Program Update for ENERGY STAR Windows, Doors, and Skylights

NFRC Fall Membership Meeting
San Diego, CA

October 26, 2022

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ENERGY STAR Window, Door, and Skylight Program Manager

Agenda

1. Version 7 Specification
2. ENERGY STAR Most Efficient Skylights
3. Comments received
4. Updated labels
5. Unit Shipment Data
6. Next Steps
7. ENERGY STAR Home Upgrade

ENERGY STAR Version 7 WDS Specification

Quick Summary:

- Criteria was finalized on October 20, 2022
- One final criteria adjustment made for > ½-Lite doors in the N/NC
- No change to window or skylight criteria from final draft
- V7 Implementation date is October 23, 2023 – but as soon as V7 labels are ready, any partner company can sell products that meet the new criteria
- EPA will begin collecting Unit Shipment Data annually instead of using Ducker (companies can submit through WDMA or FGIA)

Final Version 7 Window Specification

- All U-factor were lowered to improve insulating power
- A minimum SHGC was set for Northern Zone
- Equivalent Energy Performance (Trade-offs) were expanded
- SHGCs were lowered in the South-Central and South to reduce air conditioning costs

Version 6

Climate Zone	U-Factor	SHGC	
Northern*	≤ 0.27	Any	Prescriptive
	= 0.28	≥ 0.32	Equivalent Energy Performance
	= 0.29	≥ 0.37	
	= 0.30	≥ 0.42	
North-Central	≤ 0.30	≤ 0.40	
South-Central	≤ 0.30	≤ 0.25	
Southern	≤ 0.40	≤ 0.25	

Final Version 7

Climate Zone	U-Factor	SHGC	
Northern*	≤ 0.22	≥ 0.17	Prescriptive
	= 0.23	≥ 0.35	Equivalent Energy Performance
	= 0.24		
	= 0.25	≥ 0.40	
	= 0.26		
North-Central	≤ 0.25	≤ 0.40	
South-Central	≤ 0.28	≤ 0.23	
Southern	≤ 0.32	≤ 0.23	

= Change

Northern Zone Energy Window Savings over Market Baseline (GJ)

Minimum SHGC

Final Analysis

Lower SHGC = Lower Energy Savings in the North

	SHGC																	
U-Factor	0.13	0.15	0.17	0.19	0.20	0.21	0.23	0.25	0.27	0.30	0.32	0.35	0.37	0.40	0.42	0.45	0.47	0.50
0.2	4.3	5.1	5.8	6.5	6.8	7.2	7.9	8.5	9.2	10.1	10.7	11.6	12.2	13.0	13.5	14.3	14.7	15.3
0.21	3.6	4.4	5.1	5.8	6.1	6.5	7.1	7.8	8.4	9.4	10.0	10.9	11.5	12.3	12.8	13.6	14.0	14.6
0.22	2.8	3.7	4.4	5.1	5.4	5.7	6.4	7.1	7.7	8.7	9.3	10.2	10.8	11.6	12.1	12.9	13.3	13.9
0.23	2.1	3.0	3.7	4.4	4.7	5.0	5.7	6.4	7.0	8.0	8.6	9.5	10.1	10.9	11.4	12.2	12.6	13.2
0.24	1.4	2.3	3.0	3.7	4.0	4.3	5.0	5.7	6.3	7.3	7.9	8.8	9.4	10.2	10.7	11.5	11.9	12.6
0.25	0.7	1.6	2.3	3.0	3.3	3.6	4.3	5.0	5.6	6.6	7.2	8.1	8.7	9.5	10.1	10.8	11.3	11.9
0.26	0.0	0.9	1.6	2.3	2.6	3.0	3.6	4.3	5.0	5.9	6.5	7.4	8.0	8.9	9.4	10.1	10.6	11.2
0.27	-0.7	0.2	0.9	1.6	2.0	2.3	3.0	3.6	4.3	5.2	5.9	6.7	7.3	8.2	8.7	9.5	9.9	10.5
0.28	-1.3	-0.5	0.2	0.9	1.3	1.6	2.3	3.0	3.6	4.6	5.2	6.1	6.7	7.5	8.1	8.8	9.2	9.9
0.29	-2.0	-1.2	-0.4	0.3	0.6	1.0	1.7	2.3	3.0	3.9	4.5	5.4	6.0	6.9	7.4	8.1	8.6	9.2
0.3	-2.7	-1.8	-1.1	-0.4	0.0	0.3	1.0	1.7	2.3	3.3	3.9	4.8	5.4	6.2	6.7	7.5	7.9	8.5
0.31	-3.3	-2.5	-1.8	-1.0	-0.7	-0.3	0.3	1.0	1.7	2.6	3.2	4.1	4.7	5.6	6.1	6.8	7.3	7.9
0.32	-4.0	-3.2	-2.4	-1.7	-1.3	-1.0	-0.3	0.4	1.0	2.0	2.6	3.5	4.1	4.9	5.4	6.2	6.6	7.2
0.33	-4.7	-3.8	-3.1	-2.4	-2.0	-1.7	-1.0	-0.3	0.4	1.3	1.9	2.8	3.4	4.2	4.8	5.5	6.0	6.6
0.34	-5.3	-4.5	-3.7	-3.0	-2.7	-2.3	-1.6	-1.0	-0.3	0.6	1.3	2.2	2.8	3.6	4.1	4.9	5.3	6.0
0.35	-6.0	-5.1	-4.4	-3.7	-3.3	-3.0	-2.3	-1.6	-0.9	0.0	0.6	1.5	2.1	3.0	3.5	4.2	4.7	5.3

