

ENERGY STAR. The simple choice for energy efficiency.

The logo for ENERGY STAR RaterPRO. It consists of a blue square on the left containing a white icon of a house with a checkmark inside. To the right of the square, the text "ENERGY STAR" is written in blue, followed by "RaterPRO" in a larger, bold blue font with a trademark symbol (TM).

Preview

RESNET Conference

February 27th, 2017



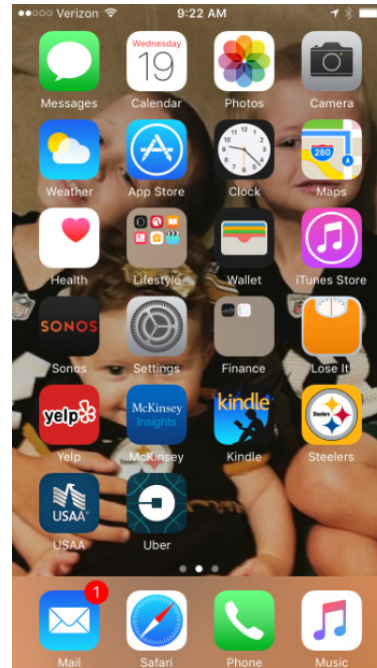


## Agenda

- Apps are problem solvers
- Problems to solve
- A better way
- ENERGY STAR RaterPRO tour
- ENERGY STAR RaterPRO demo
- Next steps
- Q&A



# Apps Are Problem Solvers



## Apps Are Problem Solvers

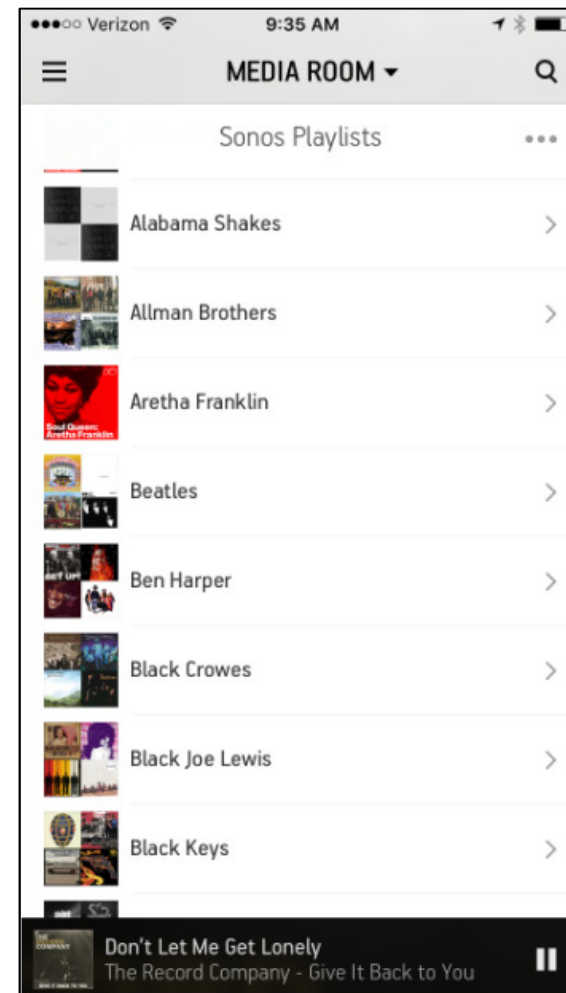
- The first App was launched in July of 2008
- Since that time over 2 million IOS apps and 2.2 million droid apps have been developed
- Apps are problem solvers





## Apps Are Problem Solvers

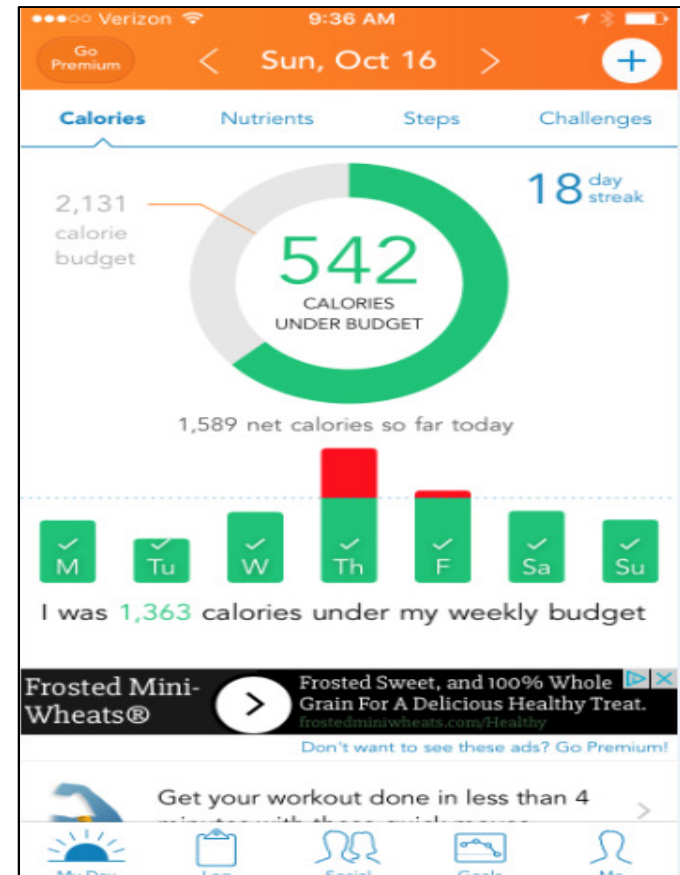
- Problem: Desire to hear the top 30 million songs ever recorded
- Solution: Sonos paired with Apple Music has made my dinner experiences wonderful





