



Standby Rates as Barriers to Deploying Efficient CHP Projects

Why do standby rates matter to combined heat and power (CHP) end users?

Imagine you own a factory. Every month you pay your power bill. That bill starts with your **energy charge**: the utility's fee based upon the electric energy (kWh) that a customer actually consumed. But your factory has an on-site electric generator, say converting waste heat to power, so your bill from the utility is lower. Great!

However, your in-house energy source may not supply all your energy needs. In that case, you will need to buy **supplemental power**. That's energy purchased *in addition to* energy you generate on-site.

Periodically, you will need to shut down your in-house power supply, say to do maintenance work or for scheduled repairs. For that, you need to buy **maintenance power**: Energy supplied during *scheduled* outages of the customer's on-site generation.

Sometimes, unforeseen problems will crop up. For example, your on-site energy generator may break down. For that, you need to buy **backup power**: Energy supplied during an *unscheduled* outage of the customer's on-site generation.

Now, consider it from the utility's point of view. A utility needs to be ready for fluctuations in its own ability to generate power. It's like driving a car: you need four tires most of the time, but you'd better have a spare tire ready if one goes flat.

Utilities call this **reserve capacity (also "reserve margin" or "reserves")**: The capacity that a system must be able to supply in case their customers' onsite power plants go out of service. This is a cushion beyond what is generally required to meet standard demand, generally 10-20 percent.

Further, in deregulated states, regardless of which retail company you choose as your electric or natural gas generation supplier, there is a cost to the utility for delivering the electricity or gas supply to your location.

That means **MORE** fees for your factory:

- **Demand charge (also "capacity charge" or "capacity fee")**: Charges for the actual electricity supplied to a CHP/WHP customer during an *unscheduled* outage. (Typically based on a customer's highest use in a billing cycle. This comes *on top* of the energy charge.)

Conventional power generation is inefficient. More than two-thirds of the energy produced is typically lost into the air. And energy is a major cost for every manufacturer. Industrial-scale systems like combined heat and power (CHP) or waste heat to power (WHP) can **double the efficiency** of traditional power generation.

When a factory is more energy efficient, owners spend **less money** on heat and power, **boosting profits** and making the manufacturer **more competitive**. Because CHP and WHP systems reduce the demand on the grid, they make the entire energy delivery system more reliable and less prone to blackouts. What's more, these systems can operate independently, allowing hospitals, universities and factories to **keep lights and power on** during storms or emergencies.

- **Demand ratchets:** Some utilities have a ratchet charge on energy demand, in which the highest monthly demand experienced for the year becomes the customer's annual peak. The annual peak is then used to ratchet the monthly demand peaks for the next 11 months after an outage.
- **Facilities charge:** An amount to be paid by the customer in a lump sum, or periodically as reimbursement for facilities (e.g., substations and other transmission and distribution infrastructure) furnished. The charge may include operation and maintenance as well as fixed costs.
- **Distribution charge:** This charge is to compensate the customer's local utility for the costs associated with transporting and delivering power. It may also include charges for administering account services, such as maintenance, repairs, meter reading, and emergency services.

The result is wildly varied **Standby Charges**. In Minnesota, for example, [one analysis](#) showed that **one company could pay up five times more for energy than a similar company in another service territory**, under the same circumstances, just because they are served by different utilities. Since there is no way for those customers to shop around for a different utility, the usual economic checks and balances don't apply.

Why are standby rates needed?

While CHP and WHP are steady and reliable sources of energy, they may not cover all of a factory's needs. For example, companies may still need to be connected to the standard energy grid for backup or supplemental power, or to cover periodic shut-downs for planned maintenance or repairs. When manufacturers depend on power from the grid, they pay what are called "standby rates" – often hefty charges, which vary widely from one utility to another.

What's wrong with standby rates?

Inherently, nothing is wrong with standby rates. All industrial consumers expect to pay a fair market rate for the energy they need and utilities should be compensated for the cost of providing power. The trouble is when standby rates are exorbitant or unfair. Unfair standby rates can leave companies over a barrel should they suddenly need to buy energy. Each utility sets its own standby rates and can stack them with needless and unfair fees. These kinds of penalties essentially prevent companies from investing in CHP/WHP, blocking them from being as clean, efficient and competitive as they could be.

Best Practices: What can utilities do to give CHP/WHP a level playing field?

Utilities and public utility commissions can make sure standby rates are fair and reasonable.

- Rates should be transparent, standardized, predictable, and appropriately correlated to cost of service.
- Utilities should eliminate "demand ratchets" – tariffs based on the customer's maximum metered demand peak, rather than the current month's power use.
- Charges should be based on actual cost to the utility, not based on the assumption electricity will be needed at peak demand.
- Where market regulations permit, utilities should work with their customers to allow CHP/WHP users to buy backup power at market rates, purchase replacement power, and offer a self-supply option for reserves.
- Replace monthly demand charges with daily demand charges.