



HELIX

Home Energy Labeling Information eXchange



SUSTAINABLE REAL
ESTATE
CONSULTING
SERVICES



HELIX 1.0

MARCH 2018

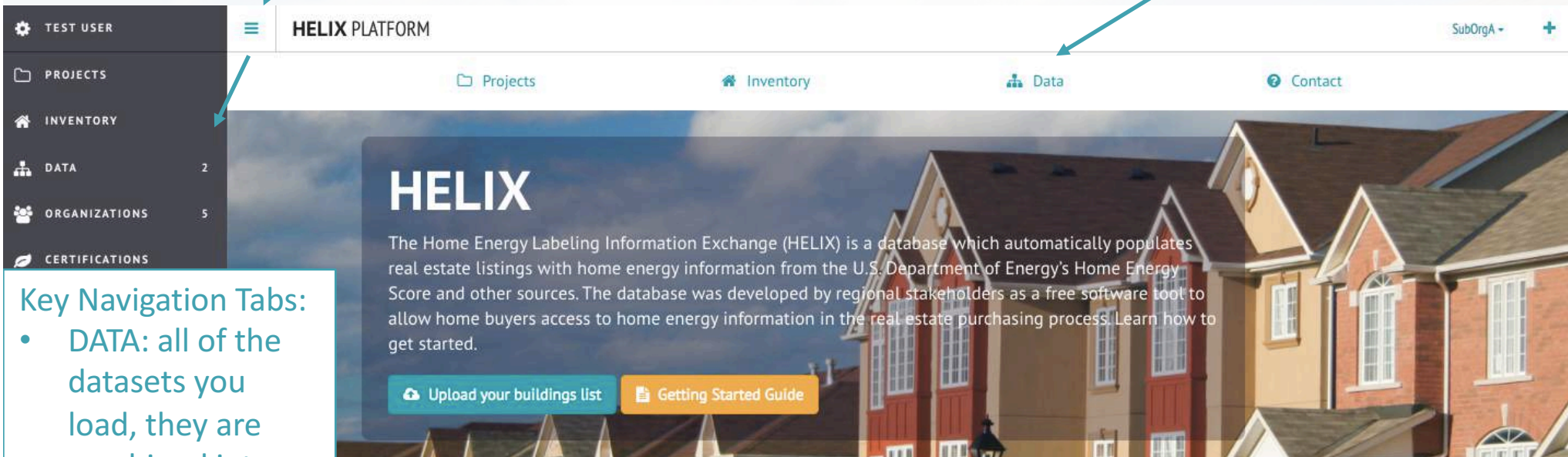
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HELIX Home Page

You can open the Navigation Drawer to see your homes and organizations count

You can also navigate through the tabs at the top



The screenshot shows the HELIX Platform interface. On the left is a dark navigation drawer with a hamburger menu icon at the top. The drawer lists: TEST USER, PROJECTS, INVENTORY, DATA (with a count of 2), ORGANIZATIONS (with a count of 5), and CERTIFICATIONS. The main header area contains the text 'HELIX PLATFORM' and a 'SubOrgA' dropdown. Below the header are four tabs: Projects, Inventory, Data, and Contact. The main content area features a large banner with the HELIX logo and a description of the platform as a database for home energy information. Two buttons are visible: 'Upload your buildings list' and 'Getting Started Guide'.

Key Navigation Tabs:

- **DATA:** all of the datasets you load, they are combined into
- **INVENTORY:** your list of properties
- **CERTIFICATIONS:** your list of reference certifications

Highlights of HELIX Database



Manual Data Upload

Get started using HELIX by uploading your properties and certifications list. Make sure these files are each in .csv, .xls, .xlsx, or .xml format. The HELIX Platform will help you map and validate your data in the process of loading.

[Download Sample Data](#)

You can download two sample files with illustrative formats

Home Energy Score database.

HELIX Workflow

Import data



Map field headers to HELIX naming conventions



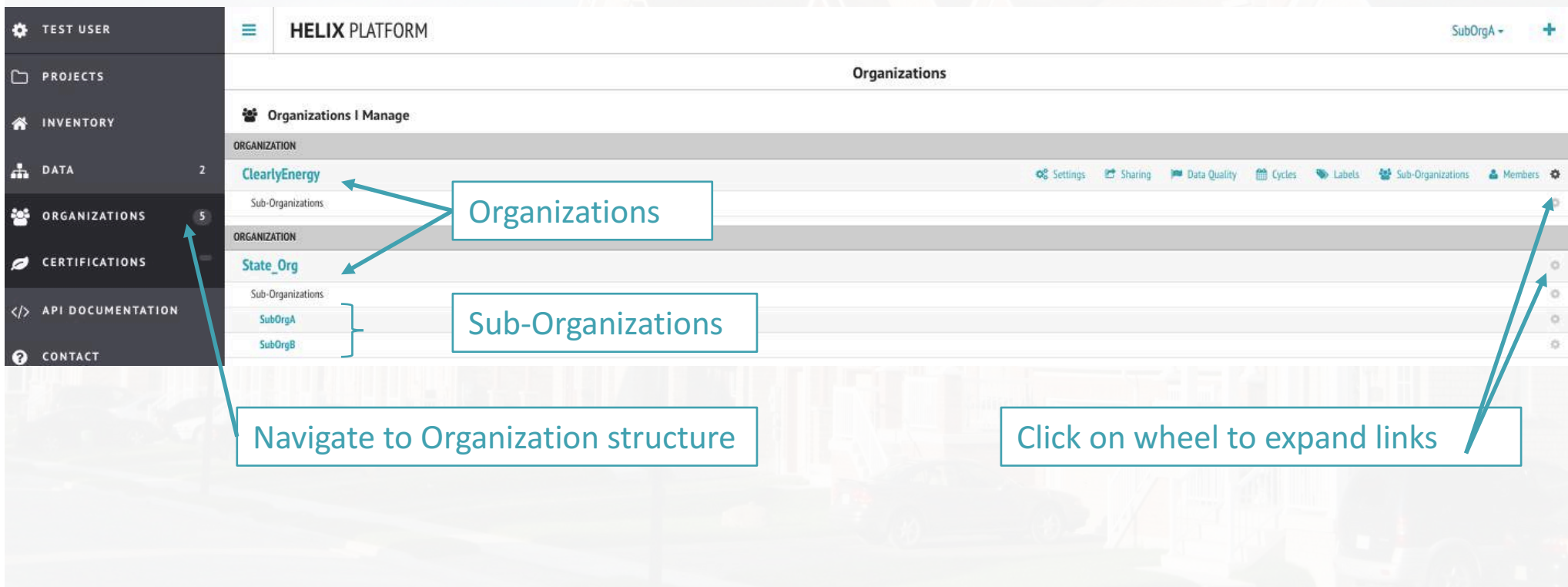
Merge data into existing building list



Export data as needed

Organizations

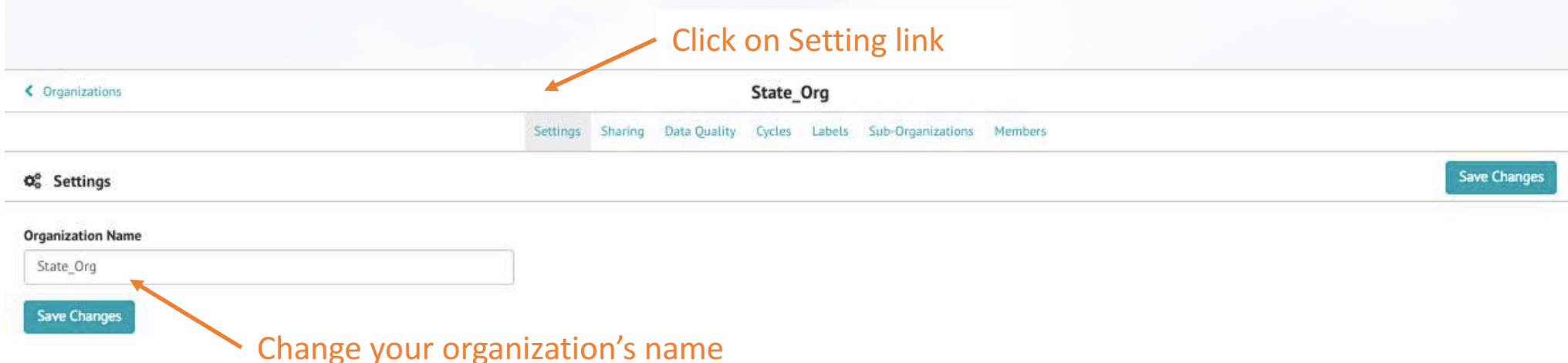
- Every account holder belongs to one or more Organizations, though most users will only belong to one
- HELIX allows Organizations to have Sub-Organizations



The screenshot displays the HELIX PLATFORM interface. The sidebar on the left contains navigation links: TEST USER, PROJECTS, INVENTORY, DATA (with a count of 2), ORGANIZATIONS (with a count of 5), CERTIFICATIONS, API DOCUMENTATION, and CONTACT. The main content area is titled "Organizations" and shows a table of organizations managed by the user. The table has columns for ORGANIZATION, Sub-Organizations, and a settings wheel. The first organization is "ClearlyEnergy" and the second is "State_Org". The "State_Org" row shows two sub-organizations: "SubOrgA" and "SubOrgB". Annotations include:

- A box labeled "Organizations" with arrows pointing to the "ClearlyEnergy" and "State_Org" rows.
- A box labeled "Sub-Organizations" with a bracket pointing to the "SubOrgA" and "SubOrgB" rows.
- A box labeled "Navigate to Organization structure" with an arrow pointing to the "ORGANIZATIONS" link in the sidebar.
- A box labeled "Click on wheel to expand links" with an arrow pointing to the settings wheel icon in the top right of the table.

Organizations - Settings



Click on Setting link

Organizations

State_Org

Settings Sharing Data Quality Cycles Labels Sub-Organizations Members

Settings

Save Changes

Organization Name


State_Org


Save Changes

Change your organization's name




Organizations – Sub-Organizations

 **HELIX PLATFORM**

SubOrgA - 

Organizations

 **Organizations I Manage**

ORGANIZATION

ClearlyEnergy

Sub-Organizations

ORGANIZATION

State_Org

Sub-Organizations

SubOrgA

SubOrgB

Parent Organization


Create a New Sub-Organization

Sub-Org Name:

Invite an Owner:

Note 1: Sub-organizations cannot be deleted.


Note 2: Parent organization members are not automatically made members of sub-organizations.

+ Create new sub-organization 

The owner of the new sub-organizations must initially be a member of the parent organizations (can be deleted from the parent later)


Organizations owners can click to create new sub-organizations

Organizations - Sharing


HELIX PLATFORM
SubOrgA +

[< Organizations](#)

[Settings](#)
[Sharing](#)
[Data Quality](#)
[Cycles](#)
[Labels](#)
[Sub-Organizations](#)
[Members](#)

 **Sharing Your Data**
Save Changes

Selecting Fields to Share

As the admin of your SEED instance you can control what data is shared throughout your organization and between your sub-organizations as well as what data is shared externally with the public-at-large. The subset of data you choose to share with the public can be different than the subset shared between your sub-organizations.

From the list below, select the fields that you want to: 1) share internally within your organization, and 2) share publicly with users outside your organization.

SHARE DATA WITH		FIELD NAME
INTERNAL	PUBLIC	
<input type="checkbox"/>	<input type="checkbox"/>	Search field name
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Address Line 1
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Address Line 2
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Building Certification
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Building Count

The owner of a parent organization can select fields to view between Sub-Organizations

The owner of a parent organization can set the query threshold for viewing records between Sub-Organizations


Set a Query Threshold


Enter the minimum threshold count of buildings that can be returned in a shared query. The building count threshold is important without revealing information about individual buildings.

analysis on your data

Save Changes

Organizations - Members



HELIX PLATFORM

[SubOrgA](#) 





[Organizations](#)

[State_Org](#)

[Settings](#)
[Sharing](#)
[Data Quality](#)
[Cycles](#)
[Labels](#)
[Sub-Organizations](#)
[Members](#)

 **Members**

[Invite a new member](#)

MEMBER NAME	MEMBER EMAIL	LAST LOGIN	MEMBER ROLE	CERTIFICATIONS ADDED	CERTIFICATIONS EXPORTED	
<input type="text" value="member name"/>	<input type="text" value="member email"/>	<input type="text" value="member last login"/>	<input type="text" value="member role"/>	<input type="text" value="member certifications"/>	<input type="text" value="member certifications exports"/>	
Test User		2018-01-13 10:41 PM	owner	1	0	Remove
						Remove
						Remove
						Remove
MLS Viewer						Remove

Invite a New Member

First Name:

Last Name:

Email Address:

Role:

Click on the Members link

Invite new members by clicking on this link

Invitations to HELIX and to set a password are sent via email

You can set the role of a new member

Organizations – Roles and Privileges

	Parent	Sub-Organization		
		Owner	Member	Viewer
Set fields to display between Sub-Org	✓			
Create Sub Orgs	✓			
Add/remove members	✓ to parent, or at setup of sub	✓		
Add/remove certifications	✓	✓		
View members	✓ in parent, owner(s) of subs	✓		
Change settings: • Rename Sub-org • Change member role	✓ in parent	✓		
Add Data	✓	✓	✓	
Edit Data	✓ all subs	✓	✓	
View Data	✓ all subs	✓	✓	✓

User Settings

Certifications

Click name to edit

Certifications

Certifications Display

NAME	AWARD BODY	RECOGNITION TYPE	NUMERIC	DESCRIPTION	VALID FOR	DELETE
LEED for Homes	U.S. Green Building Council	Certification		LEED, or Leadership in Energy and Environmental De..		X
ENERGY STAR Certified Homes	U.S. Environmental Protection Agency	Certification		EPA ENERGY STAR Certified Homes is a set of option..		X
HERS Index Score	RESNET (Residential Energy Services Network)	Score	✓	The Home Energy Rating System (HERS) Index is the ...		X
Efficiency Vermont Certified	Efficiency Vermont	Certification		Efficiency Vermont Certified homes feature advance..		X
Passive House	PHI (Passive House Institute)	Certification		Home Innovation Research Labs certifies homes to L..		X
NGBS New Construction	Home Innovation Research Labs	Certification		Home Innovation Research Labs certifies homes to L..		X
Home Energy Score	U.S. Department of Energy	Score	✓	Developed by DOE and its national laboratories, th..		X

Create Certification

Name:

Award Body:

Recognition Type:

Numeric: ☐

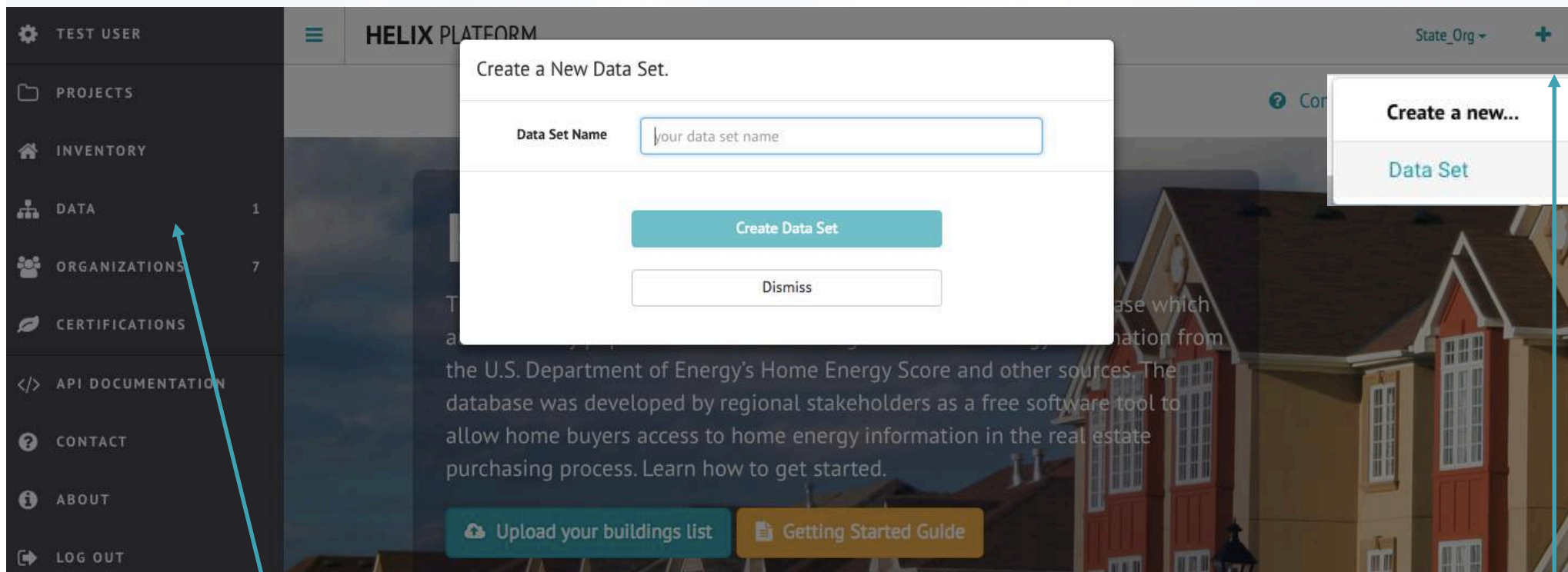
Description:

Valid For:

Create Certification

- Certifications which are scores or ratings are assumed to be numeric
- Award, labels and other certifications can be True/False or a word descriptor
- If a score is only valid for a finite period of time, please enter this period in days

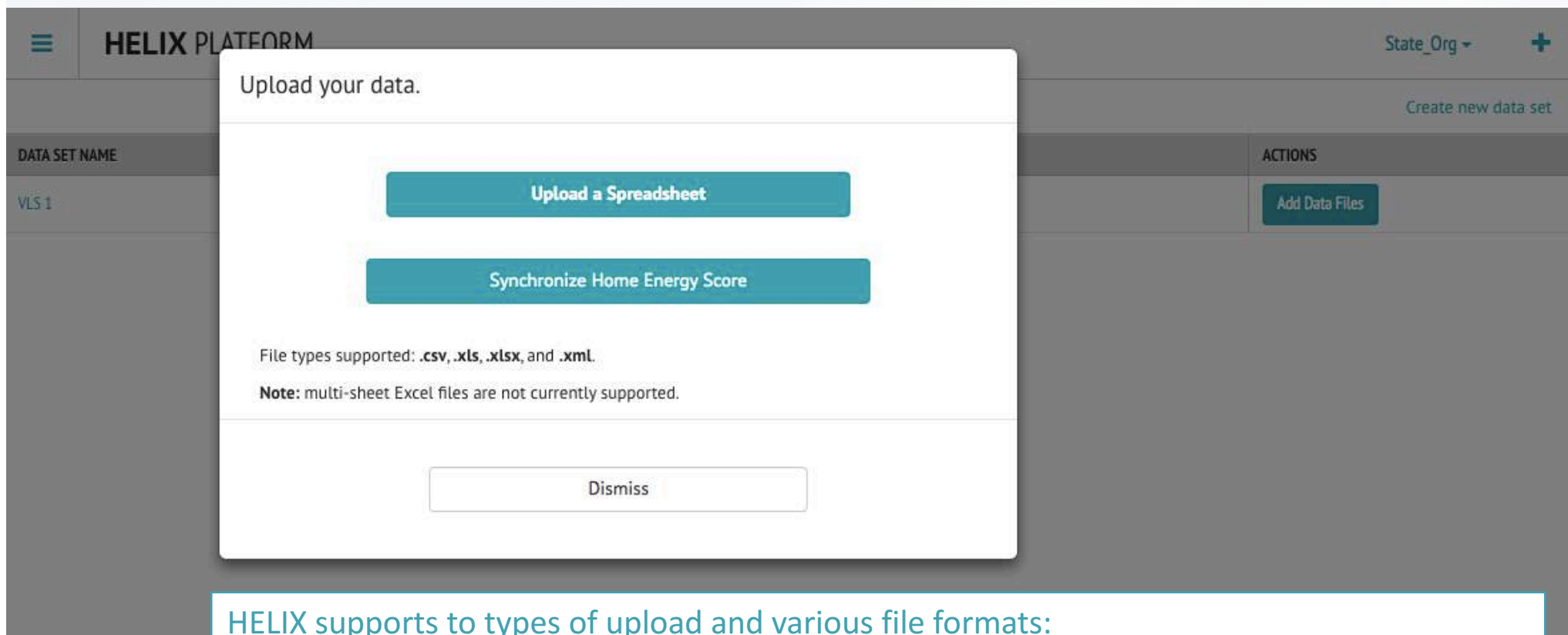
Data Upload – Create Dataset



To start loading data, you first need to create a dataset. This will be used to organize various sources of data in the repository. You have three options to start:

1. Click the “Upload your buildings list” blue button on the home page
2. Click on the “+” in the upper right corner and select to Create a new Data Set
3. Click on Data in the left menu and select “Create new data set”

Data Upload – File Formats

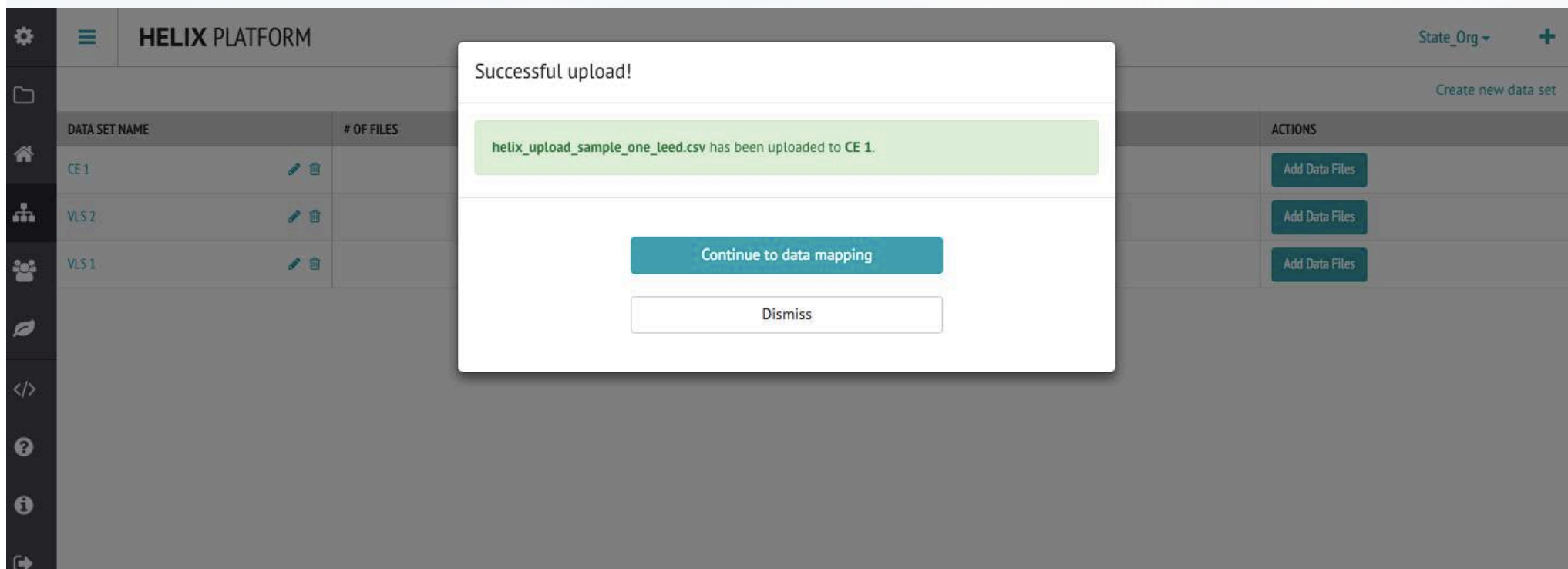


The screenshot shows the HELIX PLATFORM interface. A modal window titled "Upload your data." is centered on the screen. The modal contains two large teal buttons: "Upload a Spreadsheet" and "Synchronize Home Energy Score". Below these buttons, it states "File types supported: .csv, .xls, .xlsx, and .xml." and includes a "Note: multi-sheet Excel files are not currently supported." At the bottom of the modal is a "Dismiss" button. In the background, the platform's header shows "HELIX PLATFORM" and "State_Org" with a dropdown arrow. Below the header, there's a table with a "DATA SET NAME" column containing "VLS 1" and an "ACTIONS" column with an "Add Data Files" button. A link "Create new data set" is also visible in the top right of the table area.

HELIX supports to types of upload and various file formats:

- Spreadsheet (cvs,xls,xlsx) or xml file upload. Sample file formats are provided on the home page by clicking on “Download Sample Data”
- Synchronizing with the Home Energy Score repository. This method requires HELIX to be a third-party recipient of the HES data and the HES credentials to be saved in your organization’s settings.

Data Upload - Process



The screenshot displays the HELIX PLATFORM interface. A modal dialog box is centered on the screen, titled "Successful upload!". Inside the dialog, a green message box states: "helix_upload_sample_one_leed.csv has been uploaded to CE 1." Below this message are two buttons: "Continue to data mapping" (a teal button) and "Dismiss" (a white button with a grey border).

The background interface shows a table with the following columns: "DATA SET NAME" and "# OF FILES". The table lists three data sets: "CE 1", "VLS 2", and "VLS 1". Each row has a teal edit icon and a grey trash icon. To the right of the table, there is an "ACTIONS" column with three "Add Data Files" buttons. The top right of the interface includes a "State_Org" dropdown menu and a "+" button, along with a link to "Create new data set".

The file upload records the data in the HELIX database and archives a copy of the original data files.

Upon successful upload, you are prompted to continue to data mapping.

Data Mapping

STEP 1: Map Your Data

STEP 2: Review Your Data Mappings

BEDES

Collapse Tabs

MAPPING YOUR DATA TO HELIX

It is necessary to map your field names to HELIX field names. You can select from the list that appears as you start to type, which is based on the Building Energy Data Exchange Specification (BEDES), or you can type in your own name, as well as typing in the field name from the original datafile.

In addition, you need to specify where the field should be associated with Tax Lot data or Property data. This will affect how the data is matched and merged, as well as how it is displayed in the Inventory view.

Field names for matching: The following fields are used by HELIX to match records: **Jurisdiction Tax Lot ID**, **Custom ID 1**, **Normalized Address** (which combines Address Lines 1 and 2). If there are fields in a datafile mapped to these names, the program will attempt to match on those same names in existing records.

When you click the **Map Your Data** button, the program will show a grid with the new field names as the column headings and your data in the rows. In that view, you can still come back to the initial mapping screen and change the field mapping.

Map HELIX fields to imported file fields

Duplicate -- if fields are marked as duplicates they need to be resolved to have different names

HELIX uses a custom ID and/or the normalized address (derived from the address fields) to match new and existing records

Click when finished mapping

Map Your Data

At least one of the following: Jurisdiction Tax Lot Id (with inventory type Tax Lot), or Pm Property Id (with inventory type Property).

HELIX

Mapped Fields

Map names from import file to standardized HELIX data field names

d.csv.1517330028

Set all fields to: Property

HELIX HEADER	DATA FILE HEADER	INVENTORY TYPE	ROW 1	ROW 2	ROW 3	ROW 4	ROW 5
Internal ID	Internal ID	property	T1	T1			
Adj	address_line_1	property	1 Test Street	3 Test Street			
Normalized Address	address_line_2	property					
Owner Address	development name	property	My Development	My Development			
Address Line 2	city	Property	Cambridge	Cambridge			
Address Line 1	state	Property	MA	MA			

Start typing to see a list of fields containing that word

Data Mapping Nomenclature

Summary list of key field names: See Appendix for detailed mapping instructions by source

Property Data

- Address Line 1
 - E.g. 1 Main St
- Address Line 2
 - E.g. Lot 5
- Postal Code
 - Same as Zip Code
- City, State
- Custom ID 1
 - Any unique identifier linked to the building (not the certification)
- Anything else that is linked to the building

Certification Data

Two options:

1. Label headers with “Green Assessment” as well as:
 - Name
 - Must match existing certifications
 - Property Reference ID
 - Unique ID associated with the certification. It will not be used to map/merge homes
 - Property Metric
 - Number rating, for example 70
 - Or Property Rating
 - Text rating, for example Gold
2. Label headers with Certification Names:
 - Names must match existing certifications
 - Save certification dates using “Green Assessment Property Date” header

Measurement Data

Measurement data

includes home consumption, cost and solar information

- Field header:

Type_Fuel_Subtype(opt)
e.g. PROD_Electric_PV
Or CONS_Natural Gas

- Field content:

{‘quantity’: 1200, ‘unit’: ‘kwh’, ‘status’: ‘estimate’}

Data Mapping - Review

Return to previous screen

The mapping review allows you to check that your data is properly mapped before saving the mappings

Click to continue

Back to Mapping
4 Data Quality Results
Save Mappings

View by Property

2 Properties

Address Line 1 (Property)	Address Line 2 (Property)	City (Property)	State (Property)	Postal Code (Property)	Associated Tax Lot ID	Year Built	Conditioned Floor Area	Internal Id	Dev
1 Test Street		Cambridge	MA	2144		2005	2000	T1	My I
3 Test Street		Cambridge	MA	2144		2005	2000	T1	My I

Inspect data quality warnings

Data Quality Results

File Name: helix_upload_sample_one_leed.csv.1517330028

Date Uploaded: January 30th 2018, 11:33:48 AM -05:00

TABLE	ADDRESS LINE 1	JURISDICTION TAX LOT ID	PM PROPERTY ID	CUSTOM ID	FIELD	ERROR MESSAGE
Table	Address Line 1	Jurisdiction Tax Lot ID	PM Property ID	Custom ID	Field	Error Message
PropertyState	1 Test Street	--	--	--	Custom ID 1 (Property)	Custom ID 1 (Property) is null
PropertyState	1 Test Street	--	--	--	PM Property ID	PM Property ID is null
PropertyState	3 Test Street	--	--	--	Custom ID 1 (Property)	Custom ID 1 (Property) is null
PropertyState	3 Test Street	--	--	--	PM Property ID	PM Property ID is null

Data quality results can be exported

Export

Close

Data Matching

- HELIX looks for existing records to merge new information into:
 - duplicates are ignored
 - last data into HELIX becomes the current information

Confirm Save Mappings?

Did you review your mappings? It's a good idea to double check your mappings. Once HELIX matches your properties you cannot undo or edit these mappings.

[Confirm mappings & start matching](#)

[Dismiss](#)

Matching Results for file: **home_energy_score.csv**

- Total rows in the import file: 28
- New properties: 3
- New tax lots: 1
- Merged properties: 10
- Ignored property duplicates within the import file: 1
- Ignored tax lot duplicates within the import file: 27

Summary of
mapping results

[Add another file](#)

[View my properties](#)

[Review matches](#)

[Dismiss](#)

Restarts
process
View
building
list

Properties – List View

Properties are accessed from the left menu or

Fields can be filtered and sorted

Click to remove all filters

PROJECTS

INVENTORY

DATA 4

ORGANIZATIONS 2

CERTIFICATIONS

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Properties

Properties List | List Settings | Reports

Actions

Filter by label: Add a label

AND OR EXCLUDE

Clear Labels

Clear Filters

View by Property

408 Properties

Custom ID 1 (Property)	Address Line 1 (Property)	Address Line 2 (Property)	City (Property)	State (Property)	Postal Code (Property)	Conditioned Floor Area
	115 Deer Meadow Drive		Middlebury	VT		
	45 Deer Meadow Drive		Middlebury	VT		
	77 Deer Meadow Drive		Middlebury	VT		
	907 Geary Road		Lincoln	VT		
	165 Fuller Mountain R...		Ferrisburg	VT		
	238 Deer Meadow Lane		Middlebury	VT	05753	
	117 Deer Meadow Drive		Middlebury	VT	05753	
	230 Deer Meadow Lane		Middlebury	VT	05753	
	23 Deer Meadow Drive		Middlebury	VT	05753	
	104 Deer Meadow Drive		Middlebury	VT	05753	

Filtering rules:

Numeric fields can be filtered by the following operators: =, ==, !=, !, <>, <, <=, >, >=

For example: >1200 returns values greater than 1200

Properties – List View – List Settings

List Settings control the order of columns displayed

Property List Settings

Properties List **List Settings** Reports

Column Order/Visibility

Add Shared Properties.

☐ Include in your properties list all pr

Select or de-select all fields

There are 89 columns of data availa

Select columns from the list below to n

Check/Un-check fields to show/hide

the order in which they appear. Pin the rows for them to be left-pinned in the list view.

Select fields to “pin” to the left of the list view; fields can also be pinned through the filter function of the list display

Drag individual fields up or down to re-organize the list display

✓	Column Name	
✓	State (Property)	
✓	Postal Code (Property)	
✓	Custom ID 1 (Property)	
✓	Address Line 1 (Property)	
✓	Address Line 2 (Property)	
✓	City (Property)	
✓	Conditioned Floor Area	
✓	Gross Floor Area	

Properties - Export

Properties

Actions ▾ Filter ▾

- Delete Selected
- Export Selected
- Add/Remove Labels
- Data Quality Check

View by Property ▾

Click to select all filtered properties for export

Export your Properties and Tax Lots

Export Name

☒ CSV ☐ XLS ☐ HELIX CSV

Cancel Export

Clear Labels Clear Filters

7 Properties

Address Line 1 (Property)	Address Line 2 (Property)
2 Test Street	
3 Test Street	
1 Test Street	
1822 21st ave	
4441 Lowes Creek Rd	
12334 main street	
143 rollins ave	

Select individual properties for export


- Make sure to select HELIX CSV export to export certification details

Properties – Detail View


The property detail view has two parts:

1. View certification details, including any measurements or links attached to certification
2. View property history


← Properties
Property Detail
Settings



Click to view measurements and report links




Edit



Property : 12334 main street

AWARD BODY	ASSESSMENT TYPE	SCORE/RATING	DATE CREATED	EXPIRATION DATE	STATUS	OPT-OUT?
U.S. Department of Energy	Home Energy Score	9	2017-11-09		Non-Official Score	false
MEASUREMENT TYPE	SUB-TYPE	FUEL	QUANTITY	UNIT	STATUS	YEAR
PROD		ELEC	2737	KWH	ESTIMATE	
CONS		ELEC	11811	KWH	ESTIMATE	
REPORT LINKS						
http://hescore-pnnl-label-be.s3.amazonaws.com/hes_label_X3P6F.pdf						



Add/Remove Labels

Labels: (no labels applied)

Building change history

←

→

FIELD	MASTER	HOME ENERGY SCORE.CSV.1517602
PM Property ID		
PM Parent Property ID		
Jurisdiction Property ID		
Custom ID 1 (Property)		
Address Line 1 (Property)	12334 main street	12334 main street

Application Programming Interface (API)

Contact & FAQ

TEST USER

HELIX PLATFORM

SubOrgA

+

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Frequently Asked Questions

What are the allowed file formats to upload data into HELIX?
 You can upload Excel files (.xls, .xlsx), CSV and XML files into HELIX.

What Green Certifications are allowed in HELIX?
 Your HELIX installation will come populated with seven default certifications (DOE Home Energy Score, LEED for Homes, HERS Index, Energy Star Certified Homes, NGBS New Construction and Passive House). You can add new certification types by going to the [certifications](#) tab.

Contact Information and Frequently Asked Questions are provided in the “Contact” tab

Does HELIX integrate utility costs in auto population?
 HELIX can collect annual estimates or actual utility costs. This data is, however, not part of the standard RESO export.

Who will control opt-in/opt-out in HELIX?
 The party (state agency, utility) managing the HELIX data will be responsible for tracking and managing the information, and can manually or via a file upload update opt-in or out preferences to reflect the property owners' wishes. The managing party may also choose to delete any records that opt-out. Opt-in/opt-out will happen at the certification level. Any certification with an opt-out flag is not available for export.

Can records be identified by Property Tax ID
 A tax ID can be incorporated into the HELIX by using the Jurisdiction Tax Lot ID field and the system will attempt to match records using that identifier. Make sure that your tax ID is properly mapped to that field.

About

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HELIX PLATFORM

ClearlyEnergy



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About HELIX Platform

The Home Energy Labeling Information Exchange (HELIX) is a database which automatically populates real estate listings with home energy information from the U.S. Department of Energy's Home Energy Score and other sources. The database was developed by regional stakeholders as a free software tool to allow home buyers access to home energy information in the real estate purchasing process. Learn how to get started.

HELIX is managed by NEEP for more information please visit: [for more details](#)

Development Team:

Managed by: [ClearlyEnergy](#)

HELIX is built on the SEED Platform™ managed by: [National Renewable Energy Laboratory](#)

With funding from the Department of Energy:

Version

2.2.0.e1270a9

APPENDIX A: Detailed Mapping Instructions

LEED, Home Energy Score



Datasets Mapped Automatically

No changes in mapping required:

- LEED
- Home Energy Score

INVENTORY TYPE	HELIX HEADER	MEASUREMENT UNITS	DATA FILE HEADER	ROW 1
Property ▾	City		city	Burlington
Property ▾	Green Assessment Property Url		green_assessment_property_url	http://www.gbgl.org/activities/leed-10702683
Property ▾	Green Assessment Property Date		green_assessment_property_date	05/28/2013
Property ▾	Green Assessment Property Rating		green_assessment_property_rating	SILVER
Property ▾	Green Assessment Name		green_assessment_name	LEED for Homes
Property ▾	Green Assessment Property Source		green_assessment_property_source	U.S. Green Building Council
Property ▾	Green Assessment Property Extra Data		green_assessment_property_extra_data	{ 'leed_score': '65/136' }
Property ▾	State		state	VT
Property ▾	Postal Code		postal_code	05401
Property ▾	Longitude		longitude	-73.1962903
Property ▾	Latitude		latitude	44.4680577
Property ▾	Green Assessment Property Version		green_assessment_property_version	v2010
Property ▾	Property Type		property_type	Multi-Family Residential
Property ▾	Address Line 1		address_line_1	165 Davis Road

NGBS-National Green Building Standard

INVENTORY TYPE	HELIX HEADER	MEASUREMENT UNITS	DATA FILE HEADER	ROW 1
Property ▾	Company		Company	Snyder Homes
Property ▾	Development Name		ProjectName	
Property ▾	UnitCount		UnitCount	0
Property ▾	Address Line 1		Address	63 Aspen Circle
Property ▾	City		City	Shelburne
Property ▾	State		State	VT
Property ▾	Postal Code		Zip	05482
Property ▾	NGBS New Construction		CertificationLevel	Bronze
Property ▾	Green Assessment Property Date		Certified Date	2011-02-14 00:00:00
Property ▾	NGBS New Construction Version		NGBS Version	2008 NGBS
Property ▾	Property Type		ScoringPath	Single-Family New Construction

The following fields should map automatically:

- Address
- Zip