YOUR GUIDE

to Understanding and Reducing Your Electric, Gas and Water/Sewer Expenses



Why Understanding Your Utility Bills Is Important to Your Business

Reason #1: Utility Bills Are Not Fixed Expenses

As the CEO, CFO or operations manager of your company, you know that running a business means carefully managing your expenses while maximizing revenues. When it comes to utility bills (gas, electric, water/sewer), you assume that these expenses are part of running a business and that they are a product of usage. And, like every other leader we know, you'd be surprised to find out that things are not quite as straight forward as that. Why? Because the final number that makes up your bill is built on a series of complicated tariffs, rates and taxes, each subject to a different set of rules that few understand except for the utility companies themselves. This means that most of the time you're in the dark as to how your final number was calculated and why you're paying the amount you're paying.

Reason #2: Many Utility Bills Are Not Accurate

The process used to calculate your bill may not be the most efficient, effective or advantageous for your business. While utility companies may not intentionally over-charge their customers, they may not take the time to apply the rates that are best for you. Here's how it works. Legally, customers are responsible for choosing the rates for the utilities. Since most customers don't know this, or don't have the time or expertise to choose the optimal rates, they rely on the utility company to do so for them. This means that most companies rely on standard rates chosen by their utility company and are not aware of the potential savings they could benefit from. As a result, many companies routinely over-pay for their utilities, often by as much as 30%.

Reason #3: You May Be Eligible for Refunds, Tax Credits and Lower Rates Going Forward

With the right knowledge and support, companies can achieve significant cost savings both retroactively and proactively. If you can show the utility company that they applied the wrong rates to your bill, they are obligated to issue you a refund for the difference going back as far as five years, depending on the state. Not only that, but you can negotiate optimal rates going forward, so that you'll benefit from the lowest cost for your gas, electric and water/sewer usage in the future.

Why We Wrote This Book

We wrote this book because we re passionate about getting our customers the maximum refunds and negotiating the lowest possible rates for their utility bills. This book will educate you on the intricacies and variables behind utility companies, bills and various rates so you can make informed decisions in the future. By the time you finish reading, you will:

- Understand how a utility audit works
- Learn more about the best rate option, errors and overcharges, and predominant studies
- Know what to look for in a utility audit company

Ready to get started?



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The Difference between a Utility Rate Analysis and an Energy Audit

A utility rate analysis is different than energy audit. An energy audit is intended to lower consumption by using more efficient lighting or machinery, or by making significant changes in their lifestyle or operations.

A utility analysis, on the other hand, involves analyzing bills to uncover errors, overcharges, and different rate options to reduce the cost without necessarily reducing usage or making significant changes to the internal operations of a business.

Why Utility Bills Are Complex

Today sutility bills are exceedingly complex and many charges are not explained. For example, did you know that a one line entry on a utility bill may be comprised of over 100 factors? Even the most fastidious person would find it extremely difficult to uncover, let alone examine, the individual components that make up what may appear as a one-line charge on a utility bill. There are several reasons why companies may overpay on their utility bills.

- 1. Utility bills are *virtually invisible* to all but a very few people in an organization. Most often, review and payment of these bills fall under the responsibility of the building manager, or operations manager. These individuals are extremely busy, and don't have the time to thoroughly review each bill.
- 2. Utility companies rely on *complicated rates, factors, schedules and tariffs* to charge and calculate bills. Invoices are often full of acronyms and terms most laypersons dont understand. In other words, if there was an error, it would be extremely difficult to detect.
- 3. Most people donthave the **knowledge or expertise** to detect an error or incorrectly applied rate in a utility bill. Unless you are an engineer or have a utilities background, you may never notice that your utility budget is a financial resource.

Why There Are Errors in the Majority of Utility Bills

Virtually every case of overcharging is the result of human or computer error. When you consider the complexity of utility bills and the millions of accounts that a given utility company has to process each year, it is not surprising that mistakes are made. There are many different factors that affect your bills, some hidden and some not, and they can all lead to billing errors and overcharges. Rates, tariffs, demand charges, revenue taxes, surcharges, fuel adjustments, reactive charges and miscellaneous credits can all be miscalculated and misapplied.