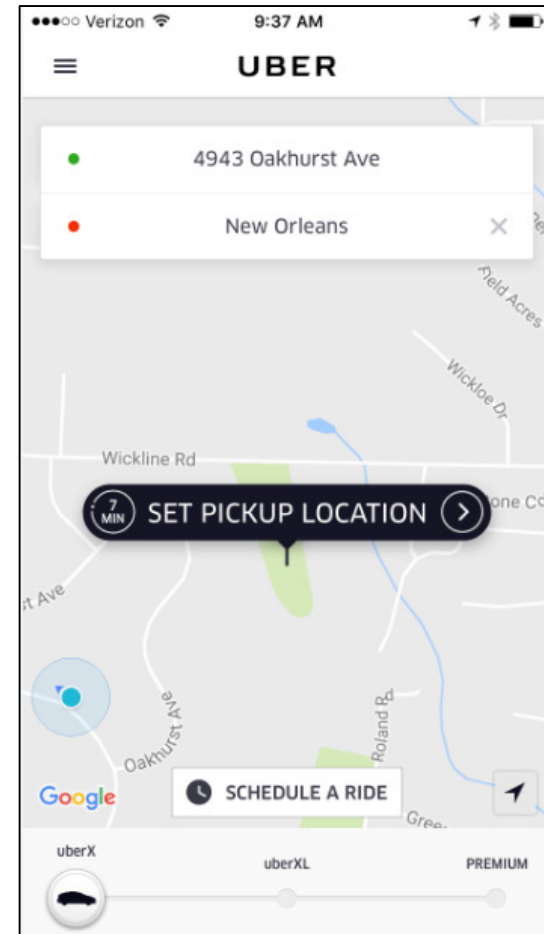
## Apps Are Problem Solvers

- Problem: Dean keeps showing this picture of me at conference presentations.
- Solution: Loselt App to make the picture look dated
- Problem: Actually have to use the app



## Apps Are Problem Solvers

- Problem: Taxi's have a monopoly, and they don't serve the suburbs
- Solution: People will drive their car for money



## Apps Are Problem Solvers

- Problem: Humans have too many accidents
- Solution: Robots drive cars in Pittsburgh, and now piloting in Arizona







## Apps Are Problem Solvers

- Apps are problem solvers
- They spur innovation beyond the app itself

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# Problems to Solve

## The Granite Problem

- Missing granite countertops can be easily spotted.



## The 'Not Granite' Problem

- Missing blower door test cannot be easily spotted.





## The 'Not Granite' Problem

1

**HERS Modeling of  
Proposed Home**

2

**Field  
Inspections**

3

**HERS Modeling of  
Confirmed Home**



## The 'Not Granite' Problem

- 1<sup>st</sup> Problem: The value of a third-party field inspection is invisible for too many people.

## The 'Carrier Pigeon' Problem

- Antiquated tools make it harder to get the job done.



