

Feasibility of Utility Bill Disclosure Tool

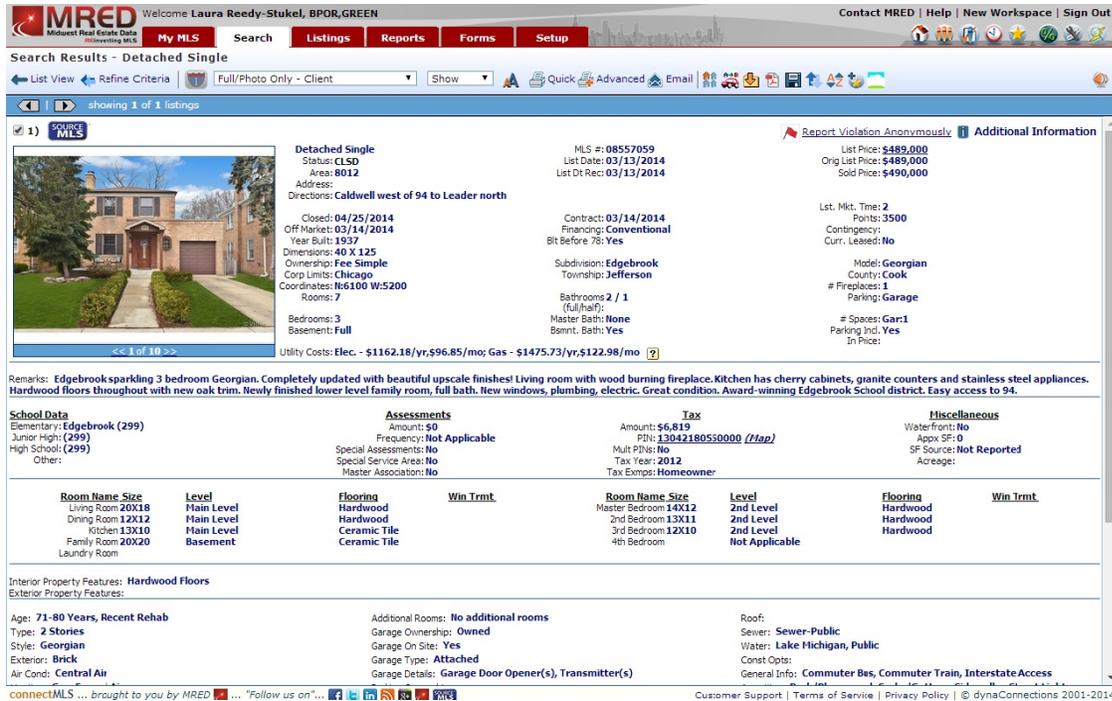
Background

In 1987, Chicago City Council passed a law requiring disclosure of heating costs by landlords or home sellers. This law was intended to protect Chicago residents from untenable winter bills. Until 2013, this disclosure was completely paper-based between the owner and renter or buyer. It had not kept up with the market shift to electronic listings, which in turn often meant that energy use information was left out of the sales transaction.

Elevate Energy, a spin-off non-profit of the Center for Neighborhood Technologies (which wrote the original heating bill disclosure law), discovered this technological breakdown between the intention of the law and the implementation. Fortunately, Elevate Energy already had an online tool specifically designed for energy-use transparency. The tool, developed with RW Ventures, was called MyHomeEQ. This tool provided a specific solution to the energy-use disconnect between utilities and the local Multiple Listing Service (MLS), Midwest Real Estate Data (MRED), and it acted as the bridge to transfer homeowner data securely.

On July 3, 2013, Chicago took another major step forward to a transformed market where energy efficiency is standard practice. MRED began displaying the utility costs of homes for sale as part of its online listings. To this day, Chicago is the only city in the U.S. to have utility bills electronically disclosed as part of the home listing.

Now, real estate brokers are able to use their clients' utility account number to look-up a home's utility consumption and populate the utility consumption fields. The end result is a real estate listing (Figure A) where energy use is seamlessly integrated into the market transaction.



The screenshot shows a real estate listing on the MRED website. The listing is for a detached single home at 8012 Caldwell west of 94 to Leader north. The listing includes a photo of the house, a list of features, and utility costs. The utility costs are: Elec. - \$1162.18/yr, \$96.85/mo; Gas - \$1475.73/yr, \$122.98/mo. The listing also includes a table of room information and a table of assessments and taxes.

Room Name	Size	Level	Flooring	Win Trmt	Room Name	Size	Level	Flooring	Win Trmt
Living Room	20X18	Main Level	Hardwood		Master Bedroom	14X12	2nd Level	Hardwood	
Dining Room	12X12	Main Level	Hardwood		2nd Bedroom	13X11	2nd Level	Hardwood	
Kitchen	13X10	Main Level	Ceramic Tile		3rd Bedroom	12X10	2nd Level	Hardwood	
Family Room	20X20	Basement	Ceramic Tile		4th Bedroom		Not Applicable		
Laundry Room									

Figure A. An example of a Chicago Midwest Real Estate Data, LLC listing with the utility costs included.