Since most of the individuals tasked with paying the utility bills have neither the time nor the understanding to interpret the jumble of taxes and charges at the bottom of each invoice, significant amounts of money are paid out over and over again. For companies that are high energy consumers, such as hospitals, hotels, restaurants, schools, dry cleaners, manufacturing companies, nursing homes and apartment buildings, the overcharges can add up to thousands, or even hundreds of thousands of dollars each year.

How a Utility Rate Analysis Works

A utility rate analysis involves a complete and thorough review of a utility invoice, a process we call a level one analysis. This requires obtaining the most current utility tariffs and reconstructing the bills based on actual incremental rates. By comparing the utility charges to the actual tariffs we can spot billing errors, meter reading errors and computation errors. We also look for any credits or refunds due to such things as economic expansion credits or growth zone pricing. If any credits or overcharges are discovered, then the necessary forms are filled out to apply for the credit. Below are examples of how a utility rate analysis has helped two companies save thousands a year in utility costs.



Case Study #1 - Plastic Manufacturing Company

PROJECT OVERVIEW

Our client was a plastic manufacturing company with multiple locations nationwide. As a result of their intensive production schedule, their natural gas consumption was significant. The company was interested in finding ways to lower their energy bills going forward.



THE PROBLEM

The clients natural gas bill was calculated based on a firm service rate option, which seemed reasonable, since the basic charge was fairly low, but they did not benefit from any discounts.

THE SOLUTION

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We determined that the best way to help lower our clients natural gas bill was to conduct a full utility rate analysis. By reviewing their current rate options versus all the rates available, we were able to select a rate that fit their specific type of usage. We advised our client to switch from a firm service rate to a firm service with a contract demand charge. This meant they would pay a higher basic charge, but receive a discount on all the natural gas they consumed.

THE RESULT

Based on a 12-month comparison, our client is now saving \$18,000 per year, without any capital investment or equipment expense. A rate change that was favorable to their type of consumption made a huge difference.

THE BENEFIT

Our client will continue to achieve savings on their natural gas bills for many years to come.



Case Study #2 - Apartment Property

PROJECT OVERVIEW

Our client has a 114 unit apartment property in the Midwest. Due to high usage year around, their electricity, gas and water costs were significant and continued to grow. The property manager contacted SM Engineering to determine whether they could help them save money on their utility bills.



THE PROBLEM

The property selectric, water and gas bills were calculated based on standard rate options, which did not take into account their specific type of usage.

THE SOLUTION

We conducted a full utility rate analysis and advised the manager to make changes that took into account their consumption patterns throughout the year. These included switching one of their electric meters from general service to small general service time of day, which resulted in savings of \$300 per year. In addition, the gas service was switched from firm service to guaranteed transportation service, which generated savings of \$3,000 per year. Last but not least, the water service classification was changed, resulting in ongoing savings of \$2,500 per year and as well as a refund of \$8,000.

THE RESULT

Over the course of one year, the property owner was able to recover \$8,000 in refunds and \$5,800/year on-going savings on electric, gas and water without any investment.

THE BENEFIT

The clients ongoing savings increased their bottom line, allowing them to invest the funds in other areas of their business.



Understanding Your Electric Bill

Electricity bills can be extremely complicated since there are many different types of rates that can be applied. The thousands of electric companies in the United States may each bill their users different rates, without any specific rationale for doing so. Options for electric rates include:

- Simple/fixed rate
- Tiered/step rate
- Time of use (TOU) rate
- Demand rate
- Tiered within Time of use
- Seasonal (4 seasons)
- Weekend/holiday
- Any combinations of the above

Each of these rates may be appropriate for a specific user, but it could be disadvantageous to another. In addition, electricity bills are very likely to be inaccurate due to building classification, ratchet clauses, interim rate adjustments, demand charges, and credit for new loads.

