Let’s Streamline: Sourcing & Delivering Green Data via Auto-Population
PANELISTS

Meg Garabrant, Dir Mktg & CMN, NEREN® MLS

Chris Haran, CTO, MRED

Greg Moore, VP Tech Systems, RMLS

Matt Casey, President & CEO, CRS
Meg Garabrant is the Director of Marketing & Communications for the NEREN® MLS with over 10,000 users throughout New England and is the primary MLS for the states of NH and VT.

Meg oversees third party integrations, product, member training & education, and is responsible for ensuring RESO field compliance. Meg is a member of RESO, CMLS, is Chair of the CMLS Green Section Council and a member of the NAR Sustainability Advisory Group.
The benefits of Green Data Auto-Population

• Green Data = Home Performance Indicators (HPIs)
• Consumer Experience (Agents & Appraisers & their customers)
• More Comprehensive Data
• Reduction of Data Inaccuracies
• Risk Management
NEREN® MLS PV
Data Auto-Population Pilot

- PV Learning Network
- The data found us
- Vermont Solar Power Installation data (Photovoltaics)
- Launched 10/3/17
Consumer Experience

Incorporated Vermont PV data into Public Records Database

• Already had auto-pop process in place in LIM
• RESO Standard fields – Power Production
**Consumer Experience**

**Vermont Tax Report**

<table>
<thead>
<tr>
<th>Tax &amp; Legal Info</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax Id</td>
<td>(153) HW1636</td>
</tr>
<tr>
<td>Tax Year</td>
<td>0</td>
</tr>
<tr>
<td>Assessment Year</td>
<td>2015</td>
</tr>
<tr>
<td>Zoning</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address Info</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>Richmond</td>
</tr>
<tr>
<td>Zip Code</td>
<td>05477</td>
</tr>
<tr>
<td>County</td>
<td>Chittenden</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property Characteristics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Baths</td>
<td>0</td>
</tr>
<tr>
<td>Baths</td>
<td></td>
</tr>
<tr>
<td>Fireplaces</td>
<td></td>
</tr>
<tr>
<td>Building SqFt</td>
<td>0</td>
</tr>
<tr>
<td>Lot Size</td>
<td>457380</td>
</tr>
<tr>
<td>Acres</td>
<td>10.50</td>
</tr>
<tr>
<td>Number of Units</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power Production</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mount Location</td>
<td>Ground</td>
</tr>
<tr>
<td>Mount Type</td>
<td>Tracker</td>
</tr>
<tr>
<td>Power Production Size</td>
<td>4.20</td>
</tr>
<tr>
<td>Power Production Year</td>
<td>2010</td>
</tr>
<tr>
<td>Power Production Type</td>
<td>Photovoltaics</td>
</tr>
</tbody>
</table>

**Load Tax Data**

<table>
<thead>
<tr>
<th>Include</th>
<th>Description</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>(245)</td>
<td>Acres</td>
<td>10.50000</td>
</tr>
<tr>
<td>(152)</td>
<td>TaxGrossAmnt</td>
<td>0.00</td>
</tr>
<tr>
<td>(150)</td>
<td>AssmtVr</td>
<td>2015</td>
</tr>
<tr>
<td>(315)</td>
<td>BedsTot</td>
<td>0</td>
</tr>
<tr>
<td>(279)</td>
<td>SqftApTI</td>
<td>0</td>
</tr>
<tr>
<td>(94)</td>
<td>UnitLcl</td>
<td>0</td>
</tr>
<tr>
<td>(391)</td>
<td>BathFull</td>
<td>0</td>
</tr>
<tr>
<td>(294)</td>
<td>Baths1/2</td>
<td>0</td>
</tr>
<tr>
<td>(93)</td>
<td>Address</td>
<td>1635 Hillview Rd</td>
</tr>
<tr>
<td>(2861)</td>
<td>LotSqFt</td>
<td>0</td>
</tr>
</tbody>
</table>

