NEW YORK STATE OF OPPORTUNITY. | NYSERDA

Value Stack Overview

3/26/2018

The Value Stack

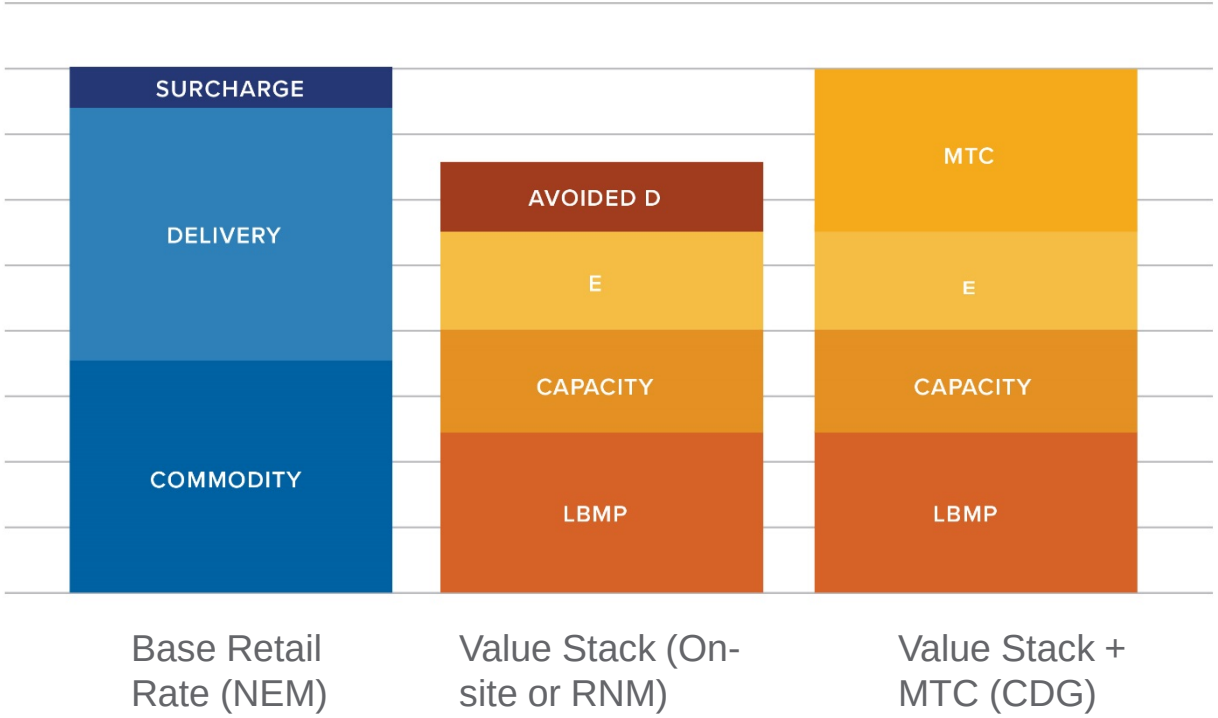
- As part of VDER, the Value Stack is gradually replacing Net Metering.
- Compensates energy producers with monetary credits, not volumetric credits. Customers will see a dollar credit on their bill
- While net metering allowed customers to “bank” kWh credits that are injected to the grid, the value stack converts the credits to dollars. Excess monetary credits roll over to following billing cycles
- The value of a kWh is related to when and where it is generated: greater compensation in congested parts of the electric grid, during periods of high demand

Value Stack Components

- **Energy (LBMP)** – the current wholesale energy price, changes hourly
- **Capacity (ICAP)** – similar to the capacity credit currently provided under NEM, changes monthly
- **Environmental benefits (“E”)** – project’s rate is locked in for 25 years. Projects can take a non-monetizable REC instead
- **Avoided demand (“D” or “DRV”)** – based on system’s impact in reducing distribution grid’s peak demand
- **LSRV (locational system relief value)** – locational adder for some projects
- **MTC (market transition credit)** – additional element for CDG, given in place of “DRV”

For a deeper examination of these elements, please see the *Value Stack Calculator Overview presentation at* nyserda.ny.gov/vder

Phase One Value Stack - Components

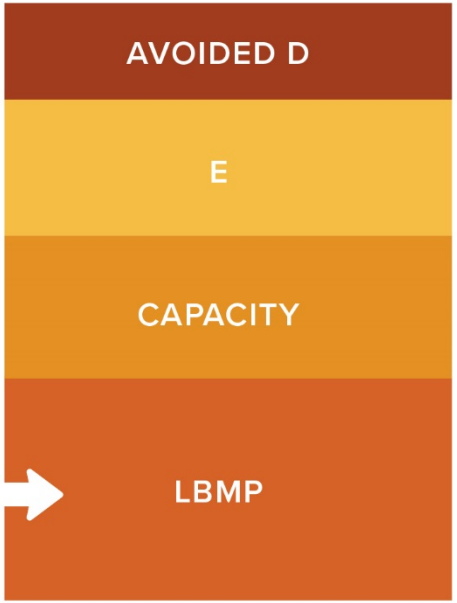


- Avoided D – avoided demand
- E – environmental benefit
- Capacity – ICAP
- LBMP – energy commodity
- MTC – market transition credit for CDG

