WASHINGTON UTC UTILITIES AND TRANSPORTATION COMMISSION

Principles and Processes of Setting Utility Rates

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Washington Utilities & Transportation Commission

Regulated Energy Utilities

- **3 Electric Companies** (45% of state electric customers)
  - Puget Sound Energy (Western WA)
  - Avista Corporation (Eastern WA)
  - PacifiCorp d/b/a Pacific Power and Light (Southeastern WA)
- **4 Natural Gas Companies** (1.1 M customers statewide)
  - Puget Sound Energy (Western WA)
  - Avista Corporation (Eastern WA)
  - Cascade Natural Gas (Across WA)
  - Northwest Natural Gas (Southeastern WA)
- **WUTC does not regulate –** publicly owned electric utilities, e.g., municipalities, PUDs, cooperatives.

Electricity Jurisdiction

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- Federal government has jurisdiction over wholesale energy sales and interstate transmission.

- State governments have jurisdiction over retail sales, distribution, and power produced by a utility for its own retail customers.

Electricity Jurisdiction

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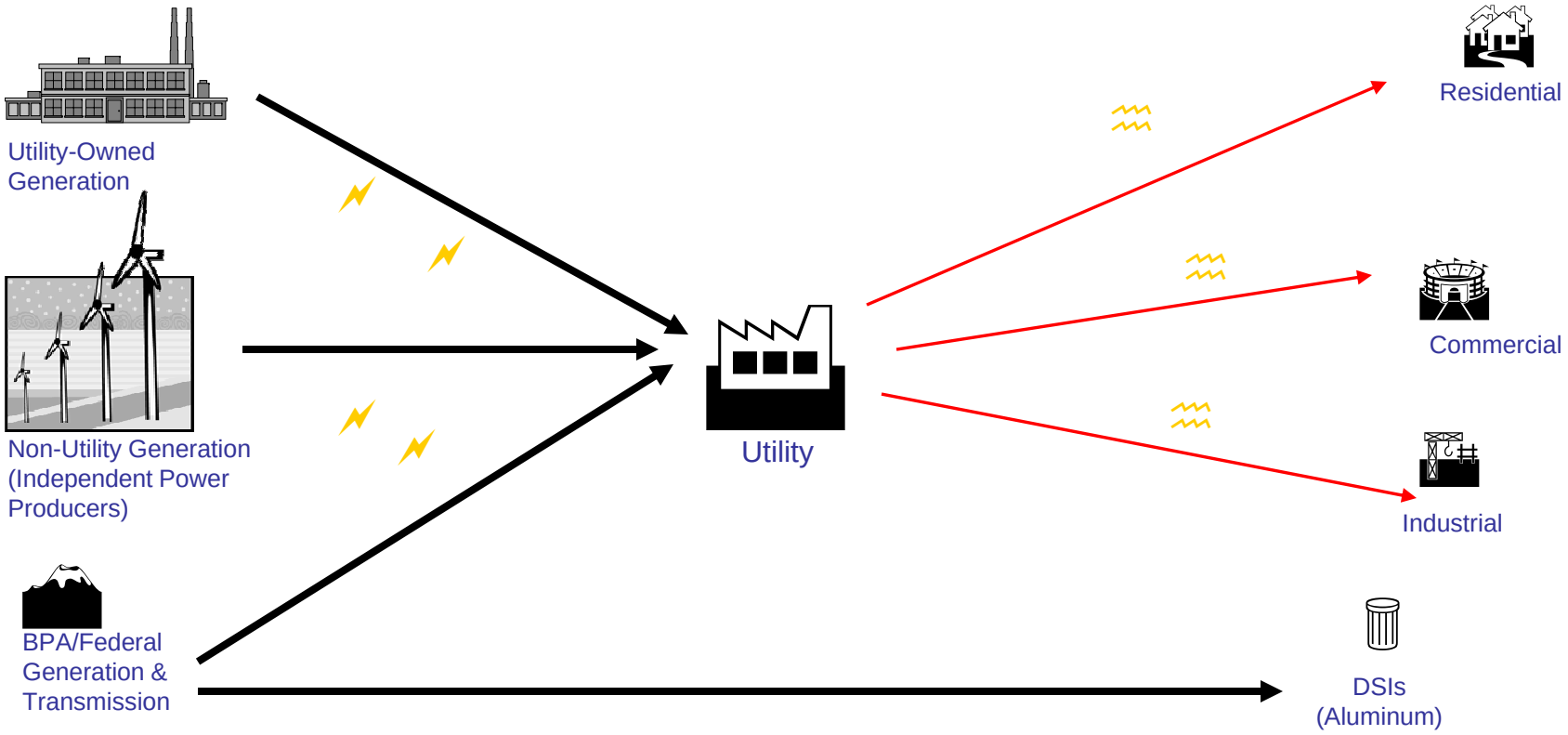
FERC Regulates

