

Electric Rates in Connecticut



Kevin M. DelGobbo, Chairman

Connecticut Department of Public Utility Control

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Premise:

Provide detail on all Electric Rate components to establish a foundation upon which energy policy choices are developed.

The Challenge:

High Rates

Multiple Policy Commitments

Operational Disadvantages

Context:

Some good news CT electric rates are declining.

CT has choices today that were not available during most of the last decade.

STATUS OF 3 KEY COST DRIVERS

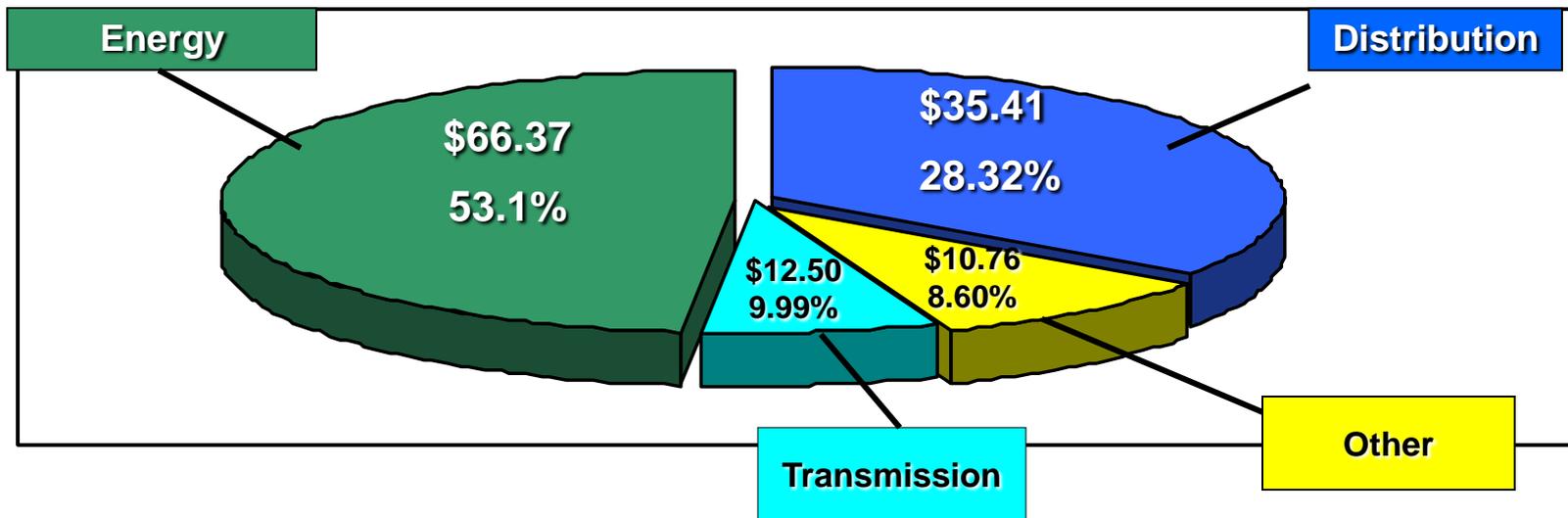
- Sufficient Generating Capacity
- Improved Transmission System
- Commodity Price Stability

State Ranking for Electricity Residential Prices (August 2010)

Rank	State	Electricity Residential (cents/kWh)
1	Hawaii	28.59
2	New York	19.03
3	Connecticut	18.98
4	New Jersey	17.34
5	Alaska	17.17
6	Rhode Island	16.99
7	New Hampshire	16.51
8	Maine	15.81
9	California	15.73
10	Vermont	15.52
11	Massachusetts	15.45
12	Maryland	14.99
13	District of Columbia	14.38
14	Delaware	14.02
15	Michigan	13.45
16	Pennsylvania	13.28
17	Wisconsin	12.57
18	Nevada	12.19
	United States	12.02
19	Texas	11.95
20	New Mexico	11.89
21	Illinois	11.86
22	Colorado	11.76
23	Florida	11.73
24	Ohio	11.71
25	Arizona	11.61

Rank	State	Electricity Residential (cents/kWh)
25	Arizona	11.61
26	Iowa	11.21
27	Alabama	11.16
28	Georgia	10.98
29	Minnesota	10.77
30	Virginia	10.76
31	Kansas	10.62
32	South Carolina	10.56
33	North Carolina	10.48
34	Missouri	10.35
35	Nebraska	10.26
36	Mississippi	10.24
37	Montana	9.82
38	South Dakota	9.58
38	Utah	9.58
39	Tennessee	9.57
40	Oklahoma	9.52
41	Wyoming	9.44
42	Indiana	9.39
43	North Dakota	9.34
44	Louisiana	9.32
45	West Virginia	9.17
46	Oregon	9.13
47	Kentucky	8.99
48	Arkansas	8.94
49	Idaho	8.49
50	Washington	8.32

Example: 2011 CL&P Residential average monthly bill \$125.04



CL&P Residential Rate - 2011

Estimated 2011 Electric Bills		
CL&P Residential Rate 1		
	2010 Bills	2011 Bills
Distribution	\$30.27	\$35.41
Transmission	\$12.50	\$12.50
SBC	\$2.04	\$0.79
CTA	\$7.45	\$1.83
Revenue Bonds	\$0.00	\$2.42
GSC	\$77.36	\$66.37
Conservation	\$2.10	\$2.10
Renewables	\$0.70	\$0.70
FMCC-Delivery	\$1.85	\$2.92
Total Bill	\$134.27	\$125.04

2010 Rate
19.1 cents/kWh

2011 Rate
17.8 cents/kWh

Rates should decline by approximately 6.9% in 2011.

