

April 2018

**Power Sources**

Demand for electricity from all Direct Energy customers in the period of 01/1/2017 to 12/31/2017 was met by generation from the following sources:

**NEPOOL System Mix By Fuel**

(Contribution to 1 mWh of System Mix emissions from each Fuel in lbs/mWh)

Year	Fuel	Fuel %
2017	Biomass	2.01%
2017	Coal	4.60%
2017	Diesel	0.93%
2017	Digester Gas	0.07%
2017	Efficient Resource (Maine)	0.23%
2017	Fuel Cell	0.28%
2017	Hydroelectric/Hydropower	6.96%
2017	Jet	0.02%
2017	Landfill Gas	0.55%
2017	Liquid Biofuels	0.39%
2017	Municipal Solid Waste	1.04%
2017	Natural Gas	37.52%
2017	Nuclear	28.99%
2017	Oil	7.36%
2017	Solar Photovoltaic	2.24%
2017	Trash-to-Energy	2.13%
2017	Wind	3.09%
2017	Wood	1.59%
	<b>Total</b>	<b>100%</b>

**Air Emissions**

Carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and sulfur dioxide (SO<sub>2</sub>) emission rates from these sources:

**NEPOOL SYSTEM MIX - System Mix**

(Emissions in lbs/mWh)

Year	2018
Quarter	1
Fuel	System Mix Average
Carbon Dioxide	909.85
Carbon Monoxide	1.24
Mercury	0.00
Nitrogen Oxides	0.96
Particulates	1.58
Particulates (< 10 microns)	0.66
Sulfur Dioxides	1.50
Organic Compounds	0.06



## NOTES

- Electricity customers in New England are served by an integrated power grid, not particular generating units. The above information is on generating units under contract to DEB in the period 01/1/2017 - 12/31/2017.
- You may also call DEB at 1-888-925-9115 or email [CustomerRelations@directenergy.com](mailto:CustomerRelations@directenergy.com) or the Rhode Island Division of Public Utilities and Carriers at 1-401-941-4500.

### Power Sources:

The electricity you consume comes from the New England power grid, which receives power from a variety of power plants and transmits the power throughout the region as needed to meet the requirements of all customers in New England. When you choose a power supplier, that supplier is responsible for generating and/or purchasing power that is added to the power grid in an amount equivalent to your electricity use. Known Resources include resources that are owned by, or under contract to, the supplier. System Power represents power purchased in the regional electricity market. Biomass refers to power plants that are fueled by wood or other plant matter. Hydro resources of greater than 30 megawatts in size are deemed "large hydro." All other hydro resources are deemed "small hydro." Other Renewables include fuel cells utilizing renewable fuel sources, landfill gas and ocean thermal.

### Emissions:

Emissions for each of the following pollutants are presented as a percent of the regional average emission rate. Arrows represent, for each pollutant, the emission rate from a hypothetical new generation facility.

- **Carbon Dioxide (CO<sub>2</sub>)** is released when fossil fuels (e.g., coal, oil and natural gas) are burned. Carbon dioxide, a greenhouse gas, is a major contributor to global warming.
- **Nitrogen Oxides (NO<sub>x</sub>)** form when fossil fuels and biomass are burned at high temperatures. They contribute to acid rain and ground-level ozone (or smog), and may cause respiratory illness in children with frequent high-level exposure. NO<sub>x</sub> also contribute to oxygen deprivation of lakes and coastal waters, which is destructive to fish and other animal life.
- **Sulfur Dioxide (SO<sub>2</sub>)** is formed when fuels containing sulfur are burned, primarily coal and oil. Major health effects associated with SO<sub>2</sub> include asthma, respiratory illness and aggravation of existing cardiovascular disease. SO<sub>2</sub> combines with water and oxygen in the atmosphere to form acid rain, which raises the acid level of lakes and streams, and accelerates the decay of buildings and monuments.