Wholesale & Transmission

UTC / Local Government / Boards
Regulate
Distribution & Retail



Principles of Rate Regulation

The UTC was created by the legislature to regulate utility monopolies with the intent that regulation would:

- Provide economic oversight
- Create an effective substitute for market competition
- Allow the efficiencies of a monopoly.

"Price regulation is the heart of public utility regulation."

-- Alfred E. Kahn, *The Economics of Regulation* (1970)

Principles of Rate Regulation

As a substitute for market competition, regulation strives to reproduce the economic discipline imposed by the marketplace.

Thus, regulation incorporates the competitive market objectives of:

- effective management;
- efficient operations; and
- risk and reward

Principles of Rate Regulation

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Rate Regulation, if done properly:

- Requires utilities to make prudent decisions when incurring costs and motivates them to efficiently and effectively manage costs.
- Allows companies to recover their costs of operations and shareholders the opportunity to earn a fair return on their investment.
- Protects consumers by ensuring that safe and reliable service is delivered at the least cost.

Statutory Framework

RCW 80.01.030(3) directs the UTC to:

"Regulate in the public interest, as provided by the public service laws, the rates, services, facilities, and practices of all persons engaging within this state in the business of supplying any utility service or commodity to the public for compensation."

Statutory Framework

To carry out this directive, the Legislature has given the Commission broad authority, including the power to:

- Inspect books, records and documents;
- Conduct investigations and commence proceedings necessary to carry out its statutory duties; and
- Adopt rules governing the terms and conditions of utility service.

Statutory Framework

Under RCW 80.28.010, the WUTC must establish rates that are ***fair, just, reasonable and sufficient***:

"***fair*** to customer and to the Company's owners; ***just*** in the sense of being based solely on the record developed in the proceeding following principles of due process of law; ***reasonable*** in light of the range of possible outcomes supported by the evidence and; ***sufficient*** to meet the needs of the Company to cover its expenses and attract necessary capital on reasonable terms."

PSE General Rate Case, Docket UE-0-0904, Final Order, Order 11 (April 2, 2010).

How we set rates

"In order to control aggregate revenue and set maximum rates, regulatory commissions such as the WUTC commonly use and apply the following equation:

$$R = O + B(r)$$

In this equation,

R is the utility's allowed revenue requirements;

O is its operating expenses;

B is its rate base; and

r is the rate of return allowed on its rate base."

POWER, 104 Wn.2d at 808-09

Setting Rates
Operating Expenses

Operating expenses are established by:

- Reviewing and auditing a utility's test-year expenses (Historical)
- Adjusting expenses for known and measurable changes. (Future)

This method is typically referred to as a *pro forma* test year.

For example, power costs used in a test year to set rates are based on:

- forecasted demand and usage, and
- forecasted energy costs. *e.g., natural gas prices*.

