#### THE STATE OF NEW HAMPSHIRE

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# PUBLIC UTILITIES COMMISSION 21 S. Fruit Street, Suite 10

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April 28, 2011

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Debra A. Howland New Hampshire Public Utilities Commission 21 South Fruit Street, Suite 10 Concord NH 03301

Re: DE 10-226 Disclosure of Electric Service Energy Sources and

**Environmental Characteristics** 

Dear Ms. Howland:

On March 8, 2011, Staff submitted a recommendation of Staff and the Parties in this proceeding regarding the disclosure of information regarding energy sources and environmental characteristics of electric service. Staff is submitting today a number of sample labels that were reviewed by Staff and the Parties prior to reaching the recommendation submitted on March 8, 2011.

These labels are sample labels, and the data and content are illustrative only. Staff believes, however, that the labels may help inform the Commission's review of the March 8, 2011 recommendations.

Sincerely,

Amanda O. Noonan

Director, Consumer Affairs

## Definitions

#### 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. Biomass refers to power plants that are fueled by plant matter other than clean wood chips. Municipal waste is burned to produce electricity while gas generated by landfills is captured and burned. Plants that run on jet fuel are used when New England is nearing a peak system load. Residual represents hourly purchases from the New England Power Pool.

#### Renewable Energy Certificate Transactions

Utilities throughout New England are required to increase the percentage of renewable energy in their generation supply mix over the years. In order to do that, utilities and power suppliers acquire Renewable Energy Certificates (RECs) produced by certified renewable power generators. The purchase of RECs increases the renewable characteristics of the utility's supply mix, and the sale of RECs decreases the renewable characteristics of the supply mix. REC transactions are included in the column labeled "PSNH Contract Mix". PSNH purchases RECs and sells RECs; therefore, the environmental mix of its power supply changes after PSNH's REC Transactions.

#### Air Emissions

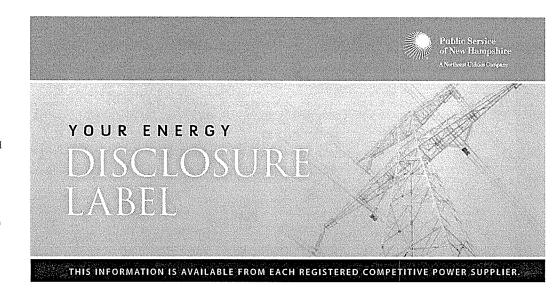
Emissions for each of the following pollutants are compared to the average emission levels from all New England power sources.

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 Oxide (NOx) forms when fossil fuels and biomass are burned at high temperatures. NOx contributes to acid rain and ground-level ozone (or smog), and may cause respiratory illness in children with frequent high-level exposure. NOx also contributes to oxygen deprivation of lakes and coastal waters, which is destructive to fish and other animal life.

Sulfur Dioxide ( $SO_2$ ) is formed when fuels containing sulfur are burned, primarily coal and oil. Major health effects associated with  $SO_2$  include asthma, respiratory illness and aggravation of existing cardiovascular disease.  $SO_2$  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.





In 2010, the New Hampshire Legislature passed a law requiring electric suppliers like Public Service of New Hampshire to annually disclose all energy sources as well as environmental characteristics (such as carbon dioxide emissions) from those sources. The enclosed information includes energy sources used by PSNH to generate electricity to customers like you, those sources' environmental characteristics, and a comparison of our energy sources and their emissions with all New England power sources. For future reference, you can also find this information on our website: WWW.psnh.com.

For more information on basic service, visit our Web site at www.psnh.com or call PSNH at XXX-XXX-XXXX.