Final Version 7 Door Specification (swinging and sliding)

- Reduce U-factor for ≤1/2-Lite and >1/2 Lite categories (no change for opaque)
- Reduce SHGC for >1/2-Lite in Southern and South-Central Zones

Version 6

Glazing Level	U-Factor	SHGC	
Opaque	≤ 0.17	No Rating	
≤ ½-Lite	≤ 0.25	≤ 0.25	
> ½-Lite	≤ 0.30	Northern North-Central	≤ 0.40
		Southern South-Central	≤ 0.25

Final Version 7

Glazing Level	U-Factor	SHGC	
Opaque	≤ 0.17	No Rating	
≤ ½-Lite	≤ 0.23	≤ 0.23	
> ½-Lite	≤ 0.26	Northern North-Central	≤ 0.40
	≤ 0.28	Southern South-Central	≤ 0.23

= Change

Final Version 7 Door Specification (swinging and sliding)

- Reduce U-factor for ≤1/2-Lite and >1/2 Lite categories (no change for opaque)
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Only change in Final Version

Version 6

Glazing Level	U-Factor	SHGC	
Opaque	≤ 0.17	No Rating	
≤ ½-Lite	≤ 0.25	≤ 0.25	
> ½-Lite	≤ 0.30	Northern North-Central	≤ 0.40
		Southern South-Central	≤ 0.25

Final Version 7

Glazing Level	U-Factor	SHGC	
Opaque	≤ 0.17	No Rating	
≤ ½-Lite	≤ 0.23	≤ 0.23	
> ½-Lite	≤ 0.26	Northern North-Central	≤ 0.40
	≤ 0.28	Southern South-Central	≤ 0.23

= Change

Final Version 7 Skylight Specification

- Reduce U-factor to improve insulating power
- Simply specification to 2 sets of criteria
- Reduce SHGC in Southern U.S. to reduce heat gain

Version 6

Climate Zone	U-Factor	SHGC
Northern	≤ 0.50	Any
North-Central	≤ 0.53	≤ 0.40
South-Central	≤ 0.53	≤ 0.28
Southern	≤ 0.60	≤ 0.28

Final Version 7

Climate Zone	U-Factor	SHGC
Northern	≤ 0.45	Any
North-Central	≤ 0.50	≤ 0.25
South-Central		
Southern		

= Change

NOTE: Current Canadian skylight specification is U = 0.40

The IRA and ENERGY STAR Most Efficient Skylights

Issue: Recently released Inflation Reduction Act (IRA) 25C Federal tax credits link the credits to ENERGY STAR Most Efficient Skylights

- **Bad News:** ENERGY STAR does not currently have Most Efficient recognition for skylights
- **Good News:** Most Efficient recognition criteria is reviewed and revised on an annual basis
- **Bad News:** The Most Efficient recognition criteria is already completed for 2023
- **Good News:** It does not matter. We can do a special criteria revision just for skylights