Setting of Rates
Operating Expenses

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Forecasted Costs

- Costs of Generating and Acquiring Power to Serve Load, such as:
  - Fuel Costs
  - Power Contracts
  - Spot Market Purchases
  - Transmission Costs
  - Scheduled Maintenance

Historical Based Costs
(adjusted for known and measurable changes)

- Employee Wages,
- Salaries and Benefits,
- Management Salaries
- Board of Directors Fees
- Leases and Rents
- Costs of Owning or Operating Buildings and Other Support Facilities

- Miscellaneous Costs, such as:
  - Insurance Premiums
  - Pensions
  - Security

Setting of Rates
Operating Expenses

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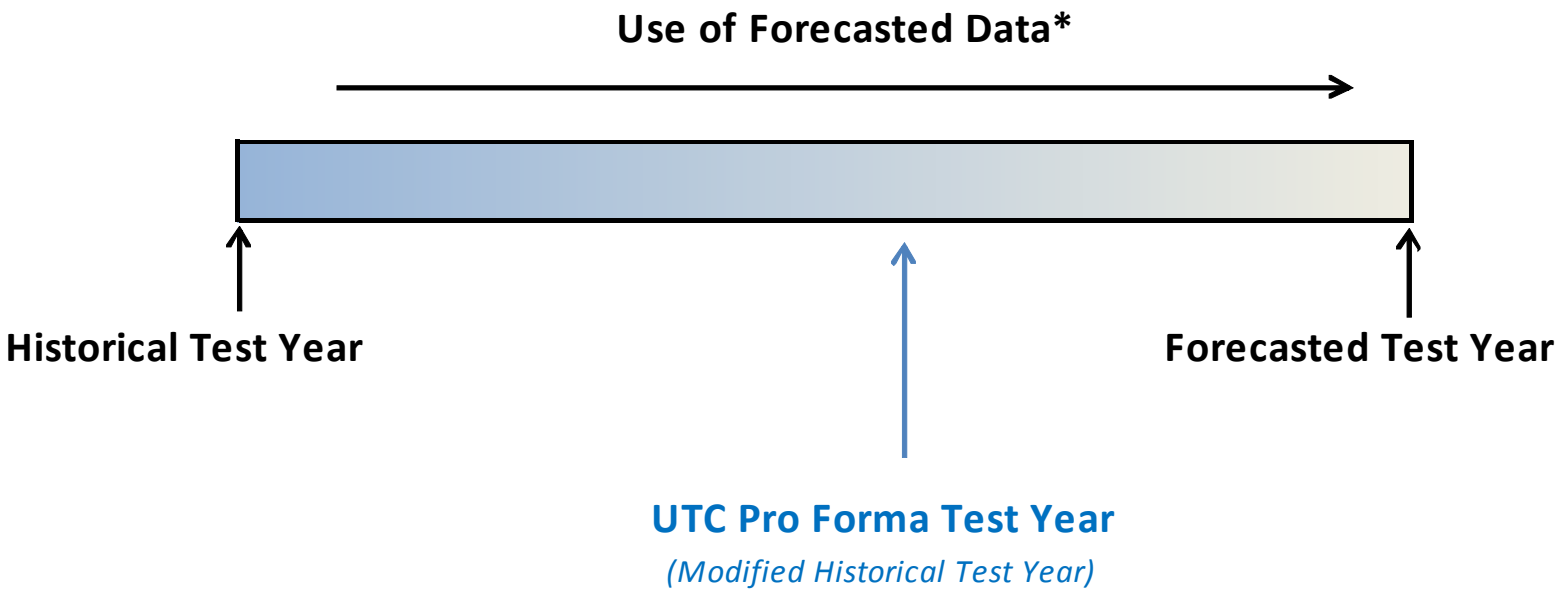
Historical vs. Forecasted Test Year



** Based on electric power production costs to total operating costs*

Setting of Rates

Other Means to Recover Operating Costs between Rate Cases

The UTC also uses other processes to allow utilities to recover costs that are outside their control between rate cases:

- Conservation Cost-Recovery Mechanisms
- Purchased Gas Adjustment (PGA)
- Energy Recovery Mechanism (ERM)
- Power Cost Adjustment (PCA)
- Power-cost Only Rate Case (PCORC)
- Decoupling

Setting of Rates
Other Means to Allow Recovery of Costs between Rate Cases

- Companies may petition the Commission for permission to defer catastrophic storm costs for later consideration by the commission for recovery in rates.
  Puget Sound Energy Docket No. UE-040641

- An electrical company may account for and defer for later consideration by the commission costs incurred in connection with new baseload generation and eligible renewable resources. *RCW 80.80.060(6)*

Setting of Rates
Rate Base

A utility's rate base is:

The total unrecovered (non-depreciated) value of the long-term plant and equipment used to provide utility service to ratepayers.

