THE GREEN (DATA) EVOLUTION

A WHITE PAPER FROM THE NEREN® MLS FOR ADOPTING RESO STANDARD GREEN VERIFICATION AND POWER PRODUCTION FIELD COLLECTION

BY MEG GARABRANT

Most MLSs today have some green fields within their MLS software, yet many have not migrated to the RESO standard green fields formatting – the collections of fields for Green Verification (GV) and Power Production (PP) as found in the RESO Data Dictionary. The reasons for such are likely vast and varied; however, it is likely that most could be boiled down to strategic or tactical. Let's start with the strategic.

Making the change to the RESO standard format for GV and PP field collections is important for a common schema and interoperability. Say what?!

A common schema means that the fields are named the same, are of similar field structure and are set up the same way within different databases and across various platforms.

This is critical for interoperability, which is the ability of computer systems or software to exchange and make use of information.

Do you receive data IN to your MLS software from another source, such as public records? What about sending your data OUT via data feeds to other software products that your members use? This is the function of interoperability.

When using standardized fields, it greatly improves the implementation time, resources needed, efficiency and cost for the transfer of data in and out of databases.
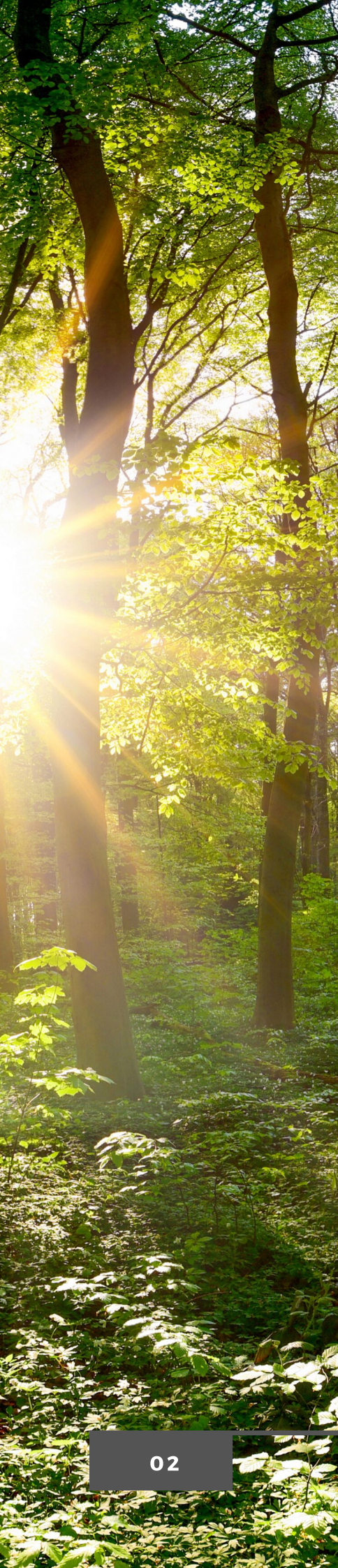
Not having the standardized fields may also limit your ability to work with certain companies due to the time and effort required to map data from one system to another, as it is becoming more cost prohibitive. Because the RESO data standards are being more widely adopted, more vendors are only accepting data feeds with the standard fields in place.

There are now more than two million homes in the U.S. that have installed solar panel systems for power production (Photovoltaics or PV), and it is estimated that there will be 3 million by 2021 according to the Solar Energy Industries Association® (1).

More than 2.5 million homes have obtained a HERS (Home Energy Rating System) score (2), with many others having an energy rating or other building certification.

There are also more ways to source this data. It can be sourced directly from the installer or certifier, and it can be sourced in aggregate from companies that are collecting this data to make available to the MLS industry.

These factors make having the RESO standards for GV and PP collections of fields in place even more important. These companies have built their databases on these RESO standard field collections and are waiting for MLSs to catch up to be able to easily auto-populate this data into a new listing.

The auto-population of this data is an important consideration because real estate practitioners are evolving their knowledge of and recognized importance of these

data elements. There is a liability concern resulting from uncertainty. Having the standard GV and PP field collections in place with the ability to auto-populate this data into a new MLS listing provides a more comprehensive data set and reduced liability for the listing entity.

This data is also critical for the appraisal and financing of properties with these attributes.

The NEREN® MLS currently can auto-populate PV data (PP) into a new listing for Vermont and Massachusetts. Later in 2019, we will have the ability to auto-populate building certification data (GV) and PV data on New Hampshire listings.