This would be a decline of approximately 11.9% from 2009 when bills were \$141.89/month (assumes customer uses 700 kWh/month).

UI Residential Rate - 2011

Estimated 2011 Electric Bills		
UI Residential Rate R		
	2010 Bills	2011 Bills
Distribution	\$58.17	\$55.45
Transmission	\$13.41	\$13.41
SBC	\$2.36	\$2.46
CTA	\$10.65	\$10.65
Revenue Bonds	\$0.00	\$0.00
GSC	\$80.98	\$74.31
Conservation	\$2.10	\$2.10
Renewables	\$0.70	\$0.70
FMCC-Delivery	-\$0.95	\$5.59
Total Bill	\$167.42	\$164.67

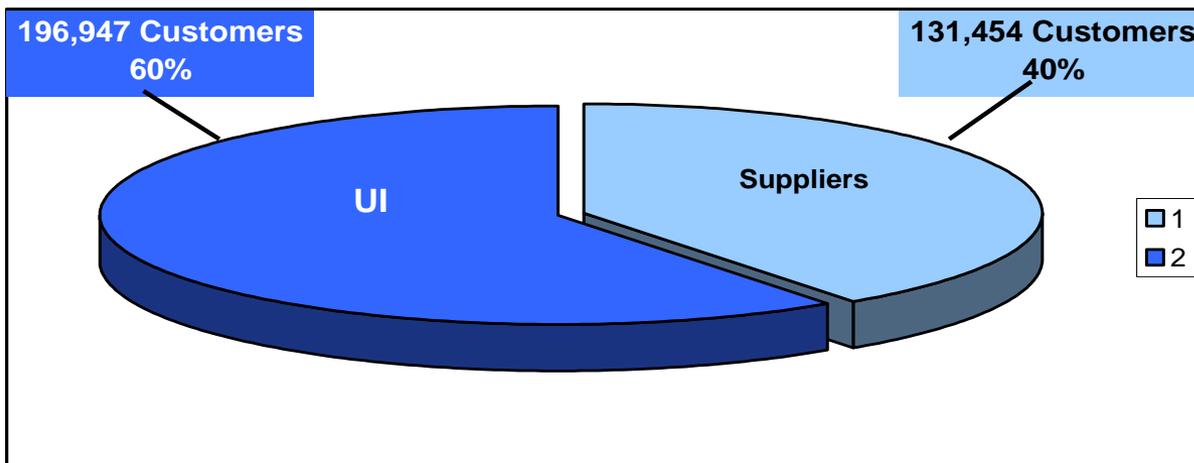
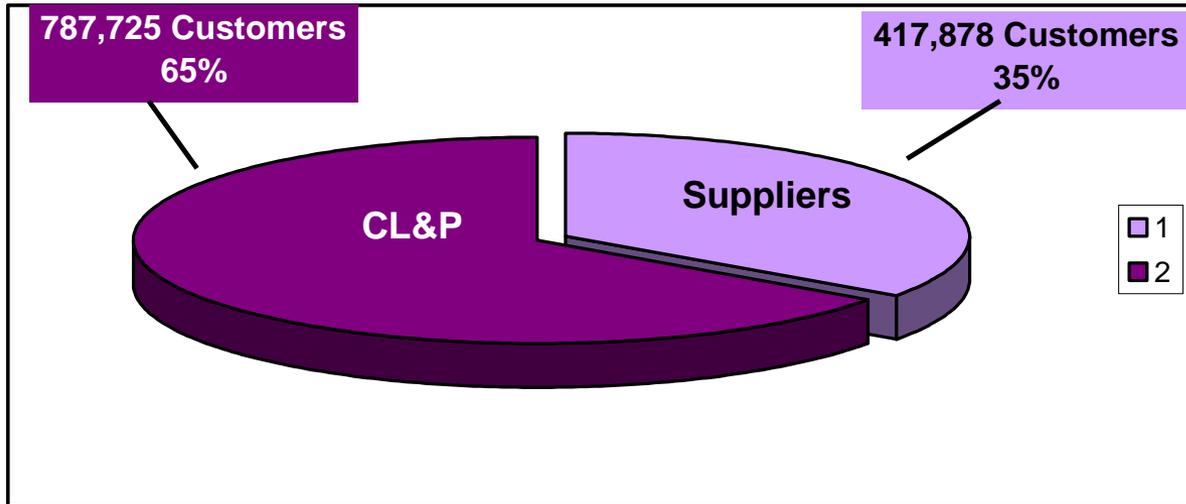
2010 Rate
23.9 cents/kWh

2011 Rate
23.5 cents/kWh

Rates should decline by approximately 1.6% in 2011.