So… we are working on a proposal for Most Efficient recognition criteria for Skylights

  - We have heard some ideas from FGIA and WDMA
  - We are also looking at the NRCan (Canadian) ENERGY STAR skylight criteria

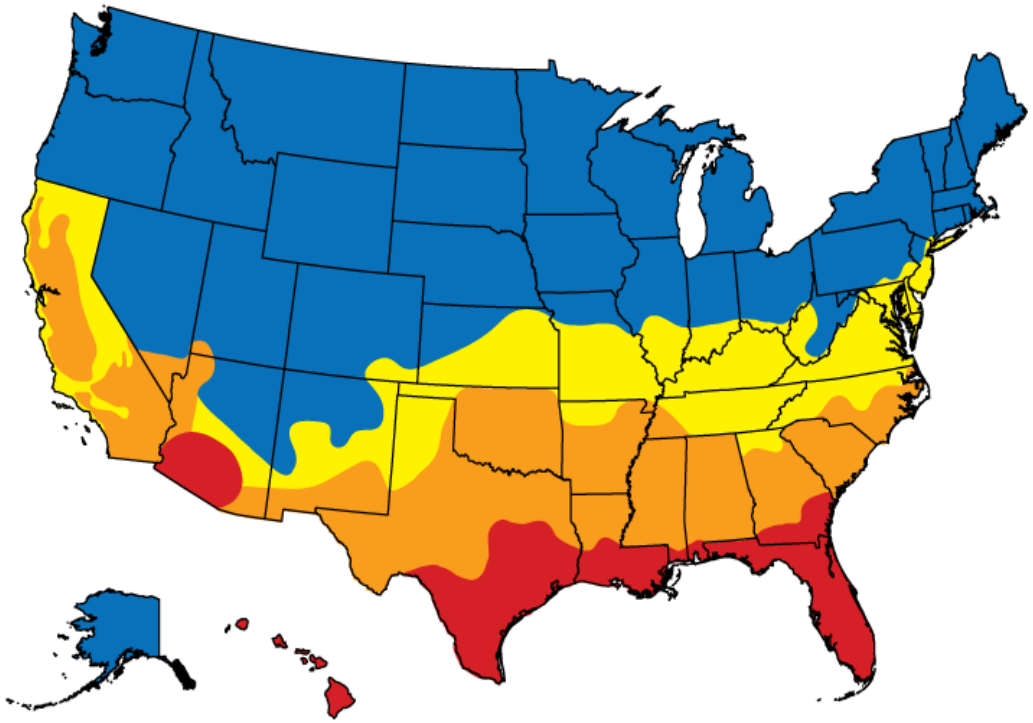
Common Issues Raised in Final Draft

Summary of EPA responses:

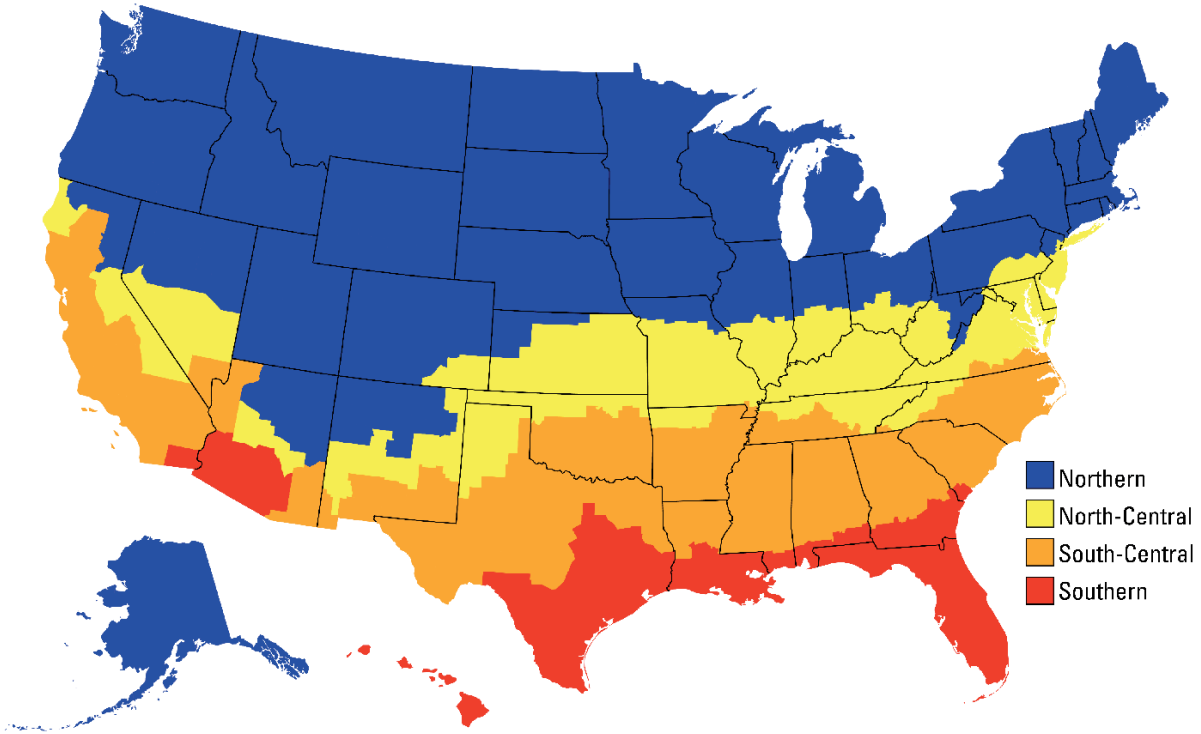
- EPA received many comments that were repeats from previous submissions
  - If we responded to the comment before and our answer was unchanged, we did not respond
  - A few comments were repeated by stakeholders – see below
- Request adjustment of window criteria in North-Central Zone from ≤ 0.25 to ≤ 0.26
  - EPA did consider this request but after discussion and review of product availability decided not to make a change
- Request adjustment of the > ½-Lite door criteria in the North and North-Central Zone
  - EPA reviewed comments and considered the availability of certified products and decided to make the change
- Request for additional time to implementation – up to Jan 1, 2024
  - EPA discussed this issue and determined that it was important to be consistent with implementation across product categories (EPA typically offers 9 months and the program already offered 12 months)
  - Therefore, no change beyond 12 months