NEREN chose to bring this data into our public records database with CRS, as we already had the auto-population functionality built in here. Utilizing this path provided a streamlined user experience and allowed the "Source" to be identified as public records (helping with liability concerns).

The April 2019 REALTORS® and Sustainability Report from the National Association of REALTORS® indicates that nearly 70% of respondents found value in promoting energy efficiency in their listings, and nearly 60% of respondents found that clients (consumers) were at least somewhat interested in sustainability (3).

We know that consumers want to live in a home that is comfortable, safe and affordable. Including GV and PP data in a listing helps bridge that gap, increasing consumer confidence.

An Appraiser Analysis of Pearl National Home Certification has shown that listings where these features are included spend less days on market and sell for a higher price (4).

Sounds like a win for our MLS users, sellers and buyers!

What is holding you back? You have recognized the importance of including green fields in your database, so let's move to the tactical implementation of the RESO standard GV and PP field collections.

Chances are good that some elements of these two collections can already be found within your database. So how do you map the data into the GV and PP field collections?

The information below should help make data mapping a less daunting and painful process.

This information is provided as a case study of how the NEREN® MLS converted to the RESO Standard Green Verification and Power Production field collections.
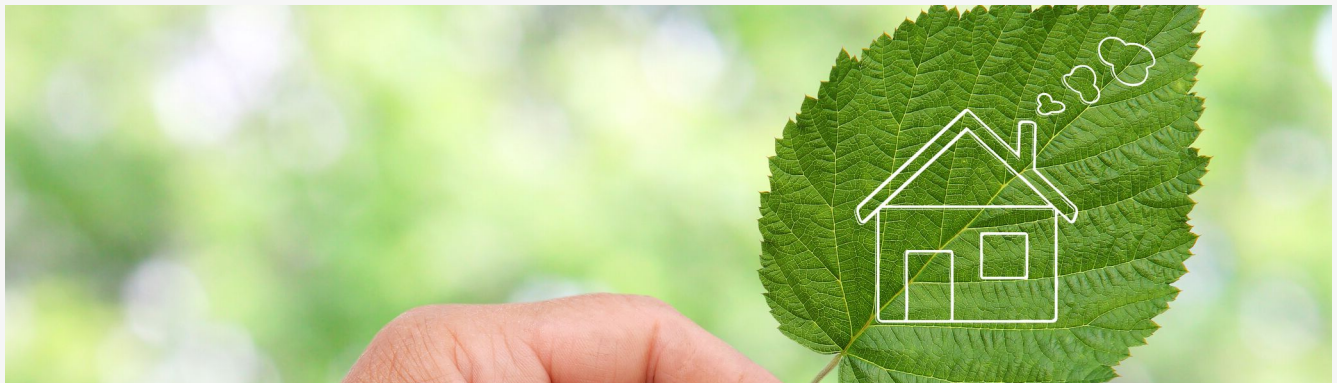
GETTING STARTED

1. If you are not already familiar with the RESO Data Dictionary for standardized fields, you can find that here: https://www.reso.org/data-dictionary/.

2. You may wish to also review the latest RESO Data Dictionary wiki, found here: https://ddwiki.reso.org/. If you are not familiar with how to use the DD wiki, there is an introduction available. Read it. Then select the link to access the latest DD wiki.

3. On the left-hand side of the screen, you should see a search box with a list of Resources. You may need to scroll down the list to links for the following resources:

a. PropertyGreenVerification Collection
b. PropertyPowerProduction Collection

4. Select PropertyGreenVerification Collection. This will provide you with a list of the fields in this collection related to Building Certifications.

For the purpose of adding new fields, or data mapping, the focus will be on the fields highlighted in the green box above.

You may wish to add these fields to a spreadsheet in a row, like this:

Green Verification Type (Program)	Green Verification Body	Green Verification Status	Green Verification Year	Green Verification Rating	Green Verification Metric	New Construction?	URL

Save this document.

Note: The fields on the wiki are listed in alphabetical order and you may wish to order them differently for listing input.

Below is an example of how the NEREN® MLS organized the fields – with the addition of a New Construction indicator field, as some programs are specific to only New Construction properties.

We are also in the process of adding in the Green Verification Version after the "Year" field, as this is a newer addition to the collection since we built this out in our MLS software.

Green Verification Type (Program)	Green Verification Body	Green Verification Status	Green Verification Year	Green Verification Rating	Green Verification Metric	New Construction?	URL

5. Next, select the PropertyPowerProduction Collection link on the left of the screen. This will provide you with a list of the fields in this collection related to Power Production. Again, the fields are listed alphabetically in the wiki, and you may wish to re-order them for input.