Understanding Your Gas Bill

Natural gas bills also offer opportunities for cost savings and efficiencies. In addition to mathematical errors, errors in classification, and meter errors, companies can save money by re-evaluating their rate options. Sometimes changing from one option to another makes a significant difference in the amount of money that can be saved. Examples of rate options for gas bills include:

- Small volume
- Large volume
- Firm services
- Interruptible service
- The option to purchase natural gas like a commodity on the spot market

It is also advisable to look at something called @conomy based gas pricing, which are special negotiated prices of natural gas based on a user ability to burn alternative fuels at a lower cost. For example, one of our clients was able to achieve **savings of more than \$80,000 a year** by using a standby propane/air system and switching to an interruptive service rate option. The cost of the installation provided just over a one year payback plus providing back-up fuel in case of utility shortage.

Understanding Your Water Bill

Water bills are calculated in one of two ways:

- a) A basic charge (or meter charge), which is usually based on the size of the meter. The bigger the meter, the bigger the basic charge. In determining the most efficient rate, our specialists look at whether the meter is sized correctly, and how the meter size compares to the meter charge.
- b) A consumption charge. In this scenario, we look at seasonal variation, as well as whether any water is leaving the facility other than through the sanitary sewer (for example, lawn irrigation, cooling tower evaporation, non-contact cooling to storm sewer, etc.). All water that does not ultimately go to the sanitary sewer may be eligible for a credit on sewer charges.



As you can see, there are multiple opportunities for significant savings once the correct rate choices are made, but without the knowledge and expertise to determine those rates, customers may end up overpaying for many years.

Examples of Best Rate Options

Below are several examples of how electricity rate options work.

Demand Rate: This rate is one of the most significant components of the electricity bill. The Demand Charge is based on the highest amount of electricity delivered during any 15 minutes average in the billing period. This rate can be punitive to facilities that use high amounts of electricity in a short amount of time. For example, two health clubs may use the same amount of electricity, but one is open 10 hours a day, while the second has 24 hour access. Using the Demand Rate will incur a higher electric bill for the first health club, since the use of electricity is higher on a per 15 minute basis.

Time of use (TOU) rate: This approach involves charging the user the highest rate during peak usage periods in order to incentivize conservation efforts. Peak times are usually during the day Monday-Friday. Peak rates are the highest, whereas off-peak rates are lowest. Peak rates essentially penalize consumption during peak times.

Seasonal: This rate is standard in the industry and is based on the season of the year \square winter, spring, summer and fall. Most utility companies charge higher rates during winter and summer due to the need for heating and air conditioning of buildings.

Predominant Use Study for Manufacturing Exemptions

A predominant use study is an analysis of utility expenses which helps manufacturers to *claim taxes back* and save every year on their utilities. Engineering studies determine the highest exemption available based on the prevailing laws, including **earning all the tax credits** a company may qualify for.

Engineering studies are needed to determine *the highest exemption available* based on the specific laws for city, state, and federal charge exemptions. This requires not only a complete knowledge of all the laws and procedures for each jurisdiction, but also expertise in environment maintenance for different processes, such as temperature, humidity and dust particles in the air. For example, printing processes are very sensitive to humidity levels, and exhaust functionality is crucial to performance. Fresh air needs to be brought up to make up for exhaust and it needs to be cooled, heated, filtered, humidified or dehumidified. The engineering study determines whether the environment needed for production qualifies the facility for a tax credit. Engineering studies may need to be updated if there are changes in the hours of operation or production levels.

Utilities Used in Production

Individual states often provide clarification and guidelines around how utilities are used in production. Utility auditing companies rely on such state-specific laws and regulations to determine tax credits. An example from the Minnesota Revenue Fact Sheet 129 is shown below.



MINNESOTA · REVENUE

www.taxes.state.mn.us

Utilities Used in Production

129

Sales Tax Fact Sheet 129

Fact Sheet

Utility exemption

Electricity, gas or steam used or consumed in agricultural or industrial production is exempt from sales and use tax. This exemption also applies to water consumed as part of the production process.

Utilities used directly in providing the following taxable services are exempt. Request the fact sheet listed for more information.