Final Climate Zone Map Changes

Current Climate Zones



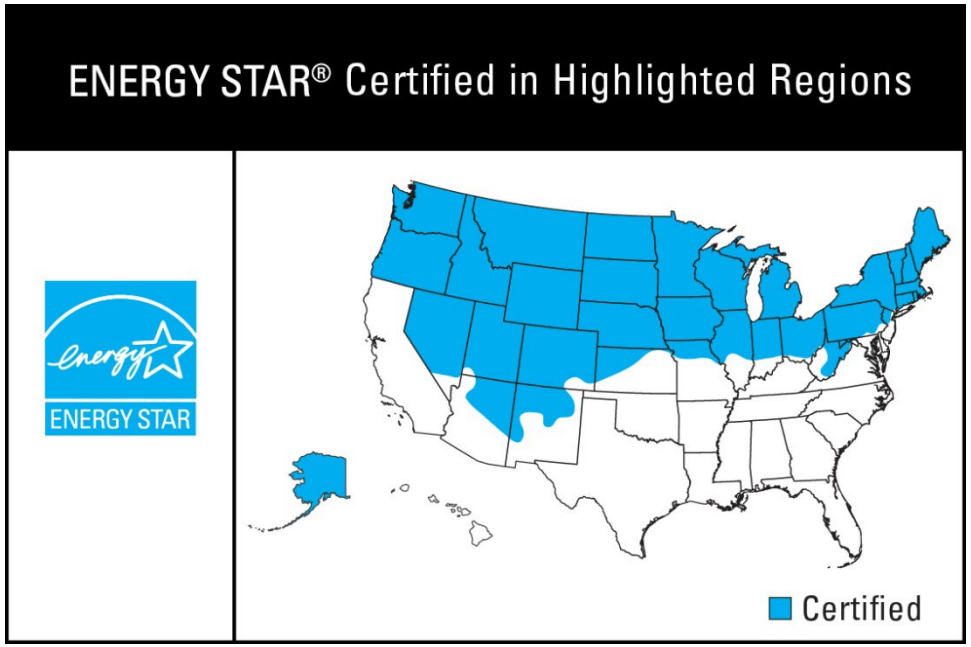
New Climate Zones



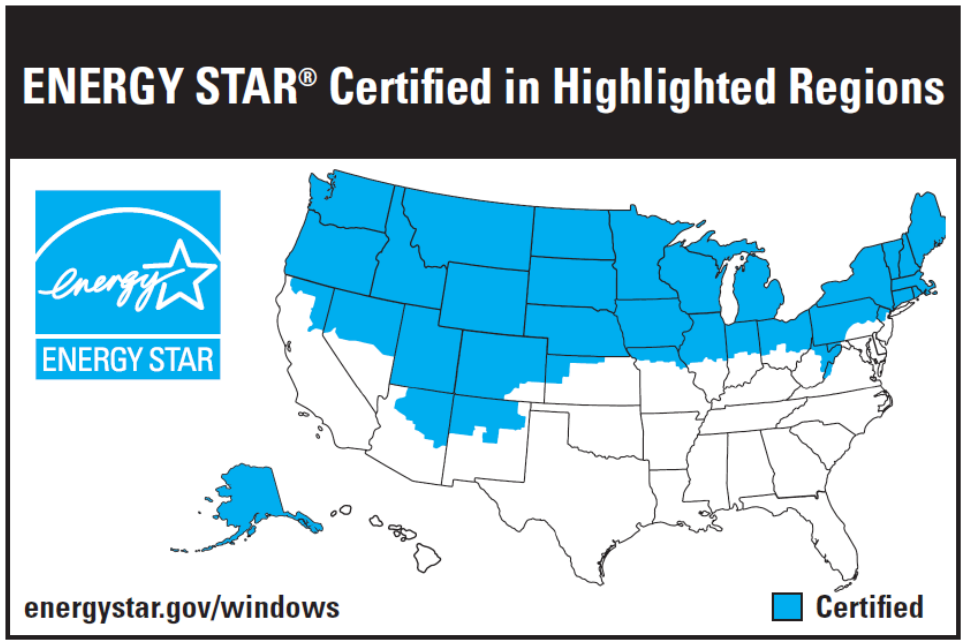
Zone changes based on IECC 2021
- with adjusted zone islands