PropertyPowerProduction Collection

Created by Robert Gottesman, last modified on May 25, 2017

Data Dictionary Wiki Version: **1.7**

A property might have a number of means of producing power. Whether different s
two different solar systems. This separate resource allows for the relation of multiple
PropertyPowerProduction Collection include the following:

ListingId (PropertyPowerProduction) Field

ListingKey (PropertyPowerProduction) Field

ListingKeyNumeric (PropertyPowerProduction) Field

ModificationTimestamp (PropertyPowerProduction) Field

PowerProductionAnnual Field

PowerProductionAnnualStatus Field

PowerProductionKey Field

PowerProductionKeyNumeric Field

PowerProductionSize Field

PowerProductionType (PropertyPowerProduction) Field

PowerProductionYearInstall Field

For the purpose of adding new fields, or data mapping, the focus will be on the fields highlighted in the green box above. Add these fields to a spreadsheet in a row like you did before, like this:

Power Production Annual	Power Production Annual Status	Power Production Size	Power Production Type	Power Production Year Install

Coming up next is an example of how the NEREN® MLS organized the fields – with the addition of "Mount" fields, as we had this data, and Ownership (moving into this collection in DD 1.8).
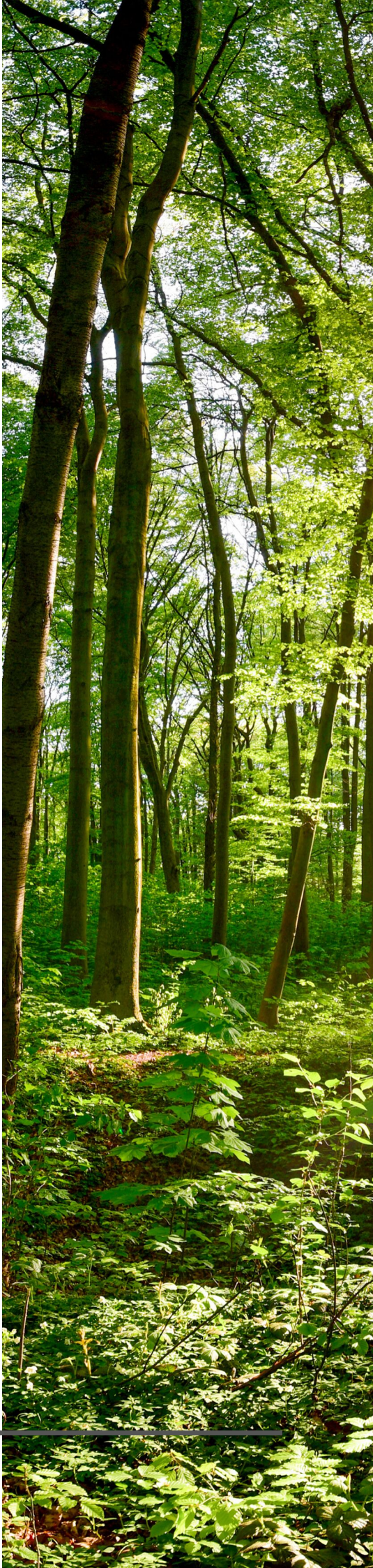
Power Production Type	Mount Location	Mount Type	Ownership	Power Production Size	Power Production Annual	Power Production Annual Status	Power Production Year Install	Power Production Verification Source

6. It's time to evaluate the green fields you have available for input in your MLS today. Make a list. Example: In the NEREN® MLS database, we had the following:

Note: The first list of Building Certifications is what we had in 2009. The second list is what we added in 2010.

You likely have various enumerations/selections of other green options within your MLS database, and that is great! You are looking for fields like the above examples that would get mapped into the GV or PP collections. If you have none, that is fine – and easier for you, as you don't have to create data-mapping instructions!

7. If you don't have any fields or selections that would need to be mapped into the RESO GV or PP collections, then you may want to do some research to find out what types of Building Certifications are being utilized in your service area.

Many building certification programs (GV) are available nationally, while some may be specific to your local market area. PP related to PV is pretty much seen nationwide now.

8. The nice thing about the RESO standards is it takes the guesswork out of setting up new fields. Check with your MLS software provider (or in-house developers) to see if they have any of these collections built into your database metadata already (that means they are there already, just not exposed to you). If they are there, then great – expose them! Some vendors have these fields already built, but in a table that does not support the ability to auto-populate into these fields, so that is also something you'll want to ask about, because this is important to obtain a common schema.