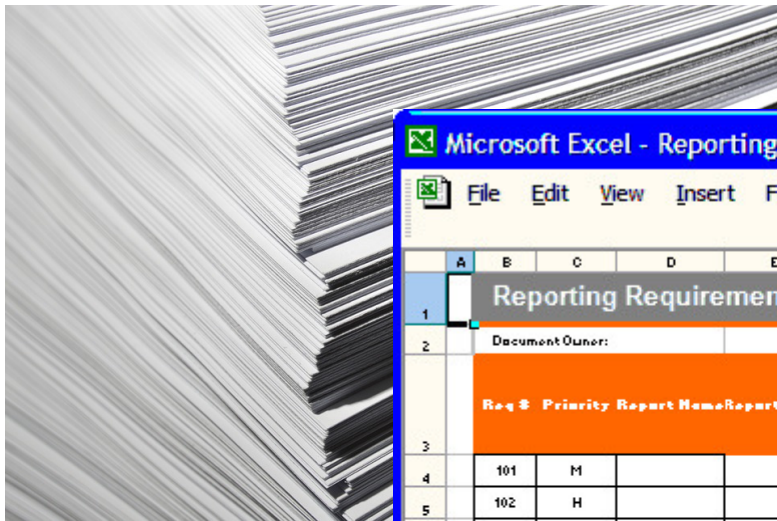
# The 'Carrier Pigeon' Problem







# The 'Carrier Pigeon' Problem



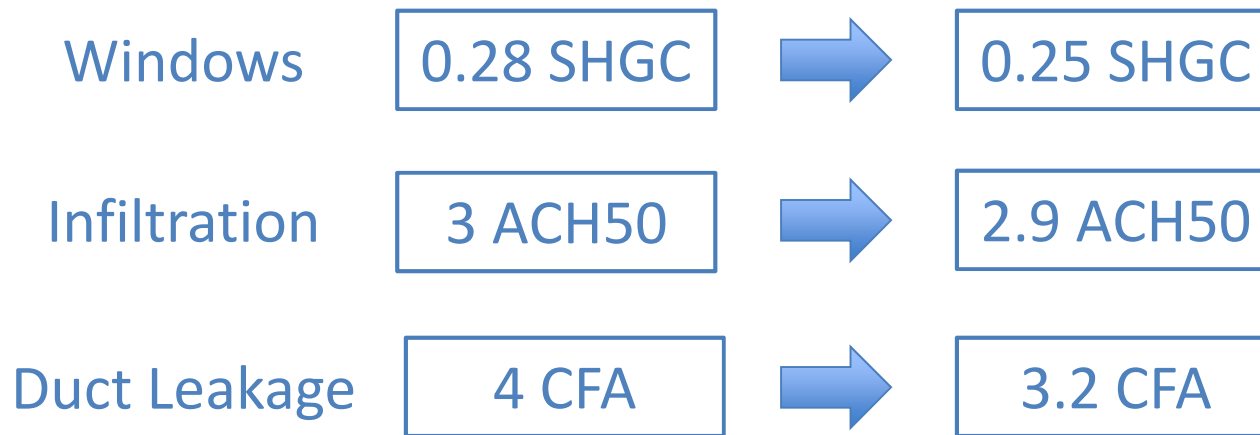
The screenshot shows a Microsoft Excel spreadsheet titled "Reporting-Requirements". The spreadsheet has a menu bar with File, Edit, View, Insert, Format, Tools, Data, Window, and Help. The data is organized into columns: Req #, Priority, Report Name, Report Type, Date Requirements, Date Source(s), Source System, and Standard. The rows contain data for requirements 101 through 110, with priorities ranging from Low to High. A color legend at the bottom indicates Low (green) and Medium (yellow).

Req #	Priority	Report Name	Report Type	Date Requirements	Date Source(s)	Source System	Standard
101	M						
102	H						
103	L						
104	M						
105	H						
106	L						
107	M						
108	H						
109	L						
110	M						





# The 'Carrier Pigeon' Problem



## Rater Field Checklist ENERGY STAR Certified Homes, Version 3

Home Address:	City:	State:
<b>Thermal Enclosure System</b>		
<b>1. High-Performance Fenestration &amp; Insulation</b>		
1.1 Fenestration meets or exceeds levels specified in Item 2.1 of the Rater Design Review Checklist		
1.2 Insulation meets or exceeds levels specified in Item 3.1 of the Rater Design Review Checklist		
1.3 All insulation achieves RESNET-defined Grade I installation. See Footnote 4 for alternatives. <sup>4</sup>		
<b>2. Fully-Aligned Air Barriers</b> <sup>5</sup> At each insulated location below, a complete air barrier is provided that is fu		





## The 'Carrier Pigeon' Problem





## The 'Carrier Pigeon' Problem

- 2<sup>nd</sup> Problem: The baseline tools provided today take too much effort to do a high-quality field inspection.



## Goal of RaterPRO

- Provide a tool that facilitates the collection of high-quality field data during the pre-drywall and final inspections.
- This helps increase the value, and reduce the cost, of a high-quality third-party rating.

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# A Better Way



## A Better Way

- Interviewed over 30 separate HERS Rating companies.
- Discussed options with builders who combined construct over 100,000 homes annually, both production and custom.
- Held multiple calls with existing tool manufacturers, and HERS rating software companies.
- Invited Rating companies to all-day working session in DC to journey map homes.



