

## 2009 New Jersey Residential “Rate:” Guide to Graphics

August 31, 2010

### I. Overview

Working with Staff of the Board of Public Utilities (BPU), the Center for Energy, Economic and Environmental Policy (CEEPP) has broken down by component the average New Jersey residential customer’s 2009 electric and natural gas “rates.” This analysis only accounts for the costs of various policies and not for their benefits. The data presented below are in draft form and may be updated based upon stakeholder input.

This paper serves as a guide to the graphics in the corresponding power point presentation, Prelim Data 8-13-10 (accessible at [www.nj.gov/emp/](http://www.nj.gov/emp/)), describing the methodology and references, although some numbers have changed since due to updating and revising this analysis. The average residential electric and natural gas “rates,” discussed in Sections II and III respectively, are estimated based on a bottom-up analysis of New Jersey residential customer energy “rate” components.

### II. Average New Jersey Residential Electric “Rate”

The 2009 average residential electric “rate,” shown below in detail in Table 1, is comprised of three major categories: state policy components, distribution components and wholesale components. The state policy component category is broken down into transition and other charges, societal benefits charges, regional greenhouse gas initiative recovery charges, renewable and carbon dioxide allowances and sales and use tax. The wholesale component category is broken down into transmission, PJM RPM cost and PJM energy cost. All values are in cents per kilowatt-hour.

Approximately half of the data (most of the state policy components, the distribution components and transmission charges) were gleaned from the current electric utility tariffs for New Jersey’s four public utilities (Atlantic City Electric (ACE), Jersey Central Power and Light (JCP&L), Public Service Electric and Gas (PSE&G) and Rockland Electric (RECO)). The electric utility tariff categories and charges differ across utilities. Therefore, the utility tariff charges were weighted by the number of utility customers in 2009.<sup>1</sup> A description of the utility tariff charges and the utility name which utilized the charge is provided below.

The renewable and carbon dioxide allowances and wholesale components (not including the transmission charges) are calculated values described below.

---

<sup>1</sup> United States Energy Information Administration (EIA). Form EIA-826 Database Monthly Electric Utility Sales and Revenue Data [www.eia.doe.gov/cneaf/electricity/page/eia826.html](http://www.eia.doe.gov/cneaf/electricity/page/eia826.html)

DRAFT

**Table 1: 2009 New Jersey Residential Electricity “Rate” (cents per kilowatt hour)**

| <b>A. State Policy Components</b>                               |              |
|---|--------------|
| <b>i. Transition &amp; Other Charges</b>                        |              |
| Non-Utility Generation Charge                                   | 0.604        |
| Regulatory Asset Recovery Charge                                | 0.004        |
| Transitional Energy Facility Assessment                         | 0.291        |
| Transition Bond Charge  | 0.003        |
| Market Transition Charge  | 0.499        |
| System Control Charge   | 0.228        |
| <b>ii. Societal Benefits Charges</b>                            |              |
| Demand Side Management  | 0.055        |
| Nuclear Plant Decommissioning Costs                             | 0.028        |
| Manufactured Gas Plant Remediation Costs                        | 0.025        |
| New Jersey Clean Energy Program                                 | 0.234        |
| Uncollectible Accounts  | 0.016        |
| Universal Service Fund  | 0.194        |
| Lifeline  | 0.048        |
| Consumer Education Program                                      | 0.005        |
| Social Programs   | 0.045        |
| <b>iii. Regional Greenhouse Gas Initiative Recovery Charges</b> |              |
| Demand Response Working Group                                   | 0.001        |
| Integrated Distributed Energy Resource Expansion                | 0.003        |
| Carbon Abatement Program  | 0.002        |
| Energy Efficiency Economic Stimulus Program                     | 0.019        |
| Demand Response Program   | 0.004        |
| Solar Generation Investment Program                             | 0.010        |
| Solar Loan II Program   | 0.002        |
| <b>iv. Renewable and Carbon Dioxide Allowances</b>              |              |
| NJ Solar Renewable Energy Credit (SREC) Allowance               | 0.092        |
| NJ Renewable Energy Credit (REC) Allowance                      | 0.033        |
| CO2 (RGGI) Allowance  | 0.083        |
| <b>v. Sales and Use Tax</b>                                     |              |
|   | 1.118        |
| <b>B. Distribution Components</b>                               |              |
| Customer Distribution Charge                                    | 0.000*       |
| Average Weighted Distribution Charge                            | 3.293        |
| Capital Adjustment Service Charge                               | 0.000*       |
| Average Weighted Capital Adjustment Charge                      | 0.027        |
| Infrastructure Investment Surcharge                             | 0.003        |
| <b>C. Wholesale Components</b>                                  |              |
| <b>i. Transmission</b>  |              |
| Transmission  | 3.860        |
| Transmission Enhancement Charge                                 | 0.051        |
| <b>ii. PJM RPM Cost</b>   |              |
|   | 1.337        |
| <b>iii. PJM Energy Cost</b>                                     |              |
| Ancillary Services  | 0.198        |
| PJM Energy Cost (LMP)   | 4.351        |
| <b>TOTAL</b>  | <b>16.74</b> |