Another consideration is the number of collections for each you wish to implement. After doing some market research, we found that there were enough properties with up to three building certifications that we implemented three sets of the GV collection of fields to be able to support as much of this data as we could. For the PP collection, we implemented two sets. If your MLS software is designed to handle this dynamically, then this won't be a concern for you.

Whatever your path to implementation and need for data mapping ends up being, below is a "cheat sheet" of how the NEREN® MLS implemented these fields.

Figuring out the GV program information and mapping can be overwhelming. We broke it out into sections: 1) programs with ratings, 2) programs with metrics (scores), 3) programs with both ratings and metrics, 4) other programs that incorporate some local GV program offerings.

Ideally, the individual fields should be programmed conditionally so that the appropriate fields are available and restricted to the related program.

Green Verification Programs with Ratings:

Green Verification (Tpye) Program	Green Verification Body	Green Verification Status	Green Verificaton year	Green Verification Version	Green Verificaton Rating	Green Verification Metric	New Construction?	URL
Verificaton Programs with Ratings								
LEED for Homes	USGBC	Pick List: Official Preliminary	2008 - Present		Pick List: Certified Silver Gold Platinum	N/A		
NGBS New Construction	Home Innovation Research Labs	Pick List: Official Preliminary	2008 - Present		Pick List: Bronze Silver Gold Emerald	HERS index Score (optional)		
NGBS Whole-Home Remodel	Home Innovation Research Labs	Pick List: Official Preliminary	2008 - Present		Pick List: Bronze Silver Gold Emerald	HERS index Score (optional)	No	

Green Verification Programs with Metrics (scores):

Green Verification (Tpye) Program	Green Verification Body	Green Verification Status	Green Verificaton year	Green Verification Version	Green Verificaton Rating	Green Verification Metric	New Construction?	URL
Verification Programs (No Ratings)								
ENERGY STAR Certified Homes	EPA	Pick List: Official Preliminary	1995 - Present			HERS Index Score (Required)		
Home Performance with ENERGY STAR	Local provider from USDOE	Pick List: Official Preliminary				Home Energy Score (Optional)	No	
Indoor airPLUS	EPA	Pick List: Official Preliminary						
NGBS Small Project Remodel	Home Innovation Research Labs	Pick List: Official Preliminary	2008 - Present				No	
Passive House (PHIUS+)	Passive House Institute US PHIUS+	Pick List: Official Preliminary			PHIUS+ Certified	HERS Index Score (Required)		
EnerPhit	Passsive House Institute Quality Approved Passive House	Pick List: Official Preliminary				HERS Index Score (Required)	No	
WaterSense	EPA		2008 - Present					
Zero Energy Ready Home (DOE Challenge Home)	DOE					HERS Index Score (Required)		

Green Verification Programs with Ratings/Metrics:

Green Verification (Type) Program	Green Verification Body	Green Verification Status	Green Verificaton year	Green Verification Version	Green Verificaton Rating	Green Verification Metric	New Construction?	URL
Verification Metrics/Scores								
HERS	RESNET	Pick List: Official Preliminary	To Present			HERS Index Score (1-100) Text box, minus sign allowed, 3 character length Min/Max length: -10/100		
Home Energy Score	DOE	Pick List: Official Preliminary	To Present			Home Energy Score (1 - 10) Text box, text and numeric. Allow for input of: Not Available for value from 1 to 10		

Green Verification Programs –
Other (we added a few specific local programs here):

Green Verification (Type) Program	Green Verification Body	Green Verification Status	Green Verificaton year	Green Verification Version	Green Verificaton Rating	Green Verification Metric	New Construction?	URL
OTHER								
Residential New Construction Services	Efficiency Vermont	Pick List: Official Preliminary	2015 - Present 2013 - Present		Pick List: - Efficiency Vermont Certified - Efficiency Vermont Certified High Performance Home			
Vermont Home Energy Profile	Efficiency Vermont	Pick List: Official Preliminary	2016 - Present			# MMBtu/YR		
Blower Door Test	Local Provider	Pick List: Official Preliminary	? - Present			Score		

Once we identified the programs we were going to add and collected the information we needed to effectively represent the enumerations for each of the fields in the collection, we sent a spreadsheet to our vendor to build the fields to the RESO Standard. Unlike the PP collection, the GV collection does not specify enumerations for some fields.

