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Massachusetts Net Metering First Bill Walkthrough

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Basics of Net Metering

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- When you are *using more power* than you are generating, your meter registers positive. You are importing power from your electric company. 
- When you are *generating more power* than you are using, your meter registers negative. You are exporting power to your electric company. 
- In any billing period where exported energy exceeds imported, your electric bill will show negative use. You are a net exporter for the billing period, and are entitled to a Net Metering Credit.

Important: Standard utility meters cannot differentiate between import and export. A bi-directional meter is needed to properly record directional flow.

Net Metering – Simple Example

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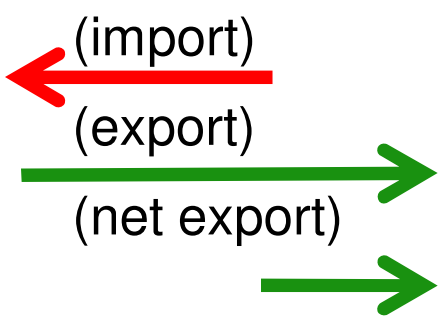
- Our Host Customer uses 700 kWh and has a 12kW PV system, which is expected to generate ~ 1200 kWh / mo
  - Host Customer uses 700 kWh (import)
  - Host Customer generates 1200 kWh (export)
  - Use – Generation = Export - 500 kWh (net export)
- The electric bill will show only the net, (-) 500 kWh
- Credit will be calculated based on 500 kWh



Note: Host needs separate (customer-owned) production metering to know exactly how much was generated

Schedule Z

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- Schedule Z is used to allocate Net Metering Credits from a Host Account to “target” account(s)
- Net Metering Credits are calculated using certain components of the retail rate of the Host Account
- The value of the Net Metering Credit depends on the rate of the Host and the class of the Net Metering Facility
- National Grid transfers credits, on a percentage basis, to accounts listed on your Schedule Z

Important: There is no mechanism for transferring specific dollar amounts, only percentages of Net Metering Credits

Net Metering Credit Amount

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- How much is the Net Metering Credit worth?
- Did the account net export during the billing period? (Did I generate more energy than I used?)
  - If yes, then the credit will depend on the following (3) factors
    - Class (defined by tariff, described in the following slide)
    - Rate (determined by the demand (kW) of your facility)
      - Residential and Small Commercial are energy-only rates
      - Medium and Large Commercial rates include demand charges and time-of-use components, and may include other charges
    - Load zone (based on the geographic location of your facility)

Net Metering Facility Classes

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- **Class I** - Up to 60 kW
- **Class II -** (for wind, solar, anaerobic digesters, and agricultural facilities)
  - Private - Up to 1,000 kW
  - Public - Up to 2,000 kW
- **Class III -** (for wind, solar, anaerobic digesters, and agricultural facilities)
  - Private - Up to 2,000 kW
  - Public - Up to 10,000 kW

Net Metering Credit per kwh

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- Calculation 1
  - Class I - Not solar, wind, farm, or anaerobic digester < 60 kWs – credits based on average (wholesale) clearing price at ISO-NE for load zone during the month credits were earned
- Calculation 2
  - Class I and Class II - Solar, wind, farm, or anaerobic digester < 1 MW – credits based on rate class, load zone and month apply to distribution, transmission, transition, and fixed basic service. Also includes Class III governmental entities
- Calculation 3
  - Class III - < 2 MW (not including governmental entities) credits based on rate class, load zone and month apply to transmission, transition, and fixed basic service

Bill Display

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- What will this look like on my bill?
  - Net Export is the basis for Net Metering Credit, and appears in "Metered Usage" section
  - Net Metering Credits appear in "Delivery Services" section
  - Net Metering Credits are calculated using the retail rate, which may include several types of charges (block rates, time-of-use, demand charges, etc.)
  - Calculation depends on rate, class, and load zone
  - With different rate structures and use patterns, credit may not appear the same on every net metered account.

Bill Display - continued

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- Will the bill show credits transferred from Host Account to “target” accounts?
  - Host Account will show “Transfer Credit”, and $ amount
  - “Target” account will show “Transfer Credit” and amount
- Host Account will not show “target” account number
  - If multiple targets, only one credit amount will appear
- “Target” account will not show Host Account number.

Bill Display - Calculation 1

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- ISO-NE monthly average clearing price X net exported kWh

DETAIL OF CURRENT CHARGES

Delivery Services

	Energy-kWh	Demand-kW	Demand-kVA
Metered Usage	-74775 kWh	28.0 kW	28.0 kVA
Billed Usage	0 kWh	28.0 kW	28.0 kVA

METER NUMBER [redacted] NEXT SCHEDULED READ DATE Apr 23

SERVICE PERIOD Jan 23 - Feb 20 NUMBER OF DAYS IN PERIOD 29

RATE General Service - Demand G-2 VOLTAGE DELIVERY LEVEL 0 - 2.2 kv

Customer Charge		16.56
Distribution Demand Chg	6 x 28 kW	168.00
ISO Clearing Price	0.10061378 x -74775 kWh	-7,523.40
	Total Delivery Services	**-$ 7,338.84**

Bill Display - Calculation 2

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- Some rate structures do not contain blocked or time of use rates which allows us to display the Net Metering Credit on one line on the bill.