An electric utility's typical rate base includes:

- generating facilities,
- transmission and distribution plant,
- real property and vehicles.

Setting of Rates
Rate of Return

Rate of return is the level of profit and cost of debt that a utility is allowed to earn on its rate base (investment).

A fair rate of return takes into account the risks associated with a particular type of utility, including

- its regulatory structure;
- the returns allowed for similarly situated utilities;
- should be high enough to attract investor capital.

Setting of Rates
Rate of Return

"The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties."

Bluefield Waterworks & Improvement Co. v. Public Service Commission of West Virginia et al. 262 U.S. 679 (1923).

Setting of Rates
Rate of Return

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Capital Structure and Weighted Cost of Capital

	Balance Sheet	Cost of Capital	Percent of Total	Weighted Cost
Equity Financing	$ 100,000,000	10%	50%	5%
Debt Financing	100,000,000	6%	50%	3%
Total Financing	$ 200,000,000		100%	8%

Rate of Return

Example

INVESTMENT IN NEW UTILITY PLANT

	Balance Sheet	Income Statement
Utility Plant	$ 300,000,000	
Life of Investment	30 years	
Return OF Investment	$ 10,000,000	10,000,000
Utility Plant	$ 290,000,000	
Cost of Capital (rate of return)	8%	
Return ON Investment	$ 23,200,000	$ 23,200,000
Total additional costs included in rates		$ 33,200,000

Setting of Rates
Revenue Allocation

- The next step is to allocate the total revenue requirement to the different customer classes served by the utility.
- The revenue requirement burden is allocated to each class proportionate to the estimated future electric load for the class.
- The revenue requirement for each class is then divided by the estimated load to determine a cost per KWh sold.

Setting of Rates
Rate Design

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- Finally, a rate design for each class is established reflecting how much revenue requirement will be collected in the per-customer charge (base charge) and how much in the volumetric charge.
- In general, a utility does not recover all of its fixed costs in its base charge. Recovery of all fixed costs in the base charge discourages conservation and may burden low income users.

Setting of Rates
Rate Design

- If total usage equals the forecasted levels the rate design allows for full recovery of all costs.
- Actual load can vary from forecast, either up or down, based on a number of factors, including:
  - Weather,
  - Economic factors or
  - Consumer usage patterns.

Setting of Rates Uncertainties

- If usage decreases:
  - The utility may not recover its full forecasted revenues, thus experiencing an erosion of its expected earnings.
  - Earnings erosion may result in not earning its authorized “rate of return.” This is “lost margin.”

Setting of Rates Uncertainties

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- If usage increases:
  - The utility may recover more than its forecasted revenues.
  - This has been termed “found margin.”
  - New technology has contributed to increasing “plug load.”

Rate Case Process

- Ratemaking is a legislative function that has been delegated to the Commission
- However, under the Administrative Procedure Act, ratemaking must be done through an adjudicative process
  - Formal evidentiary hearings
  - Discovery
  - Limitations on *ex parte* contact
  - Judicial review

Sample PSE Bill

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Customer [redacted]

PSE PUGET SOUND ENERGY
The Energy To Do Great Things

STATEMENT SUMMARY AS OF JUN 07, 2010 **Account No.** [redacted]