### Energy Sources — (1/1/2010 - 3/31/2010)

This supplier provided electricity with the following sources:

POWER SOURCE PSNI-	I CENERATION MIX	PSNH GONTRACT MIX*	TOTALPSNH
Biomass	0.00%	1.08%	1.08%
Coal	60.72%	1.28%	62.00%
Gas	1.57%	2.91%	4.48%
Hydro	6.07%	4.67%	10.74%
Jet	0.02%	0.26%	0.27%
Landfill Gas	0.00%	1.49%	1.49%
Municipal Waste	0.00%	2.86%	2.86%
Nuclear	0.00%	5.57%	5.57%
Oil	0.00%	0.12%	0.12%
Residual	0,00%	3.94%	3.94%
Solar	0.00%	0.02%	0.02%
Wind	0.00%	1.37%	1.37%
Wood	5.37%	0.69%	6.06%
TOTAL	73.75%	26.25%	100.00%

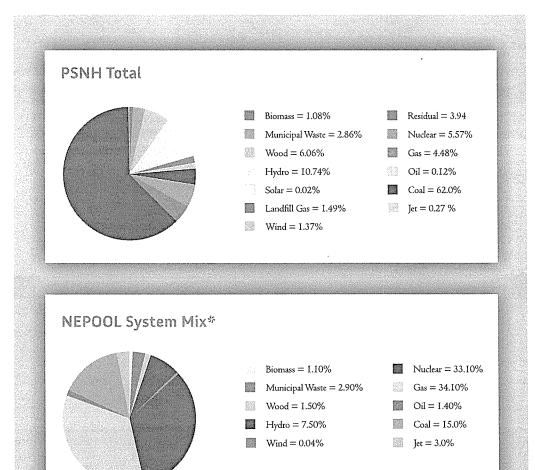
<sup>\*</sup>Renewable Energy Certificate transactions are included in this number

#### Environmental Characteristics — (1/1/2010 - 3/31/2010)

This table compares air emissions from this supplier's electricity mix to average emission levels from all New England power sources:

TOTAL PSNH MIX (LBS/MWH) NEPOOL SYSTEM MIX (LBS/MWH)	SECONDARIO
Carbon Dioxide (CO2) I438.16 892.2	
Nitrogen Oxide (NOX) L.72 0.83	
Sulfur Dioxide (SO2) I1.86 I.83	

Notes: lbs/MWb = pounds per Megawatt-hour, l Megawatt-hour = 1,000 kilowatt-hours



\*Solar, Landfill gas, and Residual are zero, thus excluded from the chart.

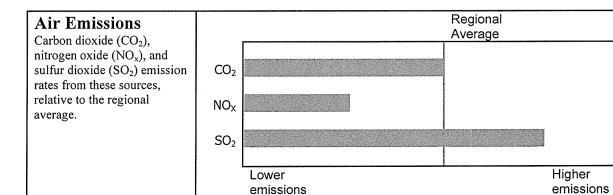
#### DRAFT - FOR DISCUSSION PURPOSES ONLY

# Electricity Facts Granite State Electric Company d/b/a National Grid January 2011

Electric Suppliers are required by the New Hampshire Public Utilities Commission to provide customers with an information disclosure label. The purpose of the label is to ensure that customers are presented with consistent information by which to evaluate services offered by competitive suppliers and distribution companies.

<b>Power Sources</b>			
This electricity product in the			
period 1/1/10 to 12/31/10			
was assigned generation from			
the following sources:			

	Na	New England		
Power Source	Known Resources	System Power	Total	Regional Average
Biomass	1.4%	0.2%	1.6%	2.4%
Coal	0.0%	9.4%	9.4%	12.5%
Hydro: Large	0.3%	2.2%	2.5%	7.0%
Hydro: Small	0.0%	0.0%	0.0%	0.0%
Imported Power	0.0%	12.5%	12.5%	
Landfill Gas	1.5%	0.0%	1.5%	0.7%
Municipal Trash	3.9%	0.7%	4.6%	3.1%
Natural Gas	0.4%	32.8%	33.2%	39.5%
Nuclear	0.0%	28.3%	28.3%	29.3%
Oil (inc. Diesel & Jet)	0.0%	4.4%	4.4%	5.2%
Other Renewable	0.0%	0.0%	0.0%	0.0%
Solar	0.0%	0.0%	0.0%	0.0%
Wind	2.0%	0.0%	2.0%	0.3%
Total	9.5%	90.5%	100.0%	100%





For additional information, you may contact National Grid at 1-800-322-3223, <a href="https://www.nationalgridus.com">www.nationalgridus.com</a> or the New Hampshire Public Utilities Commission at 1-800-852-3793, <a href="https://www.nh.puc.gov">www.nh.puc.gov</a>.