## A Better Way

1

**HERS Modeling of  
Proposed Home**

2

**Field  
Inspections**

3

**HERS Modeling of  
Confirmed Home**





## A Better Way

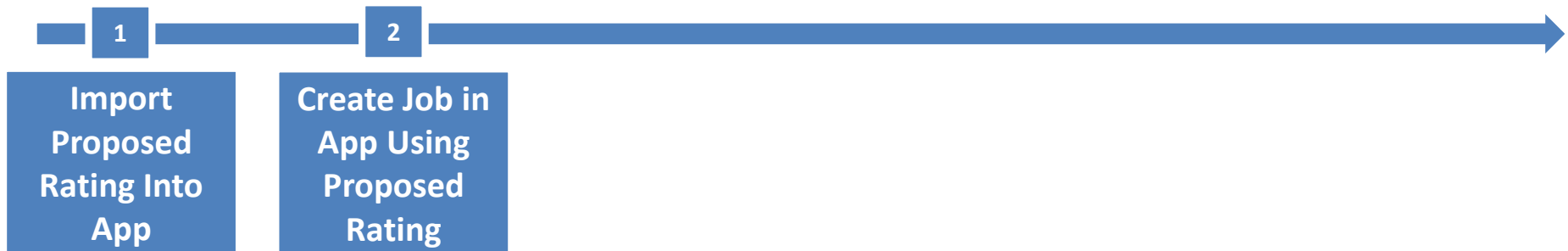
1

Import  
Proposed  
Rating Into  
App

- Complete HERS modeling of proposed home in HERS software. Then import into app.
- HERS Raters and Field Inspectors will be able to see the features of the proposed design when performing field inspections.



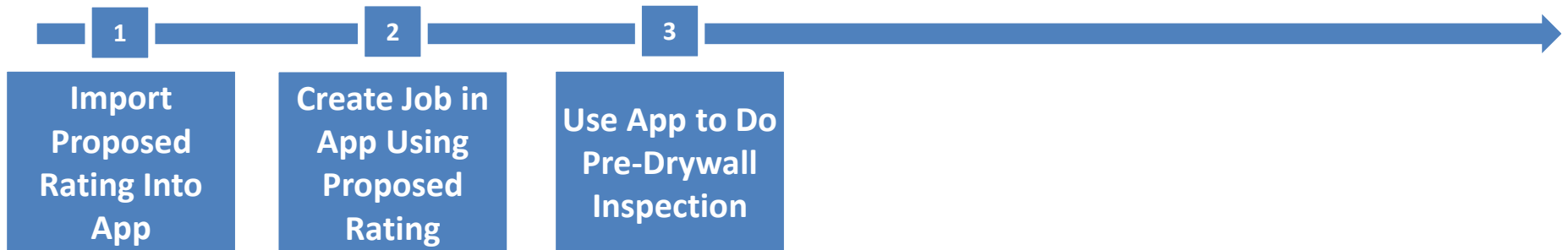
## A Better Way



- Create a job in the app for each home that will be built using the proposed rating that was imported.
- You can create multiple jobs using the same proposed rating.



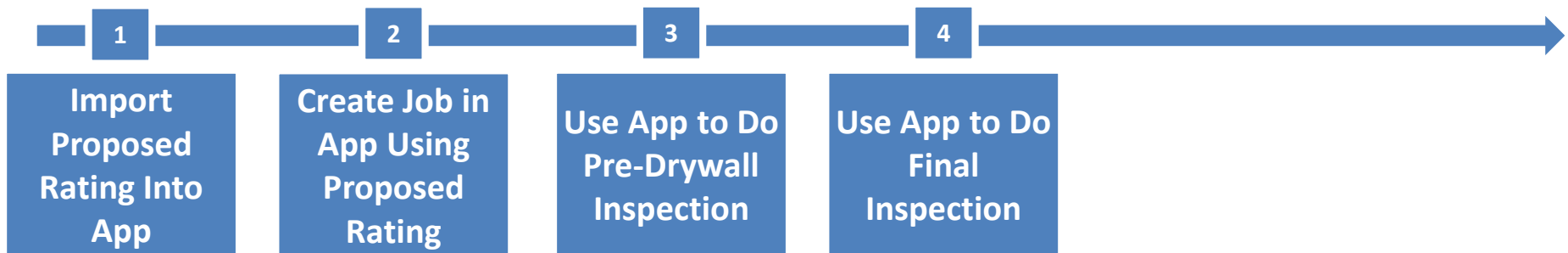
## A Better Way



- Any Rater in the group can access that job in the field to complete the pre-drywall inspection.
- All features of the proposed rating are at your fingertips, plus all inspection items for ENERGY STAR homes.
- As you inspect, you can take change features, check off checklist items, take notes, and even take photos.
- All info is automatically synced when you finish.