Purpose

In 2014, the Institute for Market Transformation (IMT) and Elevate Energy partnered to bring the technical expertise from the Chicago success together with strong local connections in the District of Columbia. During this grant period, IMT and Elevate set up conversations in person, by phone, and over email with representatives from the three distribution utilities in the District: Pepco, Washington Gas, and DC Water. Together, IMT and Elevate worked to identify appropriate parties within each utility and then connected them with a representative from Elevate. After the Elevate representative presented the case study of how Chicago utilities were able to share home energy-use data at the homeowner's request to the local MLS, IMT and Elevate would listen to and address the specific concerns of each utility.

The overall goal of this work is have a home's total cost of ownership be transparent during the buying and selling process. In terms of utility costs, this means that a buyer of a home is adequately informed of the yearly costs of electricity, natural gas, and water.

Feedback, Primary Concerns, and Next Steps

Pepco

John Andreoni from IMT and John Blaser from Elevate Energy spoke to Manuel Vera from Pepco over the phone on July 29, 2014. Before the conversation began, it was established that everyone on the call supported the idea of transparency of utility bills through real estate listings. It was also established that Pepco is a proponent of the Green Button initiative for commercial buildings and is currently using the "Connect My Data" functionality in a limited pilot for the District's schools and the U.S. General Services Administration.

Mr. Vera's overarching concern was customer privacy—specifically, how the customer would to authorize his or her data to be shared. Expressing concern for the balance between convenience and security, Mr. Vera felt that the current practice in Chicago, where customer account numbers are used to establish access, would not be sufficient for Pepco.

Pepco's current option is to have customers access their data on the Pepco website and then upload it to MyHomeEQ or Metropolitan Regional Information Systems, Inc. (MRIS). However, given the wealth of data collection tools in the market, it may be possible to automate this data gathering from Pepco's website using the customer's username and password.

In follow up, our team crafted a memo addressing the concerns that Mr. Vera brought up both on the phone and in a follow-up email (Appendix A). The next step for further work is to continue the conversation with Pepco and lay out a specific adoption plan.

Washington Gas

In September 2014, John Andreoni and Cliff Majersik from IMT and John Blaser from Elevate Energy exchanged emails with Steven Jumper, Roberta Willis Sims, and Robert Glidewell from Washington Gas. The tone of the exchange was cautious, with Mr. Jumper, Ms. Sims, and Mr. Glidewell expressing skepticism that the Chicago approach would be sufficient to protect customer privacy.

Mr. Glidewell noted that there must be direct authorization by the customer to release usage data to Washington Gas or to a third-party such as MyHomeEQ. Washington Gas is also in the process of replacing its billing mainframe; partially driven by the need to provide automated uploads to the Environmental Protection Agency's Portfolio Manager platform to meet building energy-use benchmarking requirements in the District in 2018. Mr. Glidewell noted that until that time Washington Gas is unable to support an automated approach to collecting data.

Further research showed Washington Gas currently provides customer data on its website, but that it is via PDF, which is inaccessible by an automated process. While MyHomeEQ could technically act as a secure aggregator through the periodic transfers of customer data, this does not meet the need for direct customer authorization to Washington Gas.

It does not seem likely that Washington Gas will be able to connect consumption data to MRIS in the next fiscal year and possibly not until 2018 when its data architecture has been upgraded.

DC Water

John Andreoni met with Laura Preston at the DC Water office on Sept. 3, 2014 with John Blaser joining by phone. Water consumptions and costs are not required by the Chicago law, and MRED does not list that under utility costs. With this in mind, the discussion with Ms. Preston and her technical lead focused primarily on what benefits for DC Water could obtain by implementing this new type of access.

Currently, DC Water provides online access and, at minimum, once-a-day water readings and high-usage alerts for all of its customers. Since the technology has already been implemented at DC Water, it is possible that MyHomeEQ could automate access to the customer data via the DC Water website. However an interface that does not require access via the website is preferred to reduce overall complexity.

During the discussion, DC Water suggested that one possible benefit of utility data release to MRIS would be to provide the utility with information on an expected service change that would be triggered by the home sale. This has not yet been discussed with MRIS, who would need to provide the date of closing to DC Water in order for this to be implemented.

Ms. Preston noted that water cost is distinctly different than electricity or natural gas charges. For example, the stormwater charges that the District Department of the Environment (DDOE) and DC Water levy on a customer is independent of how much water that customer uses. Instead, this charge is determined by the amount of impermeable surfaces on a home's tax lot. The overall water cost for a customer is a combination of variable usage costs and an impermeable surface charge.

It is possible that transparency around water costs in a way that separates usage costs and impermeable surface fees could drive greater interest in measures to reduce *both* costs through water efficiency measures and green roof installations.

Future Work

It is important to note that the District's energy benchmarking law—established by the Clean and Affordable Energy Act of 2008—facilitated these conversations and, in the case of Pepco, encouraged further openness in data access. However, one significant distinction between the experiences in the District and Chicago is that the latter has a legal requirement for homeowners and landlords to disclose energy costs. The requirement has certainly spurred rapid adoption by both brokers and utilities in Chicago.