Another way to look at a couple of the GV fields with enumerations would be the following example:

Field	Enumeration
Green Verification Program	Blower Door Test
	ENERGY STAR Certified Homes
	EnerPhit
	HERS
	Home Energy Score
	Home Performance with ENERGY STAR
	Indoor airPLUS
	LEED for Homes
	NGBS New Construction
	NGBS Small Project Remodel
	NGBS Whole-Home Remodel
	OTHER
	Passive House (PHIUS+)
	Residential New Construction Svcs
	Vermont Home Energy Profile
	WaterSense
	Zero Energy Ready Home (DOE Challenge Home)
Green Verification Body	DOE
	Efficiency Vermont
	EPA
	Home Innovation Research Labs
	Local Provider
	Local Provider from USDOE
	Passive House Institute Quality Approved Passive House
	Passive House Institute US PHIUS+
	RESNET
	USGBC

A similar process could be followed for the PP collection of fields, which is likely a much simpler undertaking due to less fields and less potential enumerations. You may wish to consider tackling that field collection first.

Getting the infrastructure in place is just the first step. It's important to also make sure that these fields are available for search, display on flyers or property reports, and are available in data feeds going out of your system. This will help share this data across the marketplace.

There are additional resources published by the Council of Multiple Listing Services (CMLS) and the Green Section Council that you may also wish to review as part of yourimplementation process. They are called the CMLS Quick Start: Guide to MLS Fields and the CMLS Green Data Best Practices guide.
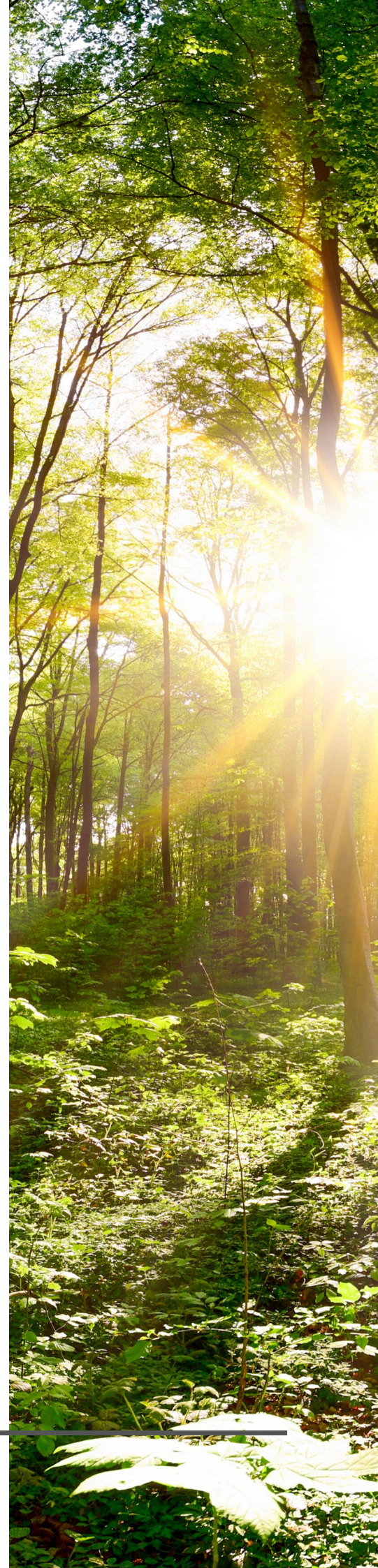
As real estate data standards continue to become more comprehensive and mature, and as they quickly gain adoption momentum in the marketplace, it is important that MLSs keep up.

The presence of a common schema is critical for interoperability and technology advances in the marketplace.

Adopting RESO standards like the Green Verification and Power Production field collections can help reduce perceived risk for our MLS members, provide more comprehensive data to the market, increase buyer confidence, shorten days on market, increase potential for a higher selling price, and provide critical information for the appraisal and financing of these properties.

All this combined is how we can help Make the Market Work®.

At the time of this writing, **Meg Garabrant** was the Director of Marketing & Communications for the New England Real Estate Network that operates the NEREN® MLS. The NEREN® MLS is a regional multiple listing service with more than 9,700 subscribers in New Hampshire, Vermont, Massachusetts and Maine, with the ability to support Connecticut, Rhode Island and some of New York.

CITATIONS

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(3) National Association of REALTORS® Research Group. (2019, April 19). REALTORS® and Sustainability Report. Retrieved from https://www.nar.realtor/research-and-statistics/research-reports/realtors-and-sustainability

(4) Adomatis, S. (2017, October 30). Appraisers Analysis of Pearl National Home Certification Sales Premiums. Retrieved from https://3cwzd61saynq2nn0vs2b7w1i-wpengine.netdna-ssl.com/wp-content/uploads/2017/11/Valuation-Study-of-Pearl-Certified-Homes.pdf