- animal boarding (Fact Sheet 122)
- car washing and towing (Fact Sheet 113)
- detective and security (Fact Sheet 114)
- lawn care (Fact Sheet 121)
- laundry and dry cleaning (Fact Sheet 120)
- massage (Fact Sheet 162), and
- pet grooming (Fact Sheet 122)

This exemption does not apply to space heating, lighting or water used or consumed in nonproduction areas, such as office or administrative areas.

Restaurants: The exemption does not apply to restaurants or other eating establishments selling prepared food or drink to be eaten on the premises or sold to go. However, restaurants that also produce frozen food, food that requires further preparation, or other grocery-type food products, may claim exemption on utilities used to produce these products for resale.

For more information about which activities are included in the production process, see Fact Sheets 100, Agricultural Production, and 145, Industrial Production, or the fact sheets shown by each service listed above.

How to figure the exemption

If you have a separate utility meter for production equipment, your exemption percentage on that meter is 100 percent. However, most situations are more complex and require an energy study to determine the exemption percentage.

Details on how to figure your exemption percentage are included in this fact sheet. You may do the energy study yourself or hire an outside firm to figure the percentage for you. In either case, you must document how the percentage was determined.

The energy study should be reevaluated every few years, or more often if changes occur.

The Department of Revenue does not provide the names of and does not endorse any utility engineering or consulting firm who does energy analysis work. These firms are private contractors with no connection to the State of Minnesota.

How to claim the exemption

To claim the exemption from sales tax on utilities used or consumed in production or in providing taxable services, you must give your supplier a Form ST3, Certificate of Exemption. Do not send the ST3 to our office.

How to get a refund

If you paid sales tax on utilities in error, you may request a refund within three and one-half years of when the tax was due.

If the sales tax refund is \$500 or less, request the refund from your supplier. The supplier, in turn, files an amended return with the Department of Revenue. Your supplier needs the following documentation (usually in writing) to substantiate the amount of exemption allowable:

- the type of utility that is exempt—electricity, gas, steam or water
- · a completed exemption certificate
- schedules used to determine the exemption percentage, if an energy study was needed
- · the time period of the claimed refund

If the refund is more than \$500 and you are registered to collect sales tax or pay use tax, you may apply for the refund directly to the Department of Revenue. Complete Form ST-11PUR, Purchaser Sales Tax Refund Claim. Include a detailed explanation or energy study of how the refund was determined along with the other information requested on the form. Only two purchaser claims may be filed in a calendar year.

continued next page

Corporate and Sales Tax Division—Mail Station 6330—St. Paul, MN 55146-6330 Phone: 651-296-6181 TTY: Call 711 for Minnesots Reby

This fact sheet is intended to help you become more familior with Minneauta tax laws and your rights and responsibilities under the laws. Nothing in this fact sheet supersedes, olters or otherwise changes any provisions of the tax law, administrative rules, court decisions or revenue notices. Alternative formats available upon request.

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Minnesota Revenue, Utilities Used in Production 1



Exemption Certificate Example

Exemption certificates are required in order to claim tax exemptions. Below is an example for a company in Connecticut.

SALES AND USE TAX EXEMPTION CERTIFICATE FOR PURCHASES OF ELECTRICITY

[Section 12-412 of the Connecticut General Statutes]

TO CLAIM A SALES TAX EXEMPTION, PLEASE COMPLETE THE FOLLOWING: (NOTE: YOU MUST INCLUDE THE ACCOUNT NUMBER SHOWN ON OUR BILL.)

FULL LIABILITY IS HEREBY ASSUMED FOR THE PAYMENT OF ANY TAXES, TOGETHER WITH PENALTIES AND INTEREST THAT MAY BE DETERMINED TO BE DUE ON ANY PURHASES THAT DO NOT MEET THE EXEMPTION REQUIREMENTS OF SECTION 12-412 OF THE CONNECTICUT GENERAL STATUTES. THIS CERTIFICATE SHALL BE CONSIDERED A CONTINUING REPRESENTATION FOR A PERIOD OF THREE YEARS FROM THE DATE OF ISSUANCE, UNLESS AN EARLIER WRITTEN REVOCATION IS GIVEN TO CL&P BY THE PURCHASER.