**Review Available Data**

**Data Auto-Selected**
Consumer Experience

More Comprehensive Data

Risk Mitigation – Source: Public Records
Share Across the Marketplace

Listing Input Forms

Search

Search Tips:
- Check them All!
- Add GVP 2, 3
Share Across the Marketplace

Property Reports

Data Distribution

Data Authorizations

- (65) Display Listing - Internet
- (205) Display Address - Internet
- (48) Realtor.com
- (52) Zillow Group
- (448) Homes.com
- (46) RPR
- (47) ListHub

Intra-Office
IDX
VOW
Specialty Feeds
The Future and Best Practices at NEREN® MLS

- Evaluate & Improve
- Local Green Verification Programs
- Power Production data onto CRS reports
- Power Production data searchable in CRS
- NH, MA, ME, RI, CT PV Data
- HELIX Data Auto-Population
As Chief Technology Officer for MRED, Chris Haran is responsible for driving the strategic vision through technology, and bringing together people, ideas and resources to be innovators.

Prior to taking on the CTO role, Haran worked his way up through various levels of the marketing and operations departments on the real estate brokerage side of the industry.
The MRED Green Journey

• Why Green Data?
  • We love the planet
  • City of Chicago made us
To fill-in the following fields, click the "Lookup Estimates" link and follow the instructions.

- **Annual Estimated Electricity Costs:**
- **Monthly Estimated Electricity Costs:**
- **Annual Estimated Gas Costs:**
- **Monthly Estimated Gas Costs:**

Lookup utility estimates for: 3300 W Irving Park Rd, Chicago, IL

Enter the applicable Utility Customer Account Number(s) then click "Continue." If you do not know an account number, check "Unknown." If the property does not have a utility, check "Not Applicable." MRED Rules & Regulations Department will review "Unknown" and "Not Applicable" values.

- **Electricity Customer Account #:**
  - or- unknown
  - or- not applicable

- **Gas Customer Account #:**
  - or- unknown
  - or- not applicable

☐ I affirm that I am Chris Haran and am authorized to lookup this information.

When you click Continue, utility estimates will be retrieved from Plianteco, who are providing this service in conjunction with the City of Chicago, in accordance with Chapter 5-16 of the Municipal Code of Chicago pertaining to the disclosure of utility costs.
The MRED Green Journey

How did we source and implement?
How much energy does your single-family home really use?

See what you use

MyHomeEQ automatically pulls in all your household information and determines what you can do to save the most on your energy costs.

START HERE Enter Your Address.

example: 123 Main St. Riverside, IL
Is MLS Green Data available beyond the system?
• Property Reports

• RETS
  • All Green fields except City of Chicago Utility Costs, which are only for internally generated reports
The Future and Best Practices

- Require fields when possible
- Seek out financial benefits for seller/buyer
- Partner with local energy firms/consultants for education
- Learn from others (RESO, CMLS, etc.) in the industry
Greg Moore, RMLS

Greg began his Real Estate technology career in 1986 at the Santa Barbara Board of REALTORS and Multiple Listing Service to install and manage an in-house MLS system. After 6-years he moved on to East Bay Regional Data (EBRD) for 7-years to manage operations and technology for a 10,000 member, 6-MLS regional. He then spent 2-years with HomeSeekers.com developing and deploying one of the first Internet-based MLS systems.

Greg has been at RMLS for over 16 years. As Vice President of Technical Systems, he provides leadership and general oversight of RMLS’ technological goals and activities. He facilitates the technical requirements for data processing, hardware services, network communications, and management information services to accomplish the company’s goals and objectives.
RMLS™ Implement HES Auto-Pop

RMLS™ had worked with a local partner, Earth Advantage, to obtain and auto-populate their EPS scores into our MLS system.

In 2017 the City of Portland created an ordinance requiring all residential properties for sale, to obtain a Home Energy Score (HES) before actively marketing the property for sale. This ordinance took affect January 1st, 2018.