New Label Format

Current Product Label



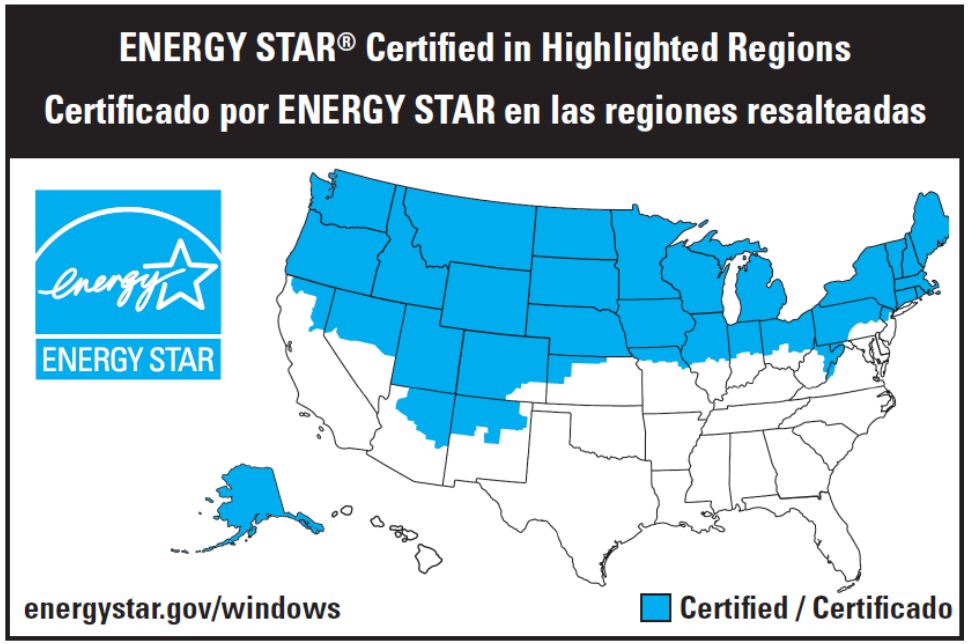
New Product Label



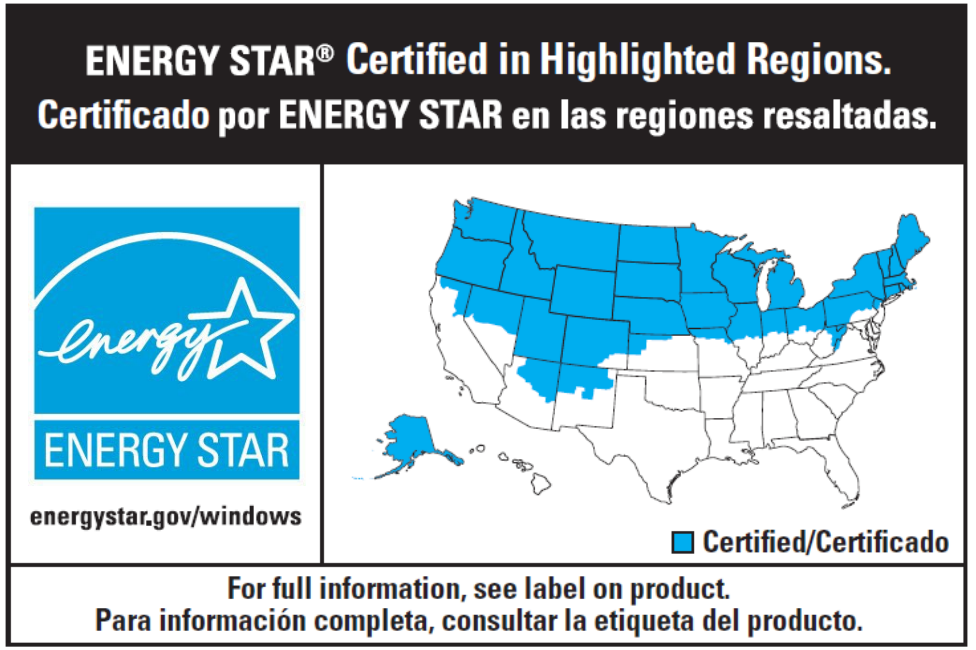
Zone changes based on IECC 2021
- with adjusted zone islands

New Label Format

New Bilingual Product Label (Optional)



New Spine Package Label



Zone changes based on IECC 2021
- with adjusted zone islands

Unit Shipment Data (USD) Collection Change

An ENERGY STAR program partner requirement is that all partners submit USD on an annual basis to EPA for program assessment

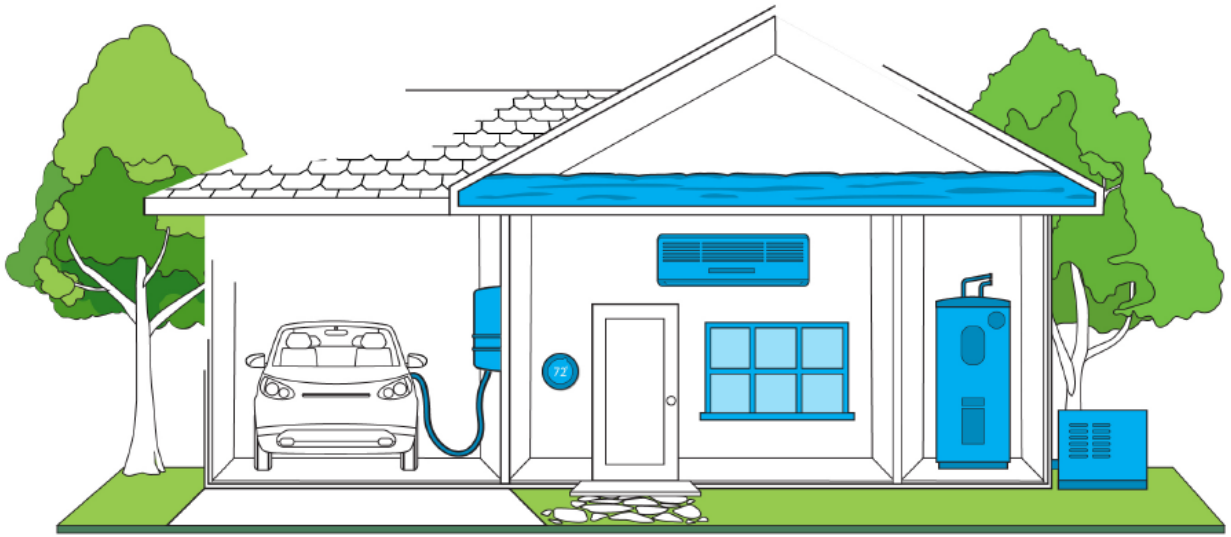
- EPA had been using Ducker Worldwide to collect USD but EPA has decided to stop purchasing the report and do it themselves
- EPA has collected USD securely for all other ENERGY STAR product categories through their contractor for over 10 years
- EPA is developing forms and procedures for this process
- Companies can submit through WDMA or FGIA who will aggregate the data for additional confidentiality
- EPA will begin the process in early 2023 for that year (no 2022 data)