#### **DEFINITIONS**

#### **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." Other Renewables include fuel cells utilizing renewable fuel sources and ocean thermal.

#### **EMISSIONS:**

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 ( $NO_X$ ) 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.  $NO_X$  also contribute to oxygen deprivation of lakes and coastal waters which is destructive to fish and other animal life.

Sulfur Dioxide ( $SO_2$ ) is formed when fuels containing sulphur are burned, primarily coal and oil. Major health effects associated with  $SO_2$  include asthma, respiratory illness and aggravation of existing cardiovascular disease.  $SO_2$  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.

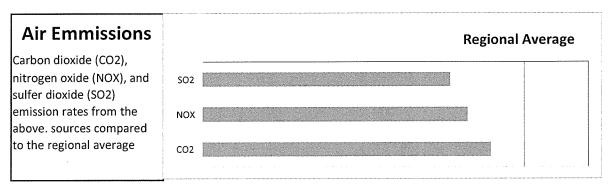
#### **DRAFT - ILLUSTRATION ONLY**

# New Hampshire Electric Cooperative, Inc.

Power Resources Information - 2009

Some words about this document
Some more words

		NHEC's	s Co-op Pov	ver	New
Power Sources	Power Source	Known Resources	System Power	Total	England Regional Average
NHEC's 2009 Co-op Power	Biomass	5.44%	0.21%	5.65%	2.93%
was generated by the	Coal	0.00%	10.02%	10.02%	12.81%
following sources:	Hydro	1.14%	2.41%	3.55%	7.23%
	Imported Power	0.00%	11.22%	11.22%	0.00%
	Municipal Trash	0.00%	0.00%	0.00%	3.10%
	Natural Gas	0.00%	0.78%	0.78%	37.61%
	Nuclear	0.00%	33.72%	33.72%	30.46%
	Oil	0.00%	29.25%	29.25%	5.58%
	Other Renewable	0.00%	5.28%	5.28%	0.03%
	Solar	0.03%	0.00%	0.03%	0.01%
	Wind	0.51%	0.00%	0.51%	0.23%
	Total	7.12%	92.88%	100.00%	100.00%



Definitions - regarding the above information More definition space More definition space Questions - call NHEC member solutions



# Electricity Facts — September 2010

We are pleased to provide you with the latest energy disclosure label for the Default Service you are currently receiving from Unitil Energy Systems d/b/a Unitil ("Unitil"). The label is updated quarterly and provides the latest information on pricing, power sources, air emissions and labor for the electricity you are buying.

All licensed electricity suppliers in New Hampshire are required to provide this information in a standard format, so you can make an informed decision if you choose to buy power from a competitive supplier.

On the reverse side, we have provided definitions for the terms used in this label. You will also find phone numbers for the New Hampshire Public Utilities Commission. They can answer your questions and provide you with a list of electricity suppliers licensed to sell electricity in New Hampshire.

If you have more questions about your bill or this energy disclosure label, please call Unitil's Customer Service Center at 1-888-301-7700.

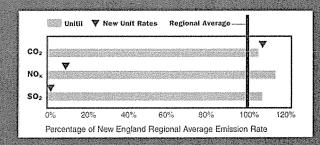
#### Power Sources

Demand for this electricity product in the period 1/1/09 - 12/31/09 was assigned generation from the following services:

Power Source	Known Resources	System Power	NE Regional Mix	Unitil Total
Biomass	4%	0%	0%	4%
Coal	0%	12%	12%	12%
Hydro	0%	2%	2%	2%
Imports	0%	0%	0%	0%
Municipal Trash	0%	1%	1%	1%
Natural Gas	1%	38%	38%	39%
Nuclear	0%	35%	35%	35%
Qil .	0%	6%	6%	6%
Other Renewable	0%	0%	0%	0%
Solar	0%	0%	0%	0%
Wind	0%	0%	0%	0%

#### Air Emissions

Air emissions relative to New England regional average emissions.