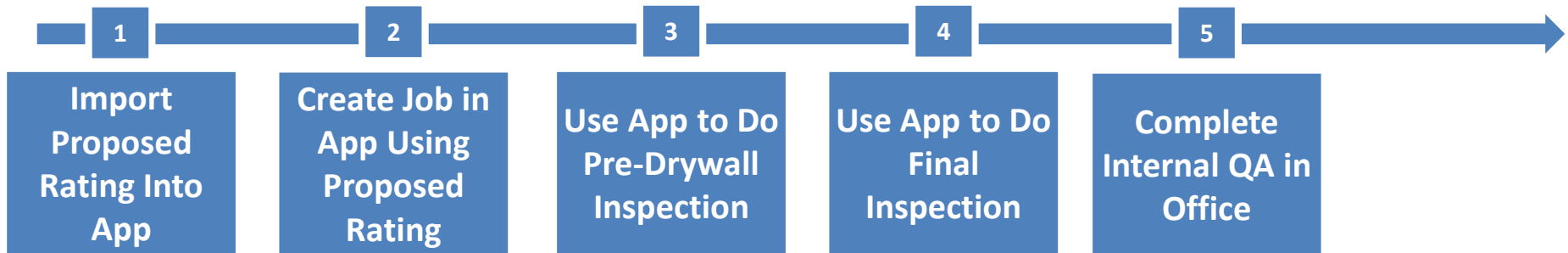
## A Better Way



- Any Rater in the group can access that job in the field to complete the final inspection.
- Same information and features are available, but tailored to final inspection tasks.
- Can open and use apps for connected devices from Retrotec and The Energy Conservatory.
- All info is automatically synced when you finish.



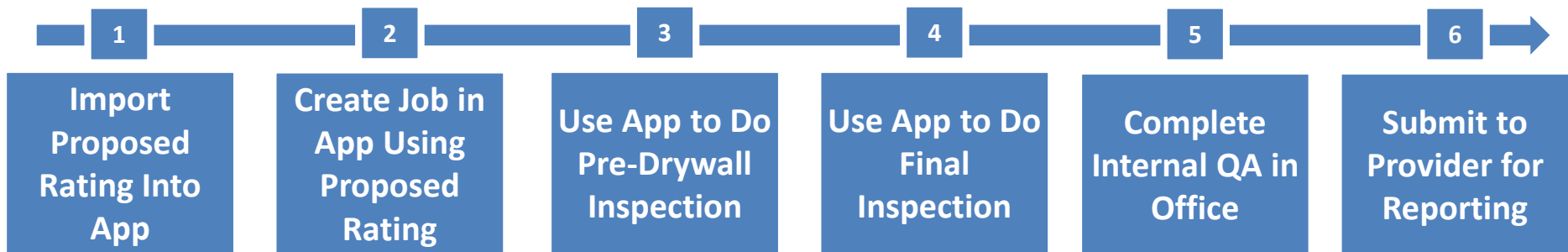
## A Better Way



- Jobs can be tagged for internal QA.
- Updated HERS rating file can be generated with the press of a button.



## A Better Way



- Use app to submit job to your Provider.
- Provider completes QA, downloads HERS file, and submits home via HERS software, just like today.



## Summary: A Better Way

- More robust record helps demonstrate the value of third-party inspections.
- State of the art technology makes it easier to collect and manage high-quality field data.

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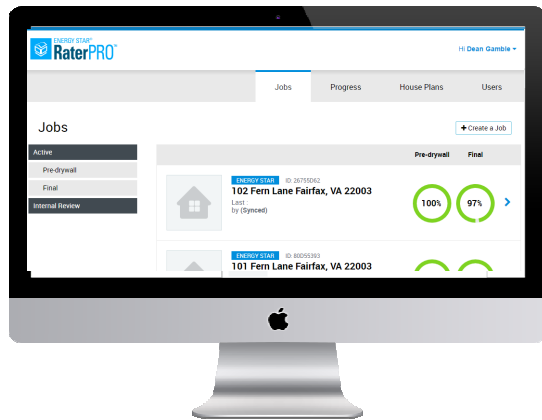
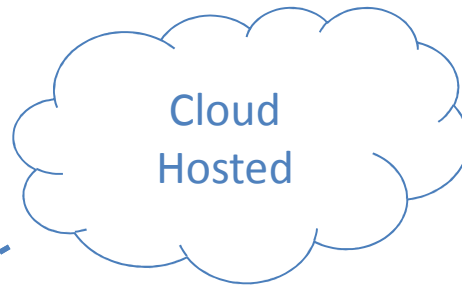