In developing the technical solution needed for this ordinance the City of Portland put out an RFP looking for an origination to assist them with this. Earth Advantage was selected in that process. In order to assist RMLS™ subscribers in assisting their seller(s) in meeting this mandate, RMLS™ worked closely with Earth Advantage on utilizing the API they built to provide the City of Portland’s Home Energy Score (HES) data and report URLs. The API function is called when the Listing Agent clicks a button in the listing input module.
Listing Load Integration

When a listing is added with the city name of Portland
The Green Supplement Form with the Load From Green Building Registry button is available.
Implementation

• When the button is clicked the call is initiated; RMLS™ sends the address information to the API and receives a RESO compliant data set in return.
• The API call returns:
  • Address fields (Street Number, Street Direction, Street Name, etc.)
  • HES Score Value
  • HES Score Date
  • HES Report URL
• The score, date and URL are stored and displayed on the Listing Load form
• The fields are not editable by the user, if a refresh is needed the listing load button (the call) must be utilized.
Search
<table>
<thead>
<tr>
<th>Green Verification Type 1:</th>
<th>HES</th>
<th>Obtained</th>
<th>Rating</th>
<th>Year</th>
<th>Version</th>
<th>Score</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>7/20/2018</td>
</tr>
<tr>
<td>Type 2: Reach Code:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solar Panel:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Eff:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Data Feeds

Part of the ordinate requires that any advertisement of a property for sale in Portland that is required to have an HES score, must make the score and the HES Report available. To assist with this requirement the score and report URL would be appended to the end of the public remarks in various data feeds.

Example:

```
About This Home

```

In addition, individual green fields are also available in various data feeds.
Take Aways

• API
  • Using an API to make a call and pull back information in a RESO standard format made the integration straightforward. It cut out a lot of extraneous analysis/data mapping work that would have otherwise been required.

• RESO Standard
  • The ability to reference the RESO Data Dictionary and standard eased the implementation effort as it made elements easier to identify and store.

• Communication
  • During the implementation both sides were able to clearly communicate the needs and wants of their efforts, and referred to the standard to resolve ambiguities.
Matt Casey, President & CEO

• Since 1989, CRS Data has put the power of clear and current property record information in the hands of real estate’s leading professionals.

• We currently provide our service to over 85 MLS’ as well as other real estate related industries such as appraisal and lending.

• We are focused on quality data, intuitive software and exceptional customer service.
Benefits of integrating Green Data and Property Record Information

• Property record services have information on all properties, not just properties with active or recent listings.

• Property record services have experience with data manipulation and matching; including tools for address standardization/certification and geographical (X,Y) based matching.

• Because the property record service is integrated with the MLS software, Green Data can be incorporated into listing auto population, without the MLS having to connect to additional data sources.
Options for Integrating Green Data and Property Record Information

Bulk Data:
- Allows for greater data manipulation and matching
- Reduces the number of data calls during auto population and display
- Requires higher level of data integration and may present licensing issues

API:
- Provides direct access to data source
- Reduces the level of data manipulation and matching
- May be preferred from a licensing standpoint in some situations
Integration of Power Production Data

Data overview: Photovoltaic (PV / Solar) data for Vermont from the Vermont Energy Atlas

<table>
<thead>
<tr>
<th>Steps</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import data and perform basic address cleaning and standardization</td>
<td>All records (5,958)</td>
</tr>
<tr>
<td>Match PV data to USPS database</td>
<td>4,648 of 5,958, 78% match rate</td>
</tr>
<tr>
<td>Match PV records with matched address to CRS parcel database</td>
<td>4,071 of 4,648, 87% match rate</td>
</tr>
<tr>
<td>Run GIS/Geocode based matching on unmatched records</td>
<td>Matched an additional 182 records</td>
</tr>
</tbody>
</table>

Overall: Matched 4,253 of 5,958 records for a 71% match rate
**PV and Green Building Certification Data - Property Report Display**