Next Steps for Version 7 Implementation

Milestone	Expected Date
Most Efficient Skylight Proposal	Nov 2022
Updated Labels and Guidance	Q4 2022
Finalize Most Efficient Skylight Proposal	Dec 2022 - Jan 2023
Unit Shipment Data Guidance	Q1 2023
Version 7 Implementation Date	October 23, 2023
Unit Shipment Data Submission	Jan-Feb 2024

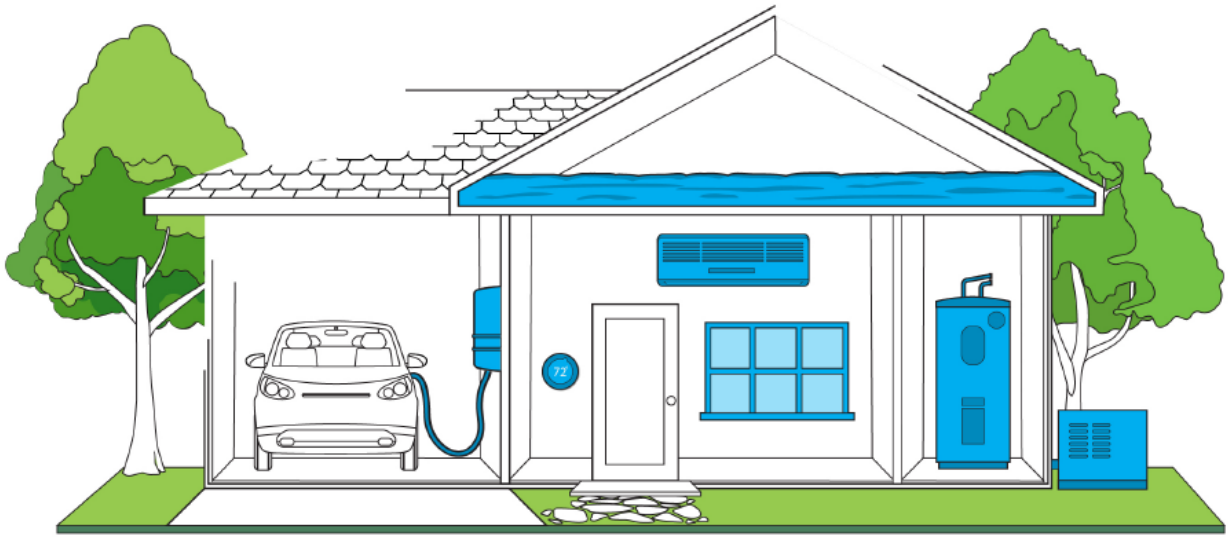
New! ENERGY STAR Home Upgrade

- The ENERGY STAR Home Upgrade is a carefully crafted set of **six high-impact, energy efficiency improvements** for your home designed to deliver energy cost savings and help transition from fossil fuels for a healthier and more comfortable home.
- The measures in the ENERGY STAR Home Upgrade include:
  - Clean Heat (plus efficient cooling)
  - Super-Efficient Hot Water
  - Smart Climate Controls
  - High-Performing Windows or Storm Windows
  - Well-Insulated and Sealed Attic
  - Electric Ready