This would be a decline of approximately 1.6% from 2009 when bills were \$167.42/month (assumes customer uses 700 kWh/month).

Migration to Competitive Suppliers CL&P and UI Territories



Generation Comparison

Standard Service vs. Alternate Supplier

- **Estimated Reduction from CL&P Generation Charge**

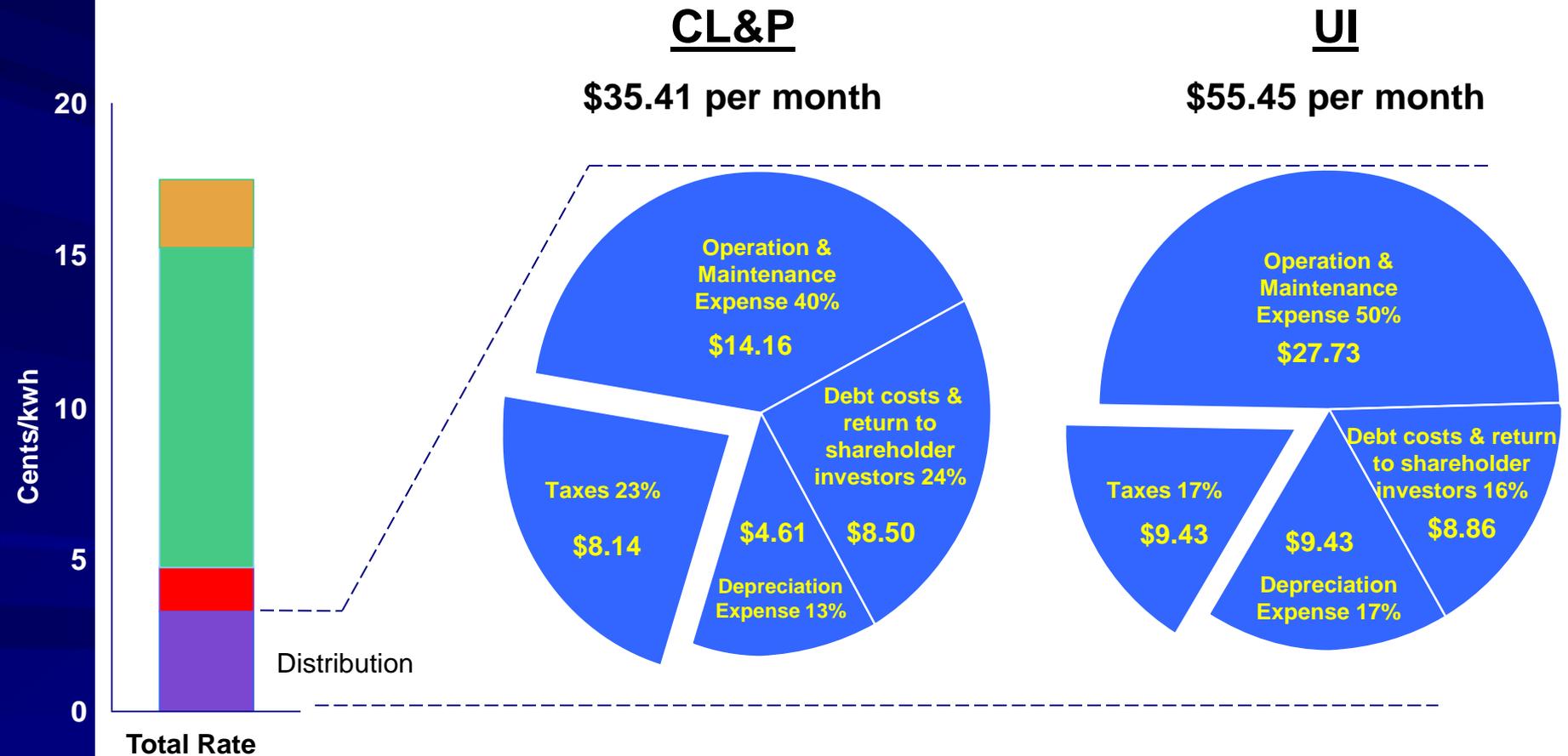
approximately 10 % or \$6.63 savings

- **Estimated Reduction from UI Generation Charge**

approximately 16 % or \$11.89 savings

Distribution Rate Components - 2011

Local delivery of electricity to homes and businesses, including the costs of poles, wires, transformers, and customer service.



1 Includes payroll, gross receipt, income, property and municipal taxes.

Generation Service Charge—Standard Service

Bill Impact	
CL&P	\$66.36
UI	\$74.31

Residential Standard Service			Estimated Cost for 2011 in \$\$		
Component	CL&P		UI		Explanation
	\$	% of Total	\$	% of Total	
Energy	\$51.76	78%	\$55.74	75%	The cost of buying energy in the market.
Capacity	\$8.63	13%	\$9.66	13%	The cost of buying capacity in the market. Capacity market was designed to assure that enough generation is always available to meet load.
Congestion and losses	\$1.99	3%	\$4.45	6%	Costs of electrical losses on the transmission and distribution systems; and the cost of congestion created because of insufficient transmission facilities.
Admin	\$1.99	3%	\$2.23	3%	Administrative Costs
RPS	\$1.99	3%	\$2.23	3%	Cost of compliance by suppliers of satisfying the resource portfolio standards mandated by CT law.
Total	<u>\$66.36</u>	100%	<u>\$74.31</u>	100%	

Renewable Charge

Bill Impact	
CL&P	\$0.70
UI	\$0.70

Component	\$\$	% of Total	Explanation
Renewable Charge	\$0.70 <u>Annually</u> CL&P-\$22 mil UI-\$5.4 mil	100%	Created by restructuring law, P.A. 98-28. Provides funds for incentives to develop renewable energy technologies.