\* Greater than zero.

## A. State Policy Components

### *i. Transition & Other Charges*

*The average electric utility residential “rate” charges are taken from the most recent utility tariffs.*

#### Non-Utility Generation Charge (ACE, JCP&L and PSE&G)

Recover costs associated with (1) utility purchase power contracts with non-utility generators and related stranded costs (2) the transition to a competitive electric market and restructuring of New Jersey’s electric utility industry and (3) utility generation facilities, net of any revenue received from the sale of energy, capacity and ancillary services.

#### Regulatory Asset Recovery Charge (ACE)

Recover deferred BPU approved expenses, including asbestos removal, post retirement benefits other than pension and other regulatory assets.

#### Transition Energy Facility Assessment (ACE, JCP&L, PSE&G and RECO)

#### Transition Bond Charge (ACE, JCP&L, PSE&G and RECO)

Recover all generation related stranded costs, including financing and related costs.

#### Market Transition Charge (ACE, JCP&L and PSE&G)

Recover costs associated with the transition to a competitive electric market.

#### System Control Charge (ACE, JCP&L and PSE&G)

Recover appliance cycling load management costs.

### *ii. Societal Benefits Charges*

*The average electric utility residential “rate” charges are taken from the most recent utility tariffs.*

#### Demand Side Management (JCP&L)

Recover demand side management programs costs, specifically including Comprehensive Resource Analysis and other BPU programs.

#### Nuclear Plant Decommissioning Costs (JCP&L)

#### Manufactured Gas Plant Remediation Costs (JCP&L and PSE&G)

Recover costs associated with investigations and remediation of environmental media.

#### New Jersey Clean Energy Program (ACE, PSE&G and RECO)

#### Uncollectible Accounts (ACE, JCP&L, PSE&G and RECO)

Recover costs associated with uncollectible accounts recorded in FERC account 904.

#### Universal Service Fund (ACE, JCP&L, PSE&G and RECO)

Recover costs to provide affordable electric and natural gas service to residential customers.

#### Lifeline (ACE, PSE&G and Rockland)

Recover the rate assistance program costs for New Jersey’s elderly and disabled citizens.

#### Consumer Education Program (ACE and JCP&L)

Recover costs associated with the state-mandated Consumer Education Program.

#### Social Programs (PSE&G)

Recover existing social programs costs, including, but not limited to, uncollectible customers’ accounts.

### *iii. Regional Greenhouse Gas Initiative Recovery Charges*

*The average electric utility residential “rate” charges are taken from the most recent utility tariffs.*

## DRAFT

### Demand Response Working Group (ACE, PSE&G and Rockland)

Recover incentive payments to Curtailment Service Providers for incremental load curtailment delivered into the PJM Market.

### Residential Controllable Smart Thermostat Program (ACE)

Residential customers with central air-conditioning and/or heat pumps select either a programmable thermostat or outdoor cycling device, depending upon preference/equipment constraints. Approximately 42,000 participants and 42,400 qualifying units will participate.

### Integrated Distributed Energy Resource Expansion (JCP&L)

Load management devices will be deployed to volunteer customers served by substations in high growth areas. Air conditioners will be controlled by managing ambient temperatures in participant homes and hot water heaters/pool pumps with an on/off switch. 15 MW of direct load control are anticipated with 7,000 residential and 100 business customers.

### Carbon Abatement Program (PSE&G)

Offer residential and business customers energy audits, programmable thermostats, attic insulation and high-efficiency lighting upgrades.

### Energy Efficiency Economic Stimulus Program (PSE&G and RECO)

Provide energy efficiency measures to residential customers, multi-family affordable housing units, municipal buildings and businesses.