SUGGESTED PURCHASER'S EXEMPTION CERTIFICATE ELECTRICITY OR STEAM USED TO MANUFACTURE ITEMS FOR SALE FOR USE ON OR AFTER JULY 1, 2000

The undersigned understands that if such purchases of electricity or steam do not qualify for exemption, the undersigned will be subject to sales and use tax, interest and penalties. Purchaser further understands that when any person shall fraudulently, for the purpose of evading tax, issue to a vendor or to any agent of the state a certificate or statement in writing in which he or she claims exemption from the sales tax, such person, in addition to being liable for payment of the tax plus a mandatory penalty of 200% of the tax, shall be liable for fine and punishment provided by law for conviction of a misdemeanor of the second degree, as provided in s. 775.082, s. 775.083, or s. 775.084.

Legal Rulings on Tax Exemptions

States frequently issue legal rulings clarifying laws and regulations around exemptions. Utility audit companies rely on the information included in these rulings to determine the most accurate tax exemption for their clients. The examples below show state rulings in which individual companies were able to claim tax credits based on utilities used in the production process.

Indiana: Rotation Products versus Indiana Department of Revenue

Summary: The court ruled in favor of Rotation Products, classifying the remanufacturing of roller bearings production of tangible personal property.

Iowa: Hy-Vee Food Stores versus Iowa Department of Revenue

Summary: The court ruled in favor of Hy-Vee, allowing a tax exemption on electricity used during food processing.



What to Look for In a Utility Auditing Company

If your interested in finding out whether there are errors or overcharges in your utility bills, your best option is to hire a professional firm that has the expertise and experience to do the job right. Here are some of the things you should be looking for:

Expertise: Are the auditors trained mechanical and electrical engineers? Do they have experience in your particular industry? Are they familiar with the intricacies of rate schedules and options, tariffs, and tax rules and regulations? Due to the highly complex nature of the utilities industry, it takes a highly trained, highly skilled individual to understand and correctly analyze utility bills. Make sure the company you hire has the best experts in the business.

Experience: How long has the company been in business? This is an important component of trustworthiness and reliability. An internet search will reveal hundreds of utility bill auditors and services. Many come and go due to low start-up costs. Ask your potential providers how long they have been performing utility bill audits. You want to avoid companies that are new and inexperienced, particularly those that are not committed to the business long term. A good indication of a company longevity and integrity is the associations that they participate in, or if they have received any awards or were mentioned in the media.

Track Record: A utility auditing company strack record speaks to their level of success with their previous and current customers. Ask the company how many clients it has served over the years. Get a list of testimonials from customers in different states or industries, as well as industries similar to yours. Learn of the utility bill auditor's experience in your industry. Seek out professional bill auditors that have worked with other companies like yours, whether your organization be a company, municipality or non-profit. Ask for testimonials and references and contact them. While it is true that only positive references are given, there is still value in calling them. When you do, other than the usual questions, ask: □Were you compensated for this reference? What other organizations do you know that used this bill auditing company but were not as pleased as you? □

About SM Engineering

SM Engineering is one of the largest, most experienced, utility management companies in the United States. Our core business is **helping our clients reduce their electric**, **gas**, **and water/sewer bills**. We have an outstanding national reputation for integrity, industry knowledge and customer service. Since 1982, our expert energy consultants have helped a wide range of clients reduce their utility costs. Our experience with manufacturing facilities, hotels, grocery stores, health care centers, and multi-family housing provides clients with a broad perspective and information that is not readily available in the marketplace. What sets SM Engineering apart from other utility auditing companies is the fact that **we have mechanical and electrical engineers on staff**. This level of training and expertise allows us to be more accurate and thorough than other companies.

We offer three key services to our customers nationwide:

- Utility Expense Reduction and Rate Analysis
- Utility Errors and Overcharges
- Predominant Use Study for Tax Exemption

Some other interesting facts you may want to know:

- \$150,000,000: Total savings we have obtained for our clients
- 20,000: Number of clients we have helped
- \$0: Amount we charge our clients to review their bills
- 50: Number of states in which we have done business
- 30+: Number of years we have been in business



About Our Leaders

Satya Garg is the President of SM Engineering. He graduated from the University of Minnesota in 1968 with an MS in Mechanical Engineering and is a registered Professional Mechanical and Electrical Engineer in Minnesota. His leadership experience includes positions with Planmark, Michand, Cooley, Hallberg, Erickson & Associates, and SuperValu. He won the Governor ward for putting an energy management program in SuperValu stores. He has been at the helm of SM Engineering since 1982, helping thousands of companies achieve savings on their utility bills.

Wayne M. Peterson is the Chief Operating Officer of SM Engineering. He earned a Master Degree in Business from Metropolitan State University in Minnesota and is a Certified Energy Manager by the Association of Energy Engineers and certified in Industrial Energy System by the Hennepin County Vocational Technical Center. His previous experience includes positions with Telmart and Direct Digital Controls, where he managed the installation of building automation controls. In 1984 he joined SM Engineering, where he continues to perform field audits and negotiates lower utility rates for clients.

Frequently Asked Questions (FAQs)

How much does SM Engineering charge for their services?

That sthe beauty of this system. You don pay us anything out of your current budget. Our fees are contingent on savings or refunds we find for you. Fees are due only after you have received the actual savings.

How does SM Engineering work with clients?

Its simple. Send us your most recent monthly utility bill for electric, natural gas, water and sewer for a free initial analysis. If we find that your bills are in order, well return them with a note stating that youre being charged appropriately, and thats it. If we find errors, well notify you by sending you an authorization to audit and monitor your utility charges. Read it over, sign it, mail it back, and well begin the process of research billing adjustments and claiming refunds. We can also work with you to find potential savings from tax credits based on your business and engineering processes.

Why are businesses overpaying on their utility bills?

Because customers are responsible for selecting the appropriate rate schedule for their usage, many companies rely on the utility company to select their rate. Only rate experts with complete rate information and experience can analyze and audit utility costs accurately.

How do utility overcharges occur?

There are many factors that can lead to billing errors and overcharges. Miscalculations and misapplications can happen when computing various rates, tariffs, demand charges, fuel adjustments and surcharges.

Are utility companies deliberately overcharging companies?

No. Almost every instance of overcharging results from human or computer error. The complexity of the billing process and the thousands of accounts a utility company bills each month lead to the potential for errors.

Couldn't we analyze and audit our bills in-house?

Yes, but it would be highly impractical due to the amount of time, training and research required to execute an accurate audit.

How do I know if I qualify for a sales tax exemption?

Exemptions vary by state. Each state has issued a set of guidelines that are left to interpretations. Good knowledge of building design, building operations, engineering and environment related issues helps in determining the highest exemption allowed.



Where do I send my sales tax exemption information?

Our staff helps prepare all the necessary documents and studies for your signature before they are forwarded to the state or utility company for review.

How do I know that I completed the forms correctly?

SM Engineering staff has extensive experience preparing and completing the necessary paperwork, and we will make sure everything is in order before we send it out.

Where can I check to see if my exemption was accepted?

SM Engineering communicates with the state or utility company to check the status of your account. We have a good idea of the time it takes for the review process with different states and utility companies.

How long is my tax exemption status valid?

The exemption forms need to be updated if:

- 1. Your operation changes significantly
- 2. You add machines and/or change the square footage
- 3. Your hours of operation change
- 4. Depending on the state and utility company, the exemption forms may need to be updated every one to four years

We Would Like to Hear From You

We hope you found this information useful and would love the opportunity to help you save money on your utility bills in the near future. Please visit us at **www.smeng.com** to learn more about the services we offer, or you may contact us directly at **(952) 938-7407** or at **info@smeng.com**. We hope to hear from you soon!