DETAIL OF CURRENT CHARGES

Delivery Services

	Energy-kWh	Demand-kW
Metered Usage	-17642 kWh	104.0 kW
Billed Usage	0 kWh	104.0 kW

METER NUMBER [redacted] NEXT SCHEDULED READ DATE May 22

SERVICE PERIOD Mar 20 - Apr 18 NUMBER OF DAYS IN PERIOD 30

RATE General Service - Demand G-2 VOLTAGE DELIVERY LEVEL 0 - 2.2 kv

Customer Charge		16.56
Net Metering Credit	0.092804 x -17642 kWh	-1,637.24
Distribution Demand Chg	6 x 104 kW	624.00
	Total Delivery Services	**-$ 996.68**

Bill Display - Calculation 2 with a block rate (G1, R1, R2)

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- Block rate formats require Distribution Charges be displayed in the manner below
- Net Met Cr Other is a combination of transmission, transition, and basic service credits
- Net Met Cr First is the distribution credit for the first 600 kWh
- Net Met Cr Next is the distribution credit for usage beyond first 600 kWh

DETAIL OF CURRENT CHARGES

Delivery Services

Service Period	No. of days	Current Reading	-	Previous Reading	=	Total Usage
Mar 22 - Apr 24	33	42381 *Actual*		50928 *Actual*		-8547 kWh

METER NUMBER [redacted] NEXT SCHEDULED READ DATE May 29

RATE Residential Regular R-1

Customer Charge			4.00
Net Met Cr Other	0.09606	x -8547 kWh	-821.02
Net Met Cr First -600 KWH	0.03356	x -600 kWh	-20.13
Net Met Cr Next -7947 KWH	0.04018	x -7947 kWh	-319.31
	Total Delivery Services		**-$ 1,156.46**

Rate G-3 (Time-of-Use) Example

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- Net Metering Credit On Peak for distribution credit rate
- and (Net) Off-Peak usage and demand are displayed on different lines
- Net Metering Credits are calculated on both the Peak and Off Peak schedule
- Net Metering Credit is the sum of Peak, Off Peak and basic service credits.

DETAIL OF CURRENT CHARGES

Delivery Services

	Energy-kWh	Demand-kW	Demand-kVA
Peak	-13510 kWh	372.0 kW	372.0 kVA
Off Peak	-12480 kWh	452.0 kW	
Billed Usage	0 kWh	372.0 kW	372.0 kVA

METER NUMBER [redacted] NEXT SCHEDULED READ DATE Jun 6
SERVICE PERIOD Apr 4 - May 3 NUMBER OF DAYS IN PERIOD 30
RATE Time-of-Use G-3 VOLTAGE DELIVERY LEVEL 0 - 2.2 kv

Customer Charge				200.00
Distribution Demand Chg	3.92	x	372 kW/kVA	1,458.24
Net Metering Credit Onpk	0.01247	x	-13510 kWh	-168.46
Net Metering Credit Offpk	0.00494	x	-12480 kWh	-61.65
Net Metering Credit Other	0.081607	x	-25990 kWh	-2,120.96
			Total Delivery Services	**-$ 692.83**

Bill Display - Calculation 3

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- This calculation does not include Distribution Charges, so there are no issues related to blocked or TOU rates; therefore, we can display the Net Metering Credit on one line on the bill.

DETAIL OF CURRENT CHARGES

Delivery Services

	Energy-kWh	Demand-kW	Demand-kVA
Peak	-128012 kWh	252.0 kW	268.0 kVA
Off Peak	-219815 kWh	784.0 kW	
Billed Usage	0 kWh	252.0 kW	268.0 kVA

METER NUMBER [redacted] NEXT SCHEDULED READ DATE May 30

SERVICE PERIOD Mar 27 - Apr 28 NUMBER OF DAYS IN PERIOD 33

RATE Time-of-Use G-3 VOLTAGE DELIVERY LEVEL 22 - 50 kv

Customer Charge				200.00
Distribution Demand Chg	3.92	x	252 kW/kVA	987.84
High Voltage Discount	-0.45	x	252 kW	-113.40
Net Metering Credit Other	0.08375149	x	-347827 kWh	-29,131.04
High Voltage Metering	-1.0 %	x	$ 1187.84	-11.88
			Total Delivery Services	**-$ 28,068.48**

Transfer of Credits

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- When can I expect to see the first transfer of credits?
  - The first Net Metering Credit may not appear until the month following the first bill after you received formal Authorization to Interconnect
  - Each month the Host Account is read and net export is used to calculate Net Metering Credits for that month.
  - Our Accounts Processing group transfers credits, as directed on Schedule Z.
  - Typically, Net Metering Credits are transferred to “target” accounts about 1-2 weeks after Host Account has billed.
  - Net Metering Credits will be displayed on both the Host Account and “target” accounts on the next month’s bill

Host to Target Customer Credit Transfer

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- The Host Customer bill with the transferred credit on the subsequent bill

Other Charges/Adjustments

Transfer Credit/Charges	432.02
Total Other Charges/Adjustments	**$ 432.02**

- The Target Customer bill with the transferred credit on the subsequent bill

Other Charges/Adjustments

Transfer Credit/Charges	-432.02
Total Other Charges/Adjustments	**-$ 432.02**

FAQ's

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- What date will the transfer occur?
  - As Host Customers and "target" customers may not be in the same billing cycle, transfers from one month may not show up until the following month, and may not always occur on the same date.
- How often can I change my Schedule Z allocation(s)?
  - Customers are allowed to change Schedule Z twice a year.
- When will my new Schedule Z allocation(s) take effect?
  - When we receive a revised Schedule Z, the account(s) are updated. Changes should take effect the following billing cycle.

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References

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- National Grid Rates
  - http://www.nationalgridus.com/masselectric/home/rates/billing.asp
  - http://www.nationalgridus.com/masselectric/business/rates/rates.asp
- If you have additional questions, please email our Distributed Generation group at: distributed.generation@nationalgrid.com

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