- The Connecticut Clean Energy Fund (CCEF) was launched in 2000 to support the growth and development of clean energy technologies.
- CCEF's main goals are to:
 - Create clean energy supply for Connecticut;
 - Accelerate the development of clean energy technologies; and
 - Educate Connecticut consumers about the benefits and availability of clean energy.
- 1,740 clean, on-site energy systems have been installed or are underway
 - 212 at institutions (188 solar, 21 fuel cell, 1 hydro, 2 wind)
 - 1528 at residences/homes (all solar)

Competitive Transition Assessment

Bill Impact	
CL&P	\$1.83
UI	\$10.65

Component	CL&P		UI		Explanation
	\$	% of Total	\$	% of Total	
Nuclear Plant investment	0	0	\$7.91	74%	Recovery of the remaining investment in above market nuclear generating facilities.
Regulatory Assets	\$1.81	99%	\$2.74	26%	Purchase power contracts and regulatory assets approved as part of the initial restructuring of electric industry.
IPP contracts	\$0.02	1%	0	0%	The cost of buying of existing power contracts that were incurred prior to restructuring.
Total	\$1.83	100%	\$10.65	100%	

Conservation Charge

Bill Impact	
CL&P	\$2.10
UI	\$2.10

Component	\$	% of Total	Explanation
Conservation Charge	\$2.10 <u>Annually</u> CL&P-\$67 mil UI-\$16 mil	100%	Created by restructuring law, P.A. 98-28. Provides funds for incentives to implement energy efficiency and load management

- The Connecticut Energy Efficiency Fund (CEEF) was launched in 2000 to help consumers to use energy more efficiently.
- CEEF's objectives are to (1) lower bills, (2) promote economic development, (3) enhance energy security and (4) mitigate environmental impacts.
- 300,000 residential customers served annually, \$20 million annual savings.
- 3,000 business customers served annually, \$25 million annual savings.
- Programs administered by CL&P and UI, with oversight by the Energy Conservation Management Board and the DPUC.

Note—In 2010, CT enacted state budget law that diverts 35% of this charge beginning in 2012 for 6 years to support Economic Recovery Revenue Bonds.

System Benefits Charge - 2011

Bill Impact	
CL&P	\$2.36
UI	\$2.36

Component	CL&P		UI		Explanation
	\$	% of Total	\$	% of Total	
Hardship Customer Protection	\$2.01	85%	\$1.99	84%	The cost of protecting limited income consumers, including reserve for write-offs, special needs program, matching payment program.
Transition property tax payments to towns	\$0.10	4%	\$0.03	<1%	The mandated payment to towns for loss of property tax revenues from sales of generation during restructuring
Biennial Energy Plan	\$0.05	2%	\$0.07	3%	Biennial preparation of an integrated resource plan.
CT Energy Advisory Board	\$0.05	2%	\$0.03	1%	Administrative and Consulting Costs