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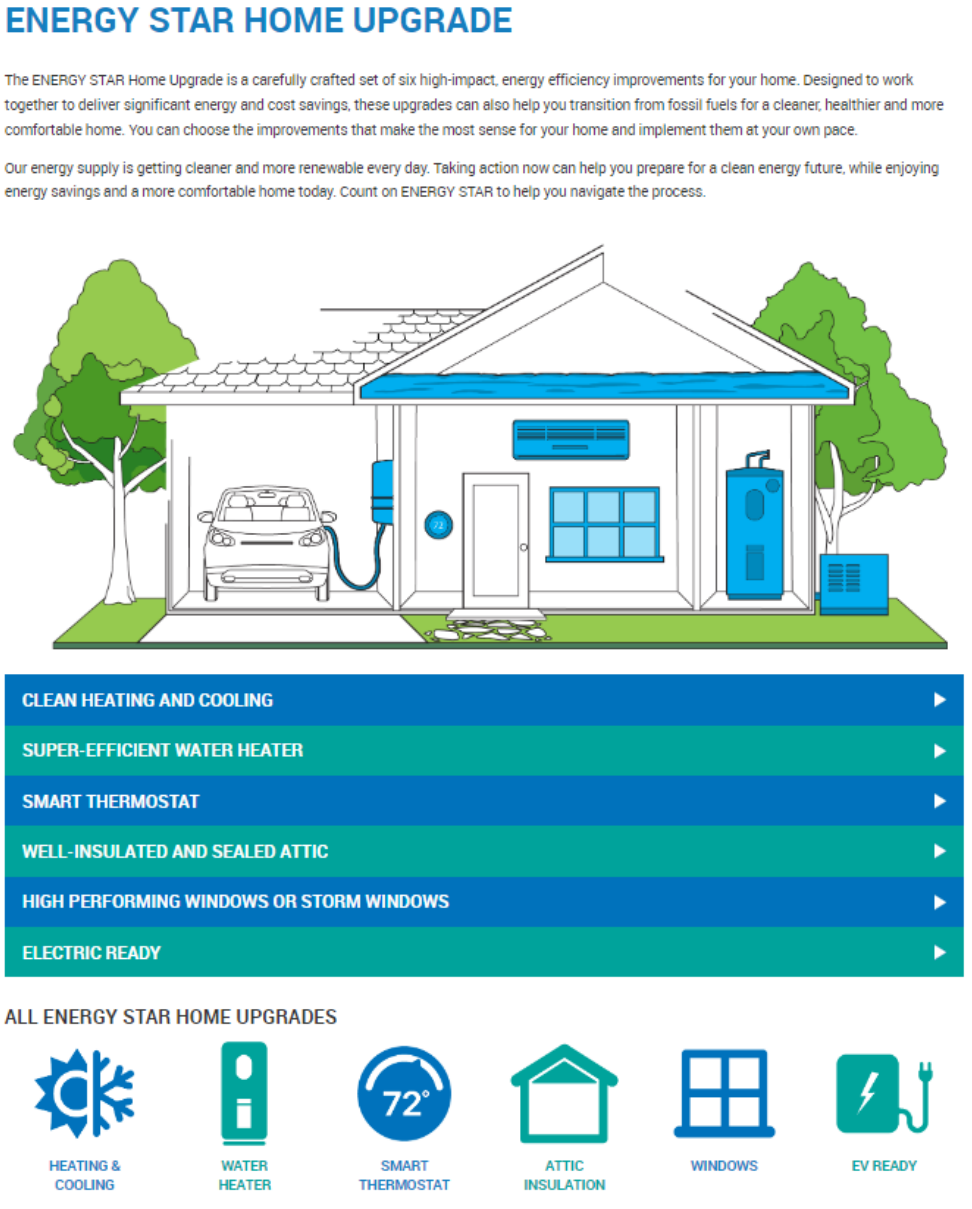


ENERGY STAR Home Upgrade Tool

Home Upgrade Tool uses:

- Understand the improvements
- Choose energy efficient upgrades for a home
- Identify certified products/models
- Calculate potential savings, and
- Learn more about equipment manufacturers and service providers in an area.

Check it out!
https://energystar.gov/homeupgrade