# ENERGY STAR RaterPRO Tour

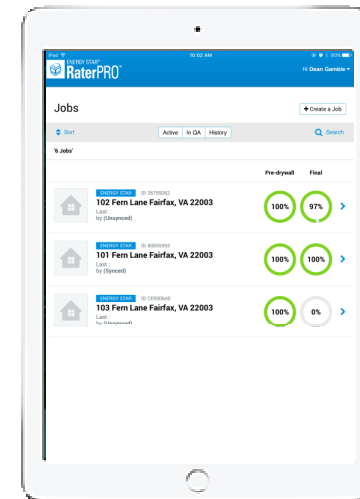




# ENERGY STAR RaterPRO Tour



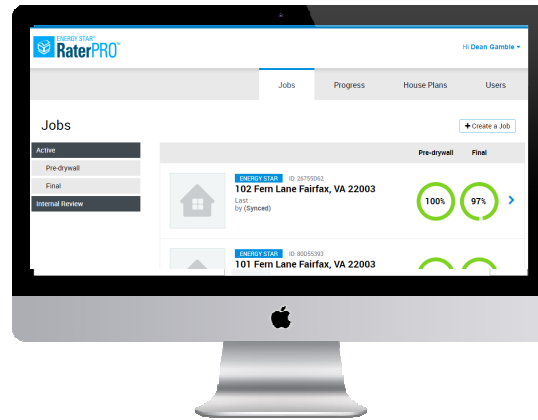
Web-Based Admin Site



Field App



# ENERGY STAR RaterPRO Tour



Web-Based Admin Site



# ENERGY STAR RaterPRO Tour: Admin Site



Hi Dean Gamble ▾

	<b>Jobs</b>	Progress	House Plans	Users
--	-------------	----------	-------------	-------

## Jobs

[+ Create a Job](#)

- Active
- Pre-drywall
- Final
- Internal Review

		Pre-drywall	Final	
	<b>ENERGY STAR</b> ID: 26755D62 <b>102 Fern Lane Fairfax, VA 22003</b> Last : by (Synced)	100%	97%	>
	<b>ENERGY STAR</b> ID: 80D55393 <b>101 Fern Lane Fairfax, VA 22003</b> Last : by (Unsynced)	100%	100%	>
	<b>ENERGY STAR</b> ID: CE93D6AE			



# ENERGY STAR RaterPRO Tour: Admin Site



Hi Dean Gamble ▾

Jobs

Progress

House Plans

Users

## Create a Job

Rating Type

ENERGY STAR Rating   HERS Rating Only



Sample Set



House Plan

+ Add





# ENERGY STAR RaterPRO Tour: Admin Site

Builder	<input type="text" value="Builder"/>	←
Location	<input type="text" value="Street Address"/>	←
	<input type="text" value="City"/> <input type="text" value="State"/> <input type="text" value="Zip Code"/>	
	OR <input type="text" value="Community Name"/> <input type="text" value="Lot #"/>	←
	OR <input type="text" value="Manual Identifier"/>	←
HVAC Design Report	<input type="button" value="Upload HVAC Design Report"/>	←
Rater Design Review Checklist	<input type="button" value="Upload Rater Design Review Checklist"/>	←
	<input type="button" value="Create"/> <input type="button" value="Cancel"/>	



# ENERGY STAR RaterPRO Tour: Admin Site



Hi Dean Gamble ▾

Jobs    **Progress**    House Plans    Users

## Job Status

Stage	All Jobs	Stagnant Jobs			
		1 Week	2 Weeks	3 Weeks	4+ Weeks
Active	11	12	13	14	15
Pre-Drywall	10	10	10	10	10
Final	10	10	10	10	10
Completed	10	10	10	10	10
Internal Review	10	10	10	10	10
Submitted to Provider	10	10	10	10	10
Approved	10	10	10	10	10
Registered	10				
Deleted	10				



# ENERGY STAR RaterPRO Tour: Admin Site



Hi Dean Gamble ▾

Jobs

Progress

House Plans

Users

## House Plans

[+ Add a House Plan](#)

### Carnation - Bonus

[Edit](#)

**Builder:**

Best Builder

**Community:**

Canterbury Woods

**HVAC Design Report:**

**Rater Design Review Checklist:**

### Daisy - Base

[Edit](#)

**Builder:**

Best Builder

**Community:**

Canterbury Woods

**HVAC Design Report:**

**Rater Design Review Checklist:**



# ENERGY STAR RaterPRO Tour: Admin Site



Hi Dean Gamble ▾

Jobs

Progress

House Plans

Users

## Users

[+ Add an User](#)