Federally Mandated Congestion Costs – 2011*

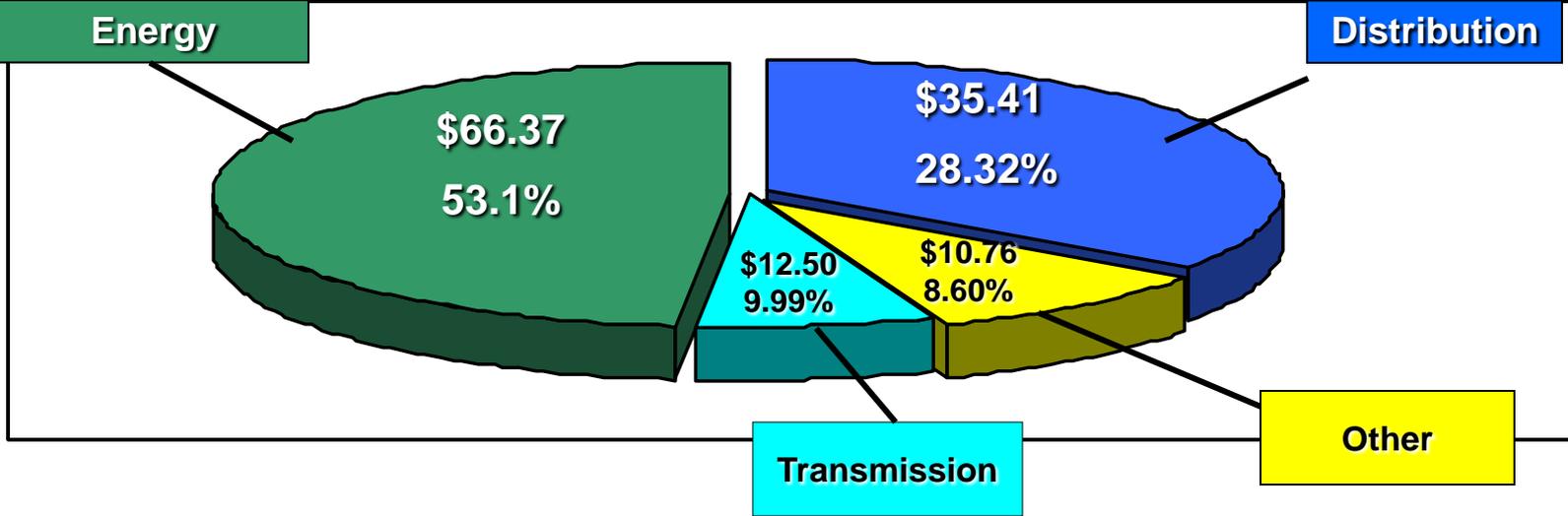
Bill Impact	
CL&P	\$7.45
UI	\$10.65

Component	CL&P		UI		Explanation
	\$	% of Total	\$	% of Total	
ISO-NE and reliability costs	\$3.73	50%	\$2.35	22%	Costs to administer the transmission grid and wholesale power market, reliability must run units needed to maintain system integrity, black start units. These costs are non-bypassable, that is, customers must pay them regardless of electricity supplier.
State mandated contracts and programs	\$3.72	50%	\$8.30	78%	Costs to implement state mandated programs for contracts with peaking and other (KLEEN) generation, self generation incentives and costs, pursuant to P.A. 05-01. These costs are non-bypassable, that is, customers must pay them regardless of electricity supplier.
Total	<u>\$7.45</u>	100%	<u>\$10.65</u>	100%	

*For Non-bypassable FMCCs

"Federally mandated congestion charges" means any cost approved by the Federal Energy Regulatory Commission as part of New England Standard Market Design including, but not limited to, locational marginal pricing, locational installed capacity payments, any cost approved by the Department of Public Utility Control to reduce federally mandated congestion charges in accordance with section 7-233y, this section, sections 16-19ss, 16-32f, 16-50i, 16-50k, 16-50x, 16-243i to 16-243q, inclusive, 16-244c, 16-244e, 16-245m, 16-245n and 16-245z, and section 21 of public act 05-1 of the June special session** and reliability must run contracts

Example: 2011 CL&P Residential average monthly bill \$125.04



Factors Contributing to Cost Differential

Generation

- Commodity Impact – Prices based on cost of marginal generation source – gas
- Procurement Practices- 3 year laddering
- Fuel Mix – gas/oil vs. coal and hydro
- No indigenous fuel sources
- No legacy of large federal energy projects – e.g. TVA in South, Large dams in the Pacific Northwest.
- Strict air quality standards
- Renewable Energy Requirements
- High cost for construction, land, labor and taxes

Distribution

- Taxes
- Wages
- Upgrading old plant and equipment
- Underground facilities
- High Reliability

Transmission

- New and Upgraded transmission lines
- Underground facilities

Other

- C&LM - CT in top 5 states for spending
 - Renewable Energy Charge- separate charge to promote renewable energy projects
 - SBC - Low Income programs
 - CTA - Stranded Cost
- Economic Recovery Revenue Bonds

COMPARISON OF CL&P vs MIDWESTERN UTILITY (COLUMBUS-SOUTHERN POWER COMPANY)

Customer using 750 kWh/month

	Columbus-Southern Power Company Schedule R-R (Jan 2010)	CL&P
	<u>cents/kWh</u>	<u>cents/kWh</u>
Generation	2.73	10.50
Transmission and Distribution	3.00	4.74
Other	0.60	2.27
Total	6.33	17.51

Other for Columbus-Southern is \$4.52 customer charge spread over 750 kWh/month

Factors causing higher rates in CT:

Ohio's generation is 65% from coal which was 25% the cost of natural gas in 2007 (Source: EIA State Electricity Profiles 2008; page 213)

RPS adds to CT bills; Ohio has no RPS standard

Requirement to build transmission underground (e.g. Middletown-Norwalk) adds cost to Transmission

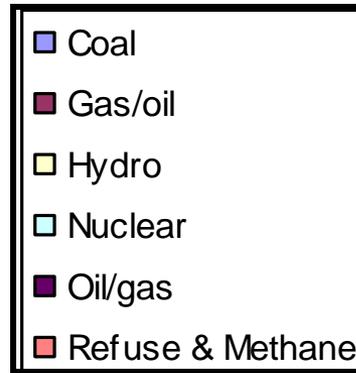
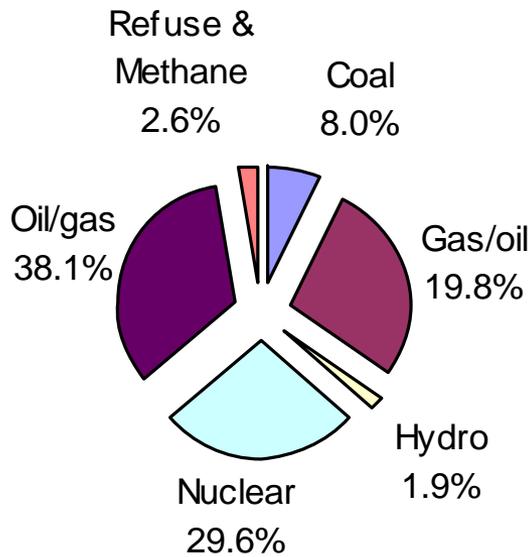
Electricity Rates – August 2010