**LEGAL DESCRIPTION**

<table>
<thead>
<tr>
<th>Subdivision</th>
<th>Plat Book/Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block/Lot</td>
<td>District/Word</td>
</tr>
<tr>
<td>Description</td>
<td>House Bldgs &amp; Land</td>
</tr>
</tbody>
</table>

**POWER PRODUCTION**

<table>
<thead>
<tr>
<th>Type</th>
<th>Mount Location</th>
<th>Mount Type</th>
<th>Size (kw)</th>
<th>Annual (kwh)</th>
<th>Verification Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photovoltaics</td>
<td>Ground</td>
<td>Tracker</td>
<td>8.00</td>
<td>13558</td>
<td>Public Records</td>
</tr>
</tbody>
</table>

**GREEN VERIFICATION**

<table>
<thead>
<tr>
<th>Type</th>
<th>Rating</th>
<th>Source</th>
<th>Program Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGBS New Construction</td>
<td>Bronze</td>
<td>Source</td>
<td>Program Sponsor</td>
</tr>
</tbody>
</table>

*RESO*
Benefits of RESO Standards

RESO Standards eliminate data schema planning, which is subjective and often time consuming and varies between installs.
I’m interested, now what?
Sourcing Green Data for Auto-Pop

Building Certification Programs
RESNET, LEED for Homes, Pearl Certification, BPI, Passive House

State Dept of Energy
Local Utilities

Solar Installers
• HELIX is a database capable of automatically populating real estate listings (whether they are accessed through local Multiple Listing Services (MLS) or portals like Trulia and Zillow) with home energy information from national and regional bodies such as DOE Home Energy Score, RESNET HERS ratings and other sources when it is available and approved by the seller.

• HELIX’s initial goal is to incorporate the major residential building certifications and residential solar PV information. This includes the Department of Energy’s Home Energy Score, RESNET’s HERS Index, the National Green Building Certification, the U.S. Green Building Council’s LEED for Homes certification, Passive House and Zero Energy Ready homes as well as state-level home certification and solar installation data. HELIX will host third-party certifications from disparate data sources in a common data format that is compliant with RESO Standards. In addition to hosting data fields that fall within RESO Silver Certification, HELIX also stores data on a homes estimated energy use, production and costs.

• HELIX is available and currently adding datasets for seven Northeast States! HELIX is expanding to auto-pop solar PV data in RESO compliant format and in 2019 will be available to states beyond the pilot region.

• HELIX is first and foremost there to facilitate residential energy information for MLS’ and real-estate data intermediaries. HELIX can also be used by real-estate agents and appraisers interested in finding certified or solar homes.

https://neep.org/home-energy-labeling-information-exchange-helix
RESNET just completed the development of an API that will allow the sharing of HERS rating information with MLSs. It's just in the pilot phase right now, but a full roll-out is likely in 2019. RESNET has been in talks with the HELIX folks to share it with them.

Although the RESNET/Pearl collaboration is just in the early stages, it's possible that Pearl information could be added to this API.
• Pearl’s certification system enables home buyers to see and understand the value of a home’s high-performing assets when the home is sold. Research from across the U.S. shows that third-party home performance certifications like Pearl’s add an average of 4% to the sale price of high-performing homes, compared to similar homes lacking these assets. An appraiser authored study on Pearl Certified homes showed a 5% premium when the homes were marketed correctly.

• Pearl is the only private certification firm to sponsor the U.S. Department of Energy’s prestigious Home Performance with ENERGY STAR program. Pearl is a National Association of Realtors (NAR) REEach Accelerator company.

https://pearlcertification.com/
Resources

- RESO DD Wiki - https://ddwiki.reso.org/
- CMLS Resources - https://www.councilofmls.org/research
- NAR GREEN Designees - http://greenresourcecouncil.org/find-nar-green-designee
- DOE Home Energy Information Accelerator Toolkit - https://betterbuildingsinitiative.energy.gov/accelerators/home-energy-information
THANK YOU!
COMMENTS OR QUESTIONS?

Cheers!

FALL 2018 CONFERENCE