NEW YORK STATE OF OPPORTUNITY. NYSERDA

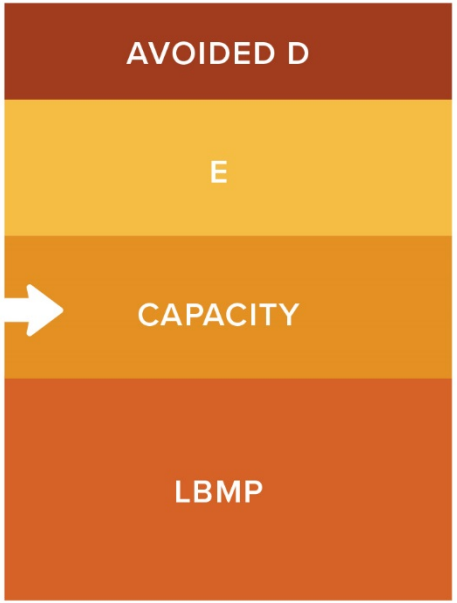
LBMP – Wholesale Cost of Energy

- Day-ahead hourly locational-based marginal pricing (LBMP), inclusive of electrical losses
- Based on NYISO zonal prices
- Fluctuates based on demand for electricity and fuel prices



ICAP - Capacity

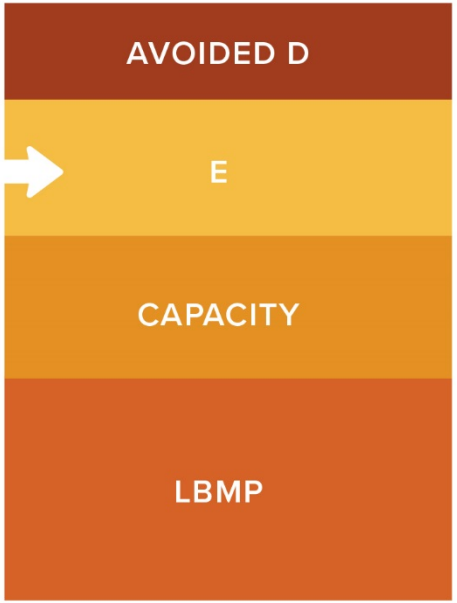
- Based on the capacity portion of the utility's full service market supply charges (similar value as NEM)*
- Alternative 1 (default)– paid on kWh injections across all hours of the year
- Alternative 2 – a higher rate, but paid only on injections during 460 summer hours (2-7PM, June-Aug). Projects with storage may prefer this option
- Alternative 3 – tied to grid injections during single highest annual hour of peak grid demand



*For intermittent technologies

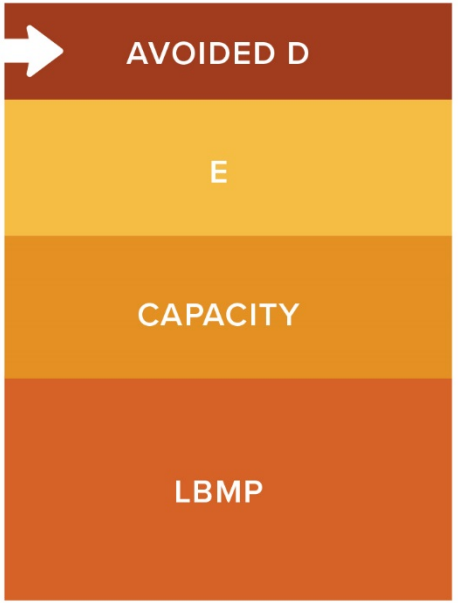
E- Environmental Value

- Environmental compensation is the higher of:
  - The applicable NYSERDA Tier 1 REC price
  - The social cost of carbon (SCC) as calculated by NY DPS – currently $0.02741/kWh
- E value is locked in for 25 year project term when a project executes its SIR contract, or makes 25% payment on interconnection costs
- When E is paid, utility claims environmental attributes of project



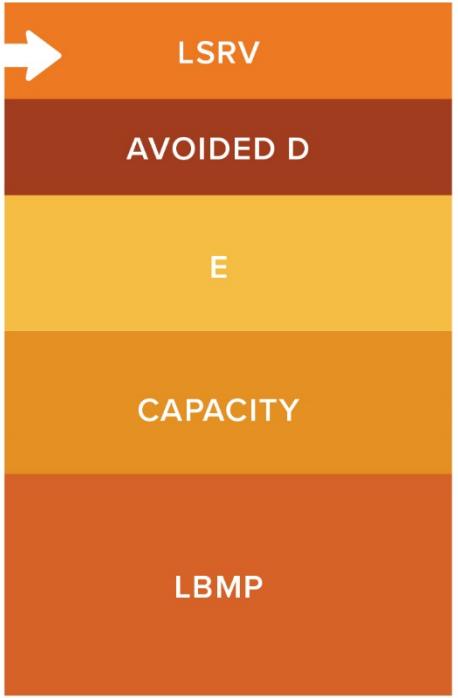
DRV – Demand Reduction Value

- Value of PV system's reduction of peak grid demand
- Compensation is tied to PV system grid injections over the grid's 10 highest usage hours per year (modeled in year 1)
- For projects, or portions of projects, that do not receive MTC
- DRV rate is locked for 3 years when a project executes its SIR contract, or makes 25% payment on interconnection costs



LSRV – Locational Adder

- For projects located on congested, utility-identified sections of the grid. Each utility has provided a list of locations and MW limits
- Like DRV, LSRV payments tied to PV system output during year's 10 peak hours of utility demand (modeled in Year 1)
- LSRV can be received in addition to DRV & MTC (CDG projects are eligible)
- Paid for first 10 years of project term
- LSRV rate is locked in when project pays 25% of interconnection upgrade costs or executes SIR



MTC – Market Transition Credit

- A per-kWh adder for CDG projects, given in place of DRV
- Applied only to the mass market offtakers of a CDG project
- MTC rates step down through a series of “Tranches” as projects are submitted to each utility
- MTC is fixed and applies to a project’s 25-year VDER term
- Projects are locked into MTC tranche when they pay 25% interconnection upgrade costs, or execute SIR