#### NOTES

- Electricity customers in New England are served by an integrated power grid, not particular generating
  units. The above information is on the mix of generating units in New England. Unitil procures most
  of its electricity supply for Default Service from system power contracts, not from specific generating units.
- 2. You may call Unitil at 1-888-301-7700.

#### Definitions

#### **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.

#### Air Emissions:

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

Carbon Dioxide (CO2) 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 Oxide (NO<sub>X</sub>) forms when fossil fuels and biomass are burned at high temperatures,  $NO_X$  contributes to acid rain and ground-level ozone (or smog), and may cause respiratory illness in children with frequent high-level exposure.  $NO_X$  also contributes 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 SO2 include asthma, respiratory illness and aggravation of existing cardiovascular disease. SO2 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.

# **For Further Information Contact:**

1-888-301-7700 Unitil:

website: http://www.unitil.com

**New Hampshire Department of** 

**Public Utilities:** 

1-800-852-3793

website: http://www.puc.state.nh.us/



# Electricity Facts TransCanada Power Marketing Ltd. Massachusetts July 2010

July 2010

Competitive Suppliers are required by the Massachusetts Department of Public Utilities to provide customers with an information disclosure label. The purpose of the label is to ensure that customers are presented with consistent information by which to evaluate services offered by Competitive Suppliers and Distribution Companies.

Generation Price Average price per kWh at different levels of use. Prices do not include regulated charges for customer	Average Use per Month	1,000 kWh	10,000 kWh	20,000 kWh	40,000 kWh
service and delivery	Average Price per	prices. Your av	erage electricity	Power Agreemen price may vary b	y time of use.
	kWh	See your most	recent invoice fo	r your monthly u	ise.

Contract	Please refer to your Purchased Power Agreement for prices and terms for
	Generation Service.

Power Sources This electricity product in the period 1/1/09 to 12/31/09 was	Power Source	Known Resources	System Power	Total
assigned generation from the	Biomass	0.1%	0.1%	0.2%
following sources:	Coal	0.0%	5.6%	5.6%
Tono wing boar oo.	Hydro: Large	29.3%	0.8%	30.1%
	Hydro: Small	0.0%	0.0%	0.0%
	Imported Power	0.0%	0.0%	0.0%
	Landfill Gas	0.4%	0.0%	0.4%
	Municipal Trash	0.0%	0.2%	0.2%
	Natural Gas	19.1%	19.3%	38.4%
	Nuclear	0.0%	17.5%	17.5%
	Oil (inc. Diesel & Jet)	0.0%	3.0%	3.0%
	Other	0.0%	2.5%	2.5%
	Other Renewable	0.0%	0.0%	0.0%
	Solar	0.0%	0.0%	0.0%
	Wind	2.0%	0.0%	2.0%
	Total	50.87%	49.13%	100.0%

Air Emissions Carbon dioxide (CO <sub>2</sub> ), nitrogen oxide (NO <sub>x</sub> ), and sulfur dioxide (SO <sub>2</sub> ) emission rates from these sources, relative to the regional		TCPM Resource Portfolio (lbs/MWh)	New England Average (lbs/MWh)	TCPM Portfolio as % of Regional Average	New Unit (lbs/MWh)
average, and to the emission rates	CO <sub>2</sub>	528	903	58%	760
of a new generating unit.	NO <sub>x</sub>	0.40	0.82	48%	0.06
or a now gonerating unit.	SO <sub>2</sub>	0.57	1.65	34%	0.02

Labor Information	58% of the electricity from Known Resources came from power sources with union contracts or that used replacement labor during disputes between 01/1/09 and 12/31/09. It is not known what percentage of the electricity
	from System Power came from power sources with union contracts.

Customer Service  For questions about your invoice, please call 508-871-1850, option all other inquiries, contact your business representative directly or TransCanada toll-free at 1-877-634-2928.	
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