### Demand Response Program (PSE&G)

Residential and small commercial air conditioning cycling program, cycling participant air conditioners for 6 hours, up to 20 cycling times per year.

### Solar Generation Investment Program (PSE&G)

PSE&G will invest approximately \$773 million to finance, own and operate grid connected solar photovoltaic generation systems.

### Solar Loan II Program (PSE&G)

Finance the installation of 51 MW of solar on homes, businesses and municipal buildings.

## *iv. Renewable and Carbon Dioxide Allowances*

### New Jersey Solar Renewable Energy Credit (SREC) Allowance

The ratepayer cost is the 2009 weighted average short-term and long-term market SREC price multiplied by the 2009 New Jersey solar requirement, divided by total 2009 New Jersey electric consumption.<sup>2</sup>

### New Jersey Renewable Energy Credit (REC) Allowance

The ratepayer cost is the average 2009 Class I REC price multiplied by the 2009 New Jersey Class I renewable requirement, divided by total 2009 New Jersey electric consumption.<sup>3</sup>

### CO<sub>2</sub> (RGGI) Allowance

The ratepayer cost is the product of the average 2009 RGGI allowance price, total 2009 regional allowances and the ratio of New Jersey electric consumption to total regional electric consumption, divided by total 2009 New Jersey electric consumption.<sup>4</sup>

---

<sup>2</sup> Terence Sobolewski. SunPower Corporation Systems; Renewables Portfolio Standard [www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=NJ05R&re=1&ee=1](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NJ05R&re=1&ee=1); R/ECON™ July 2010 Output.

<sup>3</sup> Chicago Climate Futures Exchange. CCFE NJ REC Futures [www.theccfex.com/mktdata\\_ccfe/futuresSummary.jsf?symbol=rec-nj](http://www.theccfex.com/mktdata_ccfe/futuresSummary.jsf?symbol=rec-nj); Renewables Portfolio Standard; [www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=NJ05R&re=1&ee=1](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NJ05R&re=1&ee=1); R/ECON™ July 2010 Output.

v. **Sales and Use Tax**

The sum of the state policy, distribution and wholesale components subject to the 7% New Jersey sales and use tax.

**B. Distribution Components** recover company costs to deliver/distribute electricity.

*The average electric utility residential “rate” charges are taken from the most recent utility tariffs.*

Customer Distribution Charge (ACE, JCP&L, PSE&G and RECO)

The monthly charge is divided by the average monthly residential electricity consumption.<sup>5</sup>

Average Weighted Distribution Charge (ACE, JCP&L, PSE&G and RECO)

Capital Adjustment Service Charge (PSE&G)

The monthly charge is divided by the average monthly residential electricity consumption.<sup>6</sup>

Average Weighted Capital Adjustment Charge (PSE&G)

Recover revenue requirement related to the acceleration of electric capital expenditures to improve reliability, system operation and energy efficiency infrastructure improvements.

Infrastructure Investment Surcharge (ACE)

Recover revenue requirements associated with incremental infrastructure improvement projects approved by the BPU.

**C. Wholesale Components**

i. **Transmission** recovers the company cost of transporting the electricity to local distribution companies.

*The average electric utility residential “rate” charges are taken from the most recent utility tariffs.*

Transmission (ACE, JCP&L, PSE&G and Rockland)

Transmission Enhancement Charge (ACE, JCP&L and Rockland)

Recover charges to compensate transmission owners for annual transmission revenue requirements requested by PJM for reliability or economic purposes and approved by FERC.

ii. **PJM RPM Cost**

The product of the average final zonal capacity price, number of days in a year and 2009 PJM peak load, divided by the total 2009 New Jersey electric consumption.<sup>7</sup>

iii. **PJM Energy Cost**

Ancillary Services

The sum of 2008 ancillary costs, adjusted for inflation.<sup>8</sup>

PJM Energy Cost

---

<sup>4</sup> RGGI. [www.rggi.org/co2-auctions/results](http://www.rggi.org/co2-auctions/results); [www.rggi.org/docs/NJ\\_Proceeds by Auction 1.pdf](http://www.rggi.org/docs/NJ_Proceeds_by_Auction_1.pdf); [http://rggi.org/docs/program\\_summary\\_10\\_07.pdf](http://rggi.org/docs/program_summary_10_07.pdf); [www.rggi.org/co2-auctions/upcoming\\_auctions](http://www.rggi.org/co2-auctions/upcoming_auctions); EIA. Form EIA-826 Database Monthly Electric Utility Sales and Revenue Data. R/ECON<sup>TM</sup> July 2010 Output.