States with lowest rates tend to rely more on coal and hydro

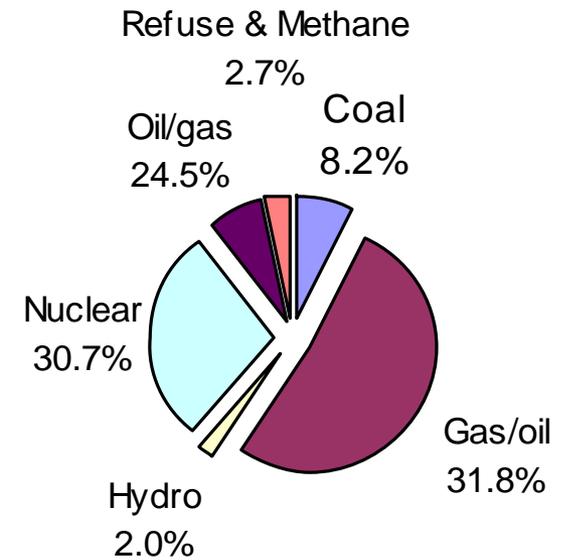
		rates	2008						
		<u>cents/kWh</u>	<u>% Coal</u>	<u>% hydro</u>					
1	Hawaii	28.59	7.4	1.0	26	Iowa	11.21	50.5	1.0
2	New York	19.03	7.5	11.1	27	Alabama	11.16	36.9	10.5
3	Connecticut	18.98	7.1	1.6	28	Georgia	10.98	36.4	5.6
4	New Jersey	17.34	11.1	0.0	29	Minnesota	10.77	36.8	1.4
5	Alaska	17.17	36.9	20.0	30	Virginia	10.76	24.6	2.9
6	Rhode Island	16.99	0.0	0.2	31	Kansas	10.62	43.3	0.0
7	New Hampshire	16.51	12.6	12.0	32	South Carolina	10.56	30.2	5.6
8	Maine	15.81	2.0	17.2	33	North Carolina	10.48	47.2	7.0
9	California	15.73	0.6	15.8	34	Missouri	10.35	54.3	2.7
10	Vermont	15.52	0.0	28.5	35	Nebraska	10.26	45.6	4.0
11	Massachusetts	15.45	12.3	1.9	36	Mississippi	10.24	16.0	0.0
12	Maryland	14.99	39.3	4.7	37	Montana	9.82	43.5	47.4
13	District of Columbia	14.38	0.0	0.0	38	South Dakota	9.58	16.0	42.3
14	Delaware	14.02	32.3	0.0	38	Utah	9.58	68.3	3.6
15	Michigan	13.45	39.2	0.8	39	Tennessee	9.57	42.3	12.6
16	Pennsylvania	13.28	41.0	1.7	40	Oklahoma	9.52	26.2	4.2
17	Wisconsin	12.57	43.1	2.8	41	Wyoming	9.44	83.0	4.2
18	Nevada	12.19	25.8	9.3	42	Indiana	9.39	72.8	0.2
	United States	12.02	48.2	6.2	43	North Dakota	9.34	75.1	8.9
19	Texas	11.95	19.2	0.6	44	Louisiana	9.32	13.3	0.7
20	New Mexico	11.89	49.8	1.0	45	West Virginia	9.17	89.9	1.6
21	Illinois	11.86	36.2	0.1	46	Oregon	9.13	4.4	62.8
22	Colorado	11.76	39.6	5.3	47	Kentucky	8.99	71.9	4.1
23	Florida	11.73	18.5	0.1	48	Arkansas	8.94	25.3	8.7
24	Ohio	11.71	65.1	0.3	49	Idaho	8.49	0.8	69.5
25	Arizona	11.61	22.5	10.5	50	Washington	8.32	4.7	71.9