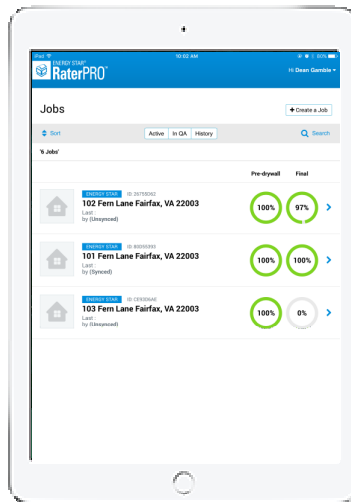
Active Raters	27
Inactive Raters	137
Suspended Raters	12
Rating Company Admins	4
Active Providers	6
Suspended Providers	0

Rater ID	Name	Email	Role	Status	Version 3 Trained?	
12345678	Jeff Jefferson	jeff.jefferson@ratingcompany.com	Rater	Active	Yes	<a href="#">✎</a> <a href="#">✕</a>





# ENERGY STAR RaterPRO Tour



Field App



# ENERGY STAR RaterPRO Tour: Field App

The screenshot shows the ENERGY STAR RaterPRO Field App interface on an iPad. The top navigation bar is blue and contains the app logo, the time 10:02 AM, and the user name Hi Dean Gamble. Below the navigation bar is a 'Jobs' section with a '+ Create a Job' button. A filter bar includes 'Sort', 'Active', 'In QA', 'History', and a 'Search' button. The main content area displays a list of jobs under the heading '6 Jobs'. Each job entry includes a house icon, the ENERGY STAR logo, the job ID, the address, the last update status, and two progress indicators: 'Pre-drywall' and 'Final'. The progress indicators are represented by green circles with white percentages and a blue arrow pointing right.

	Pre-drywall	Final
ENERGY STAR ID: 26755D62 <b>102 Fern Lane Fairfax, VA 22003</b> Last : by (Unsynced)	100%	97%
ENERGY STAR ID: 80D55393 <b>101 Fern Lane Fairfax, VA 22003</b> Last : by (Synced)	100%	100%
ENERGY STAR ID: CE93D6AE <b>103 Fern Lane Fairfax, VA 22003</b> Last : by (Unsynced)	100%	0%



# ENERGY STAR RaterPRO Tour: Field App

ENERGY STAR RaterPRO™

Hi Dean Gamble

ENERGY STAR ID: CE93D6AE

110 checklist items for pre-drywall and final, any status

Filter

### Walls - Pre-Drywall

Wall assemblies match proposed design

Walls Assembly

Name	Wall Type Name	Wall Construction	Cont. Ins. (R)	Cavity Ins. (R)	Block Cavity Ins. (R)
Ambient	R-15, R-3 Cont. GI***	Standard Wood Frame	3.0	15.0	0.0
Garage	R-15 GI***	Standard Wood Frame	0.0	15.0	0.0
Common	R-11 GI***	Standard Wood Frame	0.0	11.0	0.0

N/A Must Correct Rater Verified

Rim joist assemblies match proposed design

Rim Joist

Name	Cont. Ins. (R)	Joist Cavity Ins. (R)	Ins. Grade	Location

You Are Rating: 103 Fern Lane Fairfax, VA 22003

Builder: Best Builder House Plan: Daisy



# ENERGY STAR RaterPRO Tour: Field App

Rough opening around windows & exterior doors sealed



Builder Verified Must Correct Rater Verified



Doors match proposed design

Doors

Name	Door Type Name	R-Value of Opaque Area	Wall Assignment	Storm Door?	Opaque
Front Door	Therma-Tru Fiberglas***	5.30	agwall-1	No	21.0
Garage Door	Steel-polyurethane	2.60	agwall-2	No	21.0



N/A Must Correct Rater Verified

Air sealing at penetrations, with blocking / flashing as needed



Builder Verified Must Correct Rater Verified



Sill plates sealed to foundation / sub-floor, plus gasket beneath



N/A Builder Verified Must Correct Rater Verified



Garage walls sealed, plus sealed air barrier at floor cavity above



N/A Builder Verified Must Correct Rater Verified



Gap between common wall and framing sealed



N/A Builder Must Rater

More



You Are Rating:



103 Fern Lane Fairfax, VA 22003

Builder: Best Builder House Plan: Daisy



# ENERGY STAR RaterPRO Tour: Field App

iPad 10:07 AM 80%

**Edit Doors** [Cancel] [Save]

**Name**  
Garage Door

**Door Type Name**  
Steel-polyurethane

**R-Value of Opaque Area**  
2.60

**Wall Assignment**  
agwall-2

**Storm Door?**  
No

**Opaque Area (sq ft)**  
21.0

Sill plates sealed to foundation / sub-floor, plus gasket beneath  
[N/A] [Builder Verified] [Must Correct] [Rater Verified]