<sup>5</sup> R/ECON<sup>TM</sup> July 2010 Output.

<sup>6</sup> R/ECON<sup>TM</sup> July 2010 Output.

<sup>7</sup> PJM. Reliability Pricing Model User Information [www.pjm.com/markets-and-operations/rpm/rpm-auction-user-info.aspx#Item01](http://www.pjm.com/markets-and-operations/rpm/rpm-auction-user-info.aspx#Item01); R/ECON<sup>TM</sup> July 2010 Output.

<sup>8</sup> PJM. A Review of Generation Compensation and Cost Elements in the PJM Market (2009); R/ECON<sup>TM</sup> July 2010 Output.

## DRAFT

The New Jersey Load Weighted Average Locational Marginal Price (LMP).<sup>9</sup> According to a report completed by PJM, emissions from the United States sulfur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>) allowance programs account for 3.5 percent of the LMP.<sup>10</sup>

**Note:** the PJM spot price may be different than the average Basic Generation Service (BGS) price due to market conditions.

### III. Average New Jersey Residential Natural Gas “Rate”

The 2009 average residential natural gas “rate,” shown in detail in Table 2, is comprised of three major categories, state policy components, distribution components and wholesale components. The state policy components category is further broken down into other charges, societal benefits charges and sales and use tax. All values are in dollars per million British Thermal Units.

More than half of the data (the state policy and distribution components) were gleaned from the current natural gas utility tariffs for New Jersey’s four public utilities (Elizabethtown, New Jersey Natural Gas (NJNG), Public Service Electric and Gas (PSE&G) and South Jersey Gas (SJG)). The natural gas utility tariff categories and charges differ across utilities. Therefore, the utility tariff charges were weighted by the number of utility customers in 2008.<sup>11</sup> A description of the utility tariff charges and the utility name which utilized the charge is provided below.

The wholesale components are calculated values described below.

---

<sup>9</sup> PJM. Wholesale Electricity Prices [www.pjm.com/markets-and-operations/energy/real-time/monthlylmp.aspx](http://www.pjm.com/markets-and-operations/energy/real-time/monthlylmp.aspx); PJM. Hourly Load [www.pjm.com/markets-and-operations/energy/real-time/loadhryr.aspx](http://www.pjm.com/markets-and-operations/energy/real-time/loadhryr.aspx)

<sup>10</sup> PJM. A Review of Generation Compensation and Cost Elements in the PJM Market (2009); R/ECON™ July 2010 Output.

<sup>11</sup> EIA. EIA-176 Query System 2008 [www.eia.doe.gov/oil\\_gas/natural\\_gas/applications/eia176query.html](http://www.eia.doe.gov/oil_gas/natural_gas/applications/eia176query.html)

**Table 2: 2009 New Jersey Residential Natural Gas “Rate” (Dollar per Million British Thermal Units)**

|  |                 |
|--|-----------------|
| <b>A. State Policy Components</b>          |                 |
| <b>i. Other Charges</b>                    |                 |
| Weather Normalization Clause               | \$ 0.006        |
| Transitional Energy Facilities Assessment  | \$ 0.197        |
| Conservation Incentive Program             | \$ 0.366        |
| Energy Efficiency Program                  | \$ 0.023        |
| Carbon Abatement Program                   | \$ 0.005        |
| <b>ii. Societal Benefits Charges</b>       |                 |
| Clean Energy Program                       | \$ 0.237        |
| Remediation Adjustment Charge              | \$ 0.126        |
| Universal Service Fund & Lifeline          | \$ 0.132        |
| <b>iii. Sales and Use Tax</b>              | \$ 0.732        |
| <b>B. Distribution Components</b>          |                 |
| Monthly Customer Charge                    | \$ 0.000*       |
| Average Weighted Distribution Charge       | \$ 3.391        |
| Capital Adjustment Service Charge          | \$ 0.000*       |
| Average Weighted Capital Adjustment Charge | \$ 0.005        |
| Utility Infrastructure Enhancement         | \$ 0.011        |
| Capital Investment Recovery Tracker        | \$ 0.024        |
| Transportation Initiation Clause           | \$ 0.000*       |
| Balancing Charge                           | 0.010           |
| <b>C. Wholesale Components</b>             |                 |
| Transportation                             | \$ 1.873        |
| Henry Hub                                  | \$ 4.060        |
| <b>TOTAL</b>                               | <b>\$ 11.20</b> |

\* Greater than zero.