CT Generation Fuel Mix

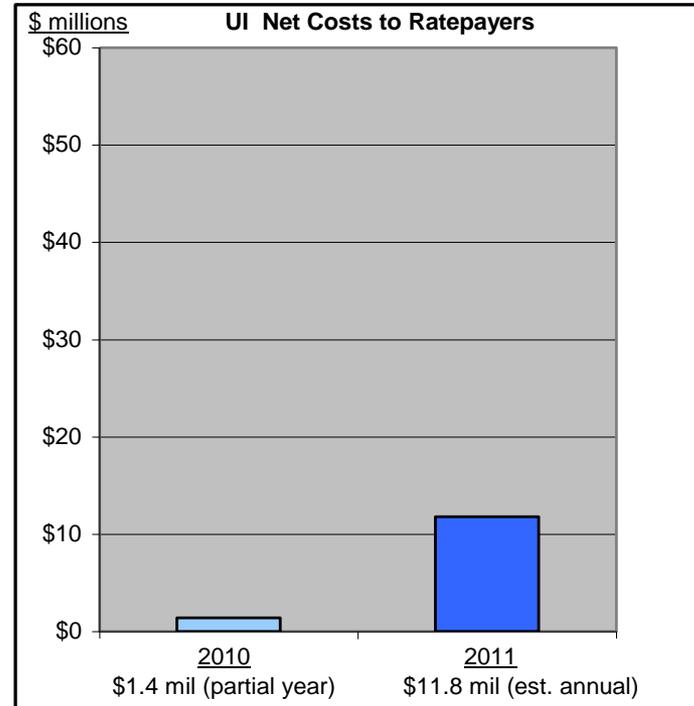
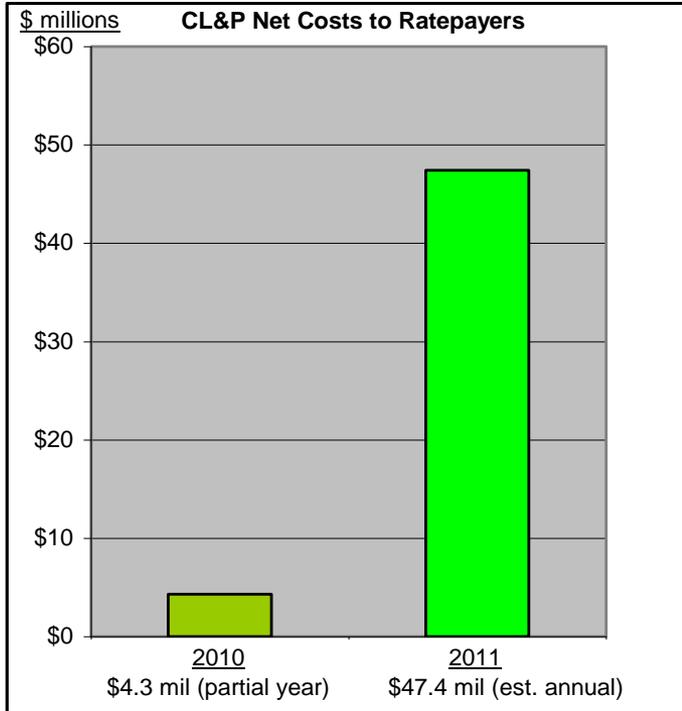
2009 Fuel Mix



2018 Fuel Mix



Capacity/Peaking Facilities Net Costs to Ratepayers



Costs related to such resources as: GenConn Devon & Middletown, PSEG, Waterside, Waterbury Generation, Ameresco, Kleen Energy

Source: Docket 10-08-01: CL&P EL-8 & 9; UI EL-16 & 20 and Application Exhibit 2

CT Renewable Portfolio Standards

Year	Class I	Class II or Class I (add'l)	Class III Program	Total	Estimated Annual Costs \$ Millions	
					Low	High
2005	1.5%	3%		4.5%	13.6	30.7
2006	2%	3%		5%	16.1	37.8
2007	3.5%	3%	1%	7.5%	30.4	66.7
2008	5%	3%	2%	10%	44.5	99.4
2009	6%	3%	3%	12%	55.4	121.2
2010	7%	3%	4%	14%	66.3	143
2011	8%	3%	4%	15%	72.6	160.3
2012	9%	3%	4%	16%	79.1	178
2013	10%	3%	4%	17%	85.1	194.6
2014	11%	3%	4%	18%	91.3	211.8
2015	12.5%	3%	4%	19.5%	100.7	237.5
2016	14%	3%	4%	21%	110.6	264.6
2017	15.5%	3%	4%	22.5%	120.1	290.7
2018	17%	3%	4%	24%	130.8	319.8
2019	19.5%	3%	4%	26.5%	148.2	637.1
2020	20%	3%	4%	27%	152.9	379.7

Costs of Renewable Technology

Technology	Estimated Levelized Costs Cents/kwh	
Landfill Gas	5.6	
Biomass	11.0	<i>Today's power supply costs are in the range of 7-8 cents/kWh.</i>
Hydro	11.0	
Wind	11.2	
Fuel Cells	17.4	
Offshore Wind	19.9	
Solar PV	52.0	

Source: Integrated Resource Plan for CT (Jan. 1, 2010), prepared by The Brattle Group, Inc.; p. 3-30, Table 3.15

DG Capital Grants 2006 to 2011

Year	# Projects Approved	Amount Awarded	Total MWs
2006	1	\$33,960	0.17
2007	40	\$10,962,809	32.55
2008	44	\$18,412,376	51.34
2009	25	\$8,089,004	20.80
2010	11	\$15,598,160	37.32
2011* (Total Outstanding Liability To-Date)	39	\$30,959,617	72.33
Total	160	\$84,055,926	214.51

As of 11/16/2010

The DG Capital Grants program provided grants to encourage the development of emergency generators and cogeneration (CHP) facilities to meet capacity needs and provide demand response capability.