Garage walls sealed, plus sealed air barrier at floor cavity above  
[N/A] [Builder Verified] [Must Correct] [Rater Verified]

Gap between common wall and framing sealed  
[N/A] [Builder Verified] [Must Correct] [Rater Verified]

You Are Rating: [House Icon] 103 Fern Lane Fairfax, VA 22003  
Builder: Best Builder House Plan: Daisy



# ENERGY STAR RaterPRO Tour: Field App

Rough opening around windows & exterior doors sealed



Builder Verified Must Correct Rater Verified



Doors match proposed design

Doors

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Garage Door	Steel-polyurethane	2.60	agwall-2	No	21.0



N/A Must Correct Rater Verified

Air sealing at penetrations, with blocking / flashing as needed



Builder Verified Must Correct Rater Verified



Sill plates sealed to foundation / sub-floor, plus gasket beneath



N/A Builder Verified Must Correct Rater Verified



Garage walls sealed, plus sealed air barrier at floor cavity above



N/A Builder Verified Must Correct Rater Verified



Gap between common wall and framing sealed



N/A Builder Must Rater

More



You Are Rating:



103 Fern Lane Fairfax, VA 22003

Builder: Best Builder House Plan: Daisy



# ENERGY STAR RaterPRO Tour: Field App

Rough opening around windows & exterior doors sealed



Builder Verified Must Correct Rater Verified



Doors match proposed design

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N/A Must Correct Rater Verified

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Builder Verified Must Correct Rater Verified



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N/A Builder Verified Must Correct Rater Verified



Garage walls sealed, plus sealed air barrier at floor cavity above



N/A Builder Verified Must Correct Rater Verified



Gap between common wall and framing sealed



N/A Builder Must Rater

More



You Are Rating:



103 Fern Lane Fairfax, VA 22003

Builder: Best Builder House Plan: Daisy



# ENERGY STAR RaterPRO Tour: Field App

Rough opening around windows & exterior doors sealed

Builder Verified Must Correct Rater Verified

Doors match proposed design

Doors

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Garage Door	Steel-polyurethane	2.60	agwall-2	No	21.0

Air sealing at penetrations, with blocking / flashing as needed



Sill plates sealed to foundation / sub-floor, plus gasket beneath



Garage walls sealed, plus sealed air barrier at floor cavity above



Gap between common wall and framing sealed

Builder Verified Must Correct Rater Verified

Cancel **Add Comment** Done

Door missing weather-stripping



You Are Rating:



103 Fern Lane Fairfax, VA 22003

Builder: Best Builder House Plan: Daisy

More





# ENERGY STAR RaterPRO Tour: Admin Site






Hi Dean Gamble ▾

	Jobs	Progress	House Plans	Users
--	------	----------	-------------	-------

## Jobs

+ Create a Job

- Active
- Pre-drywall
- Final
- Internal Review

		Pre-drywall	Final	
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	<b>ENERGY STAR</b> ID: 80D55393 <b>101 Fern Lane Fairfax, VA 22003</b> Last : by (Unsynced)	100%	100%	>
	<b>ENERGY STAR</b> ID: CE93D6AE			



## ENERGY STAR RaterPRO Tour: Key Features

- Cloud-based, but with the ability to work offline
- Able to import proposed ratings from HERS software
- Able to export confirmed ratings back to HERS software
- Capable of capturing robust data: notes, photos, geolocation
- Talks to Retrotec and TEC apps for connected devices
- Can generate builder reports showing progress and trends
- Freely available



# ENERGY STAR RaterPRO Demo

ENERGY STAR. The simple choice for energy efficiency.



# Next Steps



## Next Steps

- Internal testing through Spring.
- Beta testing begins in the Summer.
- Beta testing ends in Fall, and used to improve RaterPRO.
- If beta testing goes well, Version 1.0 by next RESNET.
- Upon release, RaterPRO will be completely voluntary.
- Going forward, work with RESNET to develop standards and credit for enhanced ratings. RaterPRO may be a model, but isn't designed to be the only solution.

ENERGY STAR. The simple choice for energy efficiency.



# Q&A



# ENERGY STAR Certified Homes

## Web & Email:

Main: [www.energystar.gov/newhomespartners](http://www.energystar.gov/newhomespartners)  
Technical: [www.energystar.gov/newhomesguidelines](http://www.energystar.gov/newhomesguidelines)  
Training: [www.energystar.gov/newhomestraining](http://www.energystar.gov/newhomestraining)  
HVAC: [www.energystar.gov/newhomesHVAC](http://www.energystar.gov/newhomesHVAC)  
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## Social Media:



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facebook.com/energystar

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