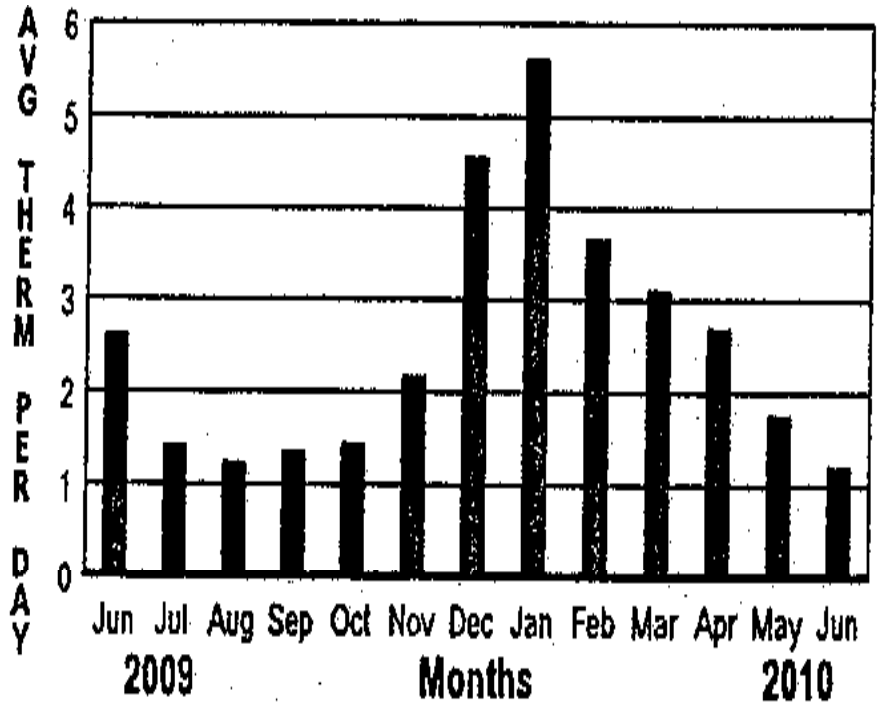
	Account Balance
Balance as of last billing	$148.07
Thank you for your payment(s)	$148.07CR
Balance Forward	$.00
Current Charges	$136.92
CURRENT TOTAL AS OF JUN 07, 2010	$136.92
A bank withdrawal is scheduled for Jun 25, 2010 AUTOMATIC WITHDRAWAL	$136.92

Due to the expiration of a 12-month credit passed through to customers, your natural gas bill this month reflects an increase averaging 2.2 percent, effective June 1.

Electric Detail: [redacted]

Rate/ Dates	Meter Number	Pres Read	Prev Read	Pres Date	Prev Date	Mult	KWH (Usage)	Bill Demand	KVAR Hours	Code	Amount
07E	U011430002	93066	92258	06/04	05/05	1	808			ACTL	
05/06/10 06/04/10	Basic Charge										$7.25
05/06/10 06/04/10	Energy Charge						600 KWHS @ $.085544 Per KWH				$51.33
05/06/10 06/04/10	Energy Charge						208 KWHS @ $.103527 Per KWH				$21.53
05/06/10 06/04/10	Electric Conservation Program Charge						808 KWHS @ $.004617 Per KWH				$3.73
05/06/10 06/04/10	Power Cost Adjustment						808 KWHS @ $.00 Per KWH				$.00
05/06/10 06/04/10	Energy Exchange Credit						808 KWHS @ $.007269CR Per KWH				$5.87CR
05/06/10 06/04/10	Wind Power Production Credit						808 KWHS @ $.001684CR Per KWH				$1.36CR
05/06/10 06/04/10	Merger Credit						808 KWHS @ $.000374CR Per KWH				$.30CR
05/06/10 06/04/10	Regulatory Asset Tracker						808 KWHS @ $.002684 Per KWH				$2.17
05/06/10 06/04/10	Effect Of Olympia City Tax						$78.48 @ $.09 Per Dollar				$7.06
	Current Electricity Charges										**$85.54**

Sample PSE Bill



ENERGY USAGE COMPARISON

For Bill Period	This Year	Last Year	Change
May-Jun			
No. of days	30	30	0
THRM use	36.1	78.9	-42.8
Avg. THRM use per day	1.2	2.6	-1.4
Avg. temp. per day	54F	58F	-4F