Examples of Completed DG Projects:

Emergency Generation -Yarde Metals (Southington); Matabasset Treatment (Cromwell); Town of Westport (Westport); Stafford High School (Stafford); Hartford Fire Insurance (Hartford); Stew Leonard's (Newington); Newington Board of Education (Newington)

CHP Generation - Fairfield University (Fairfield); Jerome Nursing Home (New Britain); Cellu Tissue (East Hartford); Norwalk High School (Norwalk); Kimberly-Clark (New Milford); Northwestern CT YMCA (Torrington); United Technologies, Pratt & Whitney (Middletown)

Standard Service Bid Blocks - All RFP's

(cents/kwh)

Slice #	2007			2008		2009		2010		2011		2012	
	Q1	Q2	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
10	12.367	10.334	11.522	11.311	14.001	10.581						F 11	S 12
9	12.272	10.280	11.469	11.147	13.981	10.509	10.951					F 11	S 12
8	12.212	10.794	11.540	11.285	11.627	12.889	12.610					F 11	
7	12.142	10.754	11.737	11.135	11.222	14.110	13.672						
6	12.067	10.694	11.647	10.803	11.208	14.070	13.632						
5	14.571	10.406	11.454	12.032	11.609	12.231	11.916	11.526					
4	14.446	10.331	11.108	12.742	11.919	11.878	11.578	11.513					
3	14.252	11.160	12.198	12.169	11.417	11.783	11.126	12.731					
2	14.590	10.966	11.979	12.772	11.570	12.336	11.135	13.176					
1	14.445	10.932	11.636	12.501	11.442	11.936	11.115	11.904		11.383			
BFMCC->	.8	.8	.8	.4	.55	.55	.55	.55		.55			

Type 'B' Bids have been converted to Type 'A' by the above BFMCC amounts

◆ Indicates full-year bid was received

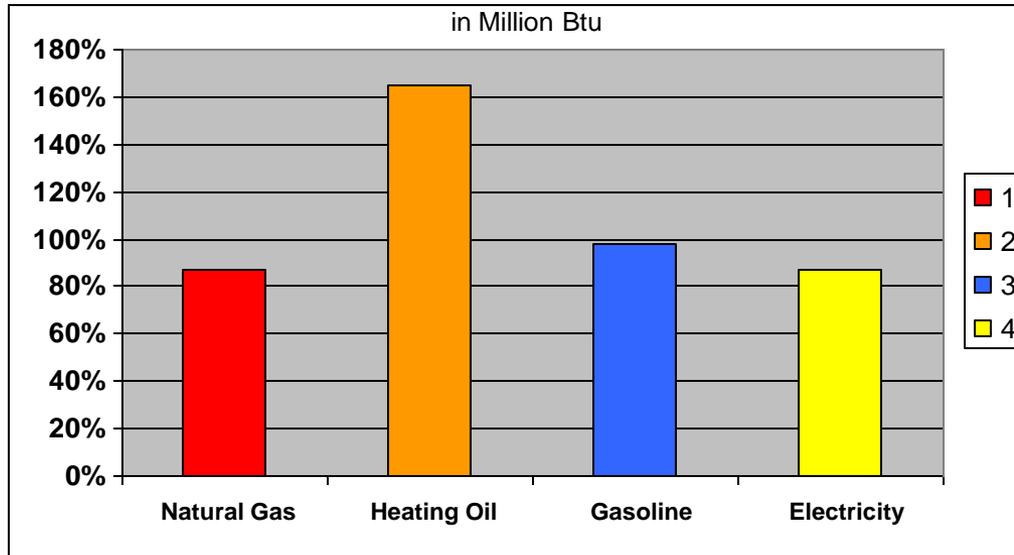
Pricing may vary from prior versions due to change in loads

RFP Date	Bid Due Dates	# Slice-Years	Term Lengths (Mo.)
8/2/06	Completed (9/12/06)	5.5	3, 3, 6, 12
8/2/06	Completed (10/30/06)	8.25	3, 3, 6, 12, 12
1/25/07	Completed (3/6/07)	4.25	3, 3, 6, 12
8/10/07	Completed (9/25/07)	5.5	6, 6, 12, 12 (New CT On/Off Peak definitions began)
8/10/07	Completed (11/05/07)	1.5	6, 6
3/14/08	Completed (4/23/08)	4	6, 12, 12
3/14/08	Completed (8/5/08)	2	12, 12 (Added 7/29/08)
3/14/08	Completed (10/28/08)	4.5	6, 6, 12, 12
	Spring 09	4.5	6, 12, 12 (Tent.)
	Fall 09	5	6/12, 12, 12 (Tent.)
	Spring 10	5	6, 12, 12 (Tent.)
	Fall 10	5	6/12, 12, 12 (Tent.)
	Spring 11	5	6, 12, 12 (Tent.)

not fully shown above

not fully shown above

CT Energy Prices 2000 to 2008 % Increase in Prices



Source: U.S. Energy Information Administration, State Energy Data 2008

Average Monthly Estimated Household Expenditures Telecommunications Services - 2010

Bundled Rate

Voice/Video/Internet \$90-\$125

Wireless \$90-\$110

Monthly Total \$180-\$235

Assumptions:

Does not include any state or federal taxes or governmental fees.

Includes promotional rates. Internet download speeds of 8 – 20 mbps.

Wireless service purchased separately from voice/video/internet bundle.

Family Plan with 1400 monthly minutes, 3 telephone numbers, unlimited nights, weekends & text messages.

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