**A. State Policy Components****i. Other Charges**

*The average utility residential “rate” charges are taken from the most recent utility tariffs.*

Weather Normalization Clause (Elizabethtown)

Rate adjustment to offset the impact of abnormal weather on company revenue and income.

Transition Energy Facility Assessment (Elizabethtown, NJNG and PSE&G)Conservation Incentive Program (NJNG and SJG)

Decouple company revenue from customer consumption to encourage energy conservation. Credit/charge customers when actual usage per customer differs from the baseline usage per customer during that period.

Energy Efficiency Program (Elizabethtown, NJNG, SJG and PSE&G)

Recover authorized expenditures, incremental operating and maintenance expenses related to energy efficiency programs created in response to Governor Corzine’s Economic Stimulus Plan, approved by the BPU.

Carbon Abatement Program (PSE&G)

Offer residential and business customers energy audits, programmable thermostats, attic insulation and high-efficiency lighting upgrades.

**ii. Societal Benefits Charges**

*The average utility residential “rate” charges are taken from the most recent utility tariffs.*

New Jersey Clean Energy Program (Elizabethtown, NJNG, PSE&G and SJG)

Remediation Adjustment Charge (Elizabethtown, NJNG, PSE&G and SJG)

Recover costs associated with investigations and remediation of environmental media.

Universal Service Fund and Lifeline (Elizabethtown, NJNG, PSE&G and SJG)

Recover costs associated with the Universal Service Fund, provides affordable access for electric and natural gas service to all New Jersey residential customers, and the Lifeline Credit Program, a special program for qualified low-income elderly and disabled citizens.

**iii. Sales and Use Tax**

The sum of the state policy, distribution and wholesale components subject to the 7% New Jersey sales and use tax.

**B. Distribution Components** recover company costs to deliver/distribute natural gas.

*The average utility residential “rate” charges are taken from the most recent utility tariffs.*

Monthly Customer Charge (Elizabethtown, NJNG, PSE&G and SJG)

The monthly charge is divided by the average monthly residential natural gas consumption.<sup>12</sup>

Average Weighted Distribution Charge (Elizabethtown, NJNG, PSE&G and SJG)

Capital Adjustment Service Charge (PSE&G)

The monthly charge is divided by the average monthly residential natural gas consumption.<sup>13</sup>

Average Weighted Capital Adjustment Charge (PSE&G)

Recover revenue requirements associated with the acceleration of gas capital expenditures in the areas of distribution infrastructure related to improvement in reliability.

Utility Infrastructure Enhancement (Elizabethtown)

Recover costs associated with the replacement of connected services, meters and other facilities.

Capital Investment Recovery Tracker (SJG)

Earn a return on incremental infrastructure investments. Adjust company monthly revenues when actual recoveries vary from the calculated revenue requirement utilizing the weighted cost of capital and depreciation rates.

Transportation Initiation Clause (SJG)

Recover capital expenditures and operating costs associated with Electronic Data Interchange, including consulting and transaction costs.

Balancing Charge (PSE&G)

**C. Wholesale Components**

Transportation

Natural gas transportation is the product of the historic ratio of New Jersey Citygate to Henry Hub prices (the average 1994-2009 ratio is 1.46) and the annual Henry Hub price.<sup>14</sup>

---

<sup>12</sup> R/ECON™ July 2010 Output.

<sup>13</sup> R/ECON™ July 2010 Output.

<sup>14</sup> EIA. Monthly Natural Gas Futures Contract 1 <http://tonto.eia.doe.gov/dnav/ng/hist/rngc1M.htm>; EIA. Monthly Natural Gas Citygate Price in New Jersey <http://tonto.eia.doe.gov/dnav/ng/hist/n3050nj3m.htm>



Henry Hub<sup>15</sup>

Average 2009 United States Henry Hub spot price.

**Note:** the average Henry Hub spot price may be different than the average Basic Gas Supply Service (BGSS) price due to market conditions.

---

<sup>15</sup> EIA. Natural Gas Year-In-Review 2009.