In addition, existing regulation do require utilities to obtain written consent from customers before disclosure of cost or consumption information. The DC Municipal Regulation ([15 DCMR 3903](#)) specifically states:

“An energy utility shall not disclose any customer-specific information obtained in connection with the provision of regulated utility services except upon written consent of the utility customer. The consent form signed by the utility customer shall state the purpose of the disclosure.”

The possibility of a technical solution that is convenient for the broker, homeowner, MRIS, and utilities will likely require a modification of this regulation and discussion with utilities, the Public Service Commission, and the Office of the People's Counsel (OPC). The OPC Consumer Rights and Responsibilities also state that written authorization is required for disclosure of customer information.

In terms of technical feasibility, the solutions provided by MyHomeEQ in Chicago are not possible in the District due to additional privacy and authorization requirements from Pepco and Washington Gas, and that the possession of the account number is not sufficient for data access by a third party in the District. Possible solutions, such as allowing the customer to provide authorization via the utility website or call center in advance of the data request by MRIS or MyHomeEQ, still exist.



Promoting energy efficiency in buildings.

With this particular method, the data request itself could be automated between the utility and the MLS, without the customer needing to download or upload a data file.

The goal of future work is to lay out a specific technical adoption plan that addresses privacy concerns for both MRIS and a local utility. This concrete next step would allow the discussion to progress from examining how this kind of disclosure can be accomplished to determining what other barriers exist to prevent adoption.

Appendix A

Memo sent to Pepco

Sent to: Manuel Vera (mavera@pepco) on Tuesday, Aug 26, 2014 by electronic mail

It was a pleasure to speak to you about the feasibility of integrating home sellers electricity costs within the Multiple Listing Service (MLS), which is provided by Metropolitan Regional Informational System, Inc (MRIS).

The goal of the program is to allow Home Sellers to disclosure their energy costs on their home listing and to provide a printable energy disclosure that may be provided to a prospective Home Buyer.

As we discussed, this was implemented in Chicago in support of an Energy Disclosure Ordinance that requires home sellers to provide the previous year's energy cost information to home buyers at time of closing. The process to support this ordinance had previously required faxed requests between the realtor and utility, but is now provided in real-time via a data service provided by MyHomeEQ, working with Peoples Gas and ComEd.

For an implementation in the Pepco service area, the requirements themselves are less complex than the process followed during the implementation in Chicago. Keep in mind that it is difficult to define many details of the process at this time, as those details are outcomes of this feasibility study, not inputs.

Data Requested and Time Frame

The data points provided by the home seller on the MLS listing are the yearly electricity cost and monthly average electricity cost, based on the previous 12 months. These values can be calculated by Pepco and provided directly, or the 12 months of electricity bill information can be provided from which these values can be calculated. In Chicago, the costs were provided by month, separately, so that a graph of the monthly costs could be provided to the home buyer along with the total amount and average.

As part of the feasibility study, it would be helpful if you could investigate your ability to provide usage data as well. If both are available, then a decision can be made on what is most valuable to home sellers and buyers during more detailed discussions involving Pepco and MRIS.

This data is required only once during the creation of the MLS listing. There is no requirement for an ongoing monthly update feed as was utilized during the Chicago implementation.

Authorization to Access and Share the Data

The goal is to provide seamless integration between the utility and the MLS, which makes the usage of a paper authorization form impractical. Prior experience in Chicago using paper authorization forms that were scanned and faxed to provide an energy cost disclosure demonstrated that the paper authorizations were too slow and labor-intensive, causing underutilization of the disclosure. There options that support the homeowner's ability to share their data without providing a signed, paper authorization to Pepco directly.

- The homeowner, or their agent, could access their data directly via the Pepco website, either through accessing their account details of via an implementation of the Green Button.
- The homeowner could provide authorization via the Pepco website for a specific third party, either MRIS or MyHomeEQ, to access their data.

As Pepco has experience with both protecting customer privacy and making information available to the requesting customer, we look forward to any other suggestions that you may have.

Technical Implementation

While I am unable to estimate the implementation costs without additional knowledge of your systems, it likely that the following services would need to be provided by Pepco:

- A secure web service or online portal that would allow the MLS or a data aggregator such as MyHomeEQ, to access the customer's data based on information provided by the customer. This information most likely consist of an account number or other unique identifier for the customer, and possible an authorization key, password, or other details. These details will need to be determined during detailed design based on the findings during the feasibility study.
- A process that accesses the Customer's utility bill information within Pepco to return 12 months of cost data or a calculated 12 month total and average monthly cost.

- Integration between the online portal and the process that retrieves the utility bill data, which passes that data back to the online portal.

It has yet to be determined if the MyHomeEQ tool is necessary as an intermediary or if Pepco could provide data directly to MRIS. The use of a third party like MyHomeEQ allows for some of the implementation details to be managed outside of Pepco and MRIS, but it may be unnecessary depending on the capacity of Pepco and MRIS to integrate directly.