *mainly* enacted three further changes:

* First, the 2012 act specifies that anaerobic digesters—regardless of whether they’re farm-based—are now treated the same as wind, solar, and farm-based renewables*.*
* Second, the act increased the public and private caps to three percent each. So the total cap is now six percent of the capacity of each distribution company’s load.
* Third, small renewable projects are now exempt from the private cap but may still net meter if they meet certain other criteria. Therefore, there’s no risk that a small PV system or a small wind turbine will be ineligible to net meter because the cap is full. That’s a very significant change.

That legislation goes into effect on November 1, and I’m very happy to report that we intend on November 1 to issue an order adopting emergency regulations implementing its provisions.

I’ll move on briefly to a few issues that the statute left the DPU to resolve:

**Definition of private vs. public facility,** that is, private facility vs. facility of a municipality or other governmental entity. We have to sort facilities as public or private because each has its own cap. We decided in our order of February 17, 2012 as follows:

* Municipality means municipality. Even the DPU couldn’t make that complicated. We decided that the 10 MW cap applies to the municipality, not to separate subdivisions. In other words, Worcester in total gets 10 MW, rather than each of the school department and the public works department getting 10 MW.
* Other governmental entity includes the state and federal government. Seems obvious. However, here we decided that each department and agency of the Commonwealth and of the United States gets its own 10 MW cap. For example, the Department of Corrections gets its own 10 MW cap, such that all of the state prisons in the aggregate will be eligible for a combined 10 MW of net metering capacity.
* We declined to go further in identifying every single entity that could qualify as “an other governmental entity.” Instead, we articulated several criteria that would guide our further determinations on a case-by-case basis in response to an applicant’s request to the DPU. So far, we’ve classified 28 entities as public, with straightforward applications being processed in one week or less. **[slide 4]**

**[slide 3: here’s where we are now relative to the cap for each distribution company]**

**System of assurance, or queue.** As you’ll recall, the 2010 budget bill requires the DPU to establish a queue for public facilities. We’re actually doing that for both public and private facilities. The idea is that when a facility is in the early stages of development, it needs to know, if possible, if there will be space for it under the cap when it’s ready to interconnect.

I’ll keep this short, but I’ll just say that the queue is mandatory—as requested by all commenters—for all prospective net metering customers *who are subject to the cap*. But remember that the really small facilities are no longer subject to the cap.

Pursuant to a bidding process, the Cadmus Group will administer the queue. Yesterday, the DPU directed the distribution companies to enter into a contract with Cadmus within three weeks, and 40 days after that the queue should be operational. This should greatly increase certainty for prospective net metering customers. Also, the queue is not actually a queue, in that once you’re in, you’re in—you’re guaranteed to be able to net meter if you comply with the requirements of the system of assurance. A queue suggests some priority order.

**Unit vs facility:** The statutory scheme provides that private entities can net meter “facilities,” and that public entities can install a facility with multiple “units.” It fell to the DPU to define these terms. By order, we determined that:

* Facilities are determined by a three-factor approach—capacity on a single parcel of land, behind a single interconnection point, and behind a single meter. All three. Using this test, private net metering facilities can be as large as 2 MW.
* Public facilities must meet the same three-factor test, but can build up to 10 MW.
* Each unit of a public facility must be 2 MW or less. We defined a unit to be a wind turbine, a solar inverter (there’s a little more complexity to this, but I won’t go into it here) and, for agricultural installations and anaerobic digesters, an engine or combustion turbine.

That’s it: the Cliff notes on net metering to date.