Sample PSE Bill

WASHINGTON UTC UTILITIES AND TRANSPORTATION COMMISSION

Customer [redacted]

PUGET SOUND ENERGY
The Energy To Do Great Things

Account No. [redacted]

Gas Detail: [redacted]

Rate/ Dates	Meter Number	Pres Read	Prev Read	Pres Date	Prev Date	CCF	BTU Factor	Therms (Usage)	Price per Therm	Code	Amount
23G	000386427	01485	01451	06/04	05/05	34 @	1.0614	36.09		ACTL	
05/06/10 05/31/10	Basic Charge										$8.67
05/06/10 05/31/10	Delivery Charge							31.28 Therms @ $.35349 Per Therm			$11.06
05/06/10 05/31/10	Cost of Gas							31.28 Therms @ $.65501 Per Therm			$20.49
05/06/10 05/31/10	Gas Conservation Program Charge							31.28 Therms @ $.02097 Per Therm			$.66
05/06/10 05/31/10	Merger Credit							31.28 Therms @ $.0045CR Per Therm			$.14CR
05/06/10 05/31/10	Effect Of Olympia City Tax							$40.74 @ $.0904 Per Dollar			$3.68
								Charge Total			**$44.42**
06/01/10 06/04/10	Basic Charge										$1.33
06/01/10 06/04/10	Delivery Charge							4.81 Therms @ $.35349 Per Therm			$1.70
06/01/10 06/04/10	Cost of Gas							4.81 Therms @ $.67889 Per Therm			$3.27
06/01/10 06/04/10	Gas Conservation Program Charge							4.81 Therms @ $.02097 Per Therm			$.10
06/01/10 06/04/10	Merger Credit							4.81 Therms @ $.0045CR Per Therm			$.02CR
06/01/10 06/04/10	Effect Of Olympia City Tax							$6.38 @ $.0904 Per Dollar			$.58
								Charge Total			**$6.96**
	Current Gas Charges										**$51.38**

Sample PSE Bill

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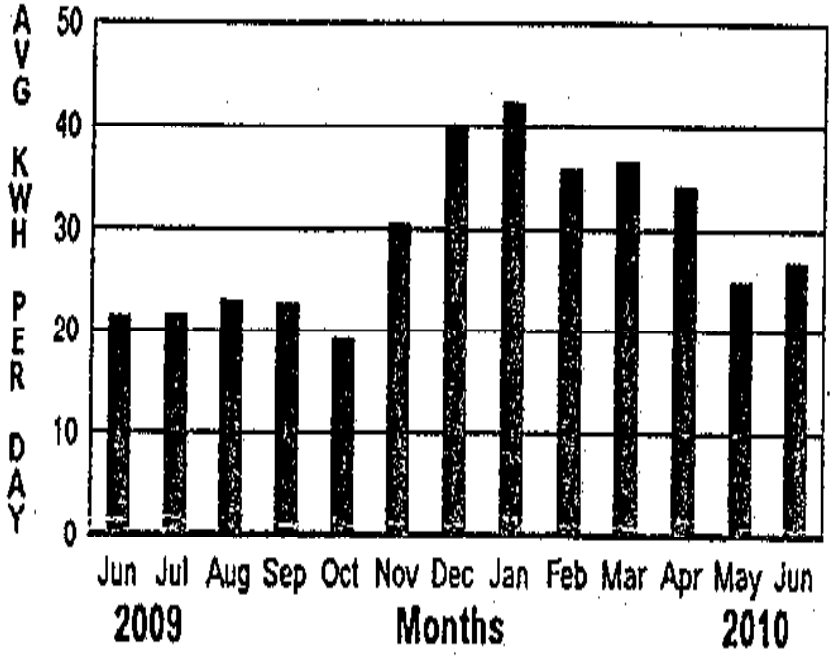

ENERGY USAGE COMPARISON

For Bill Period	This Year	Last Year	Change
May-Jun			
No. of days	30	30	0
KWH use	808	642	166
Avg. KWH use per day	26.9	21.4	5.5
Avg. temp. per day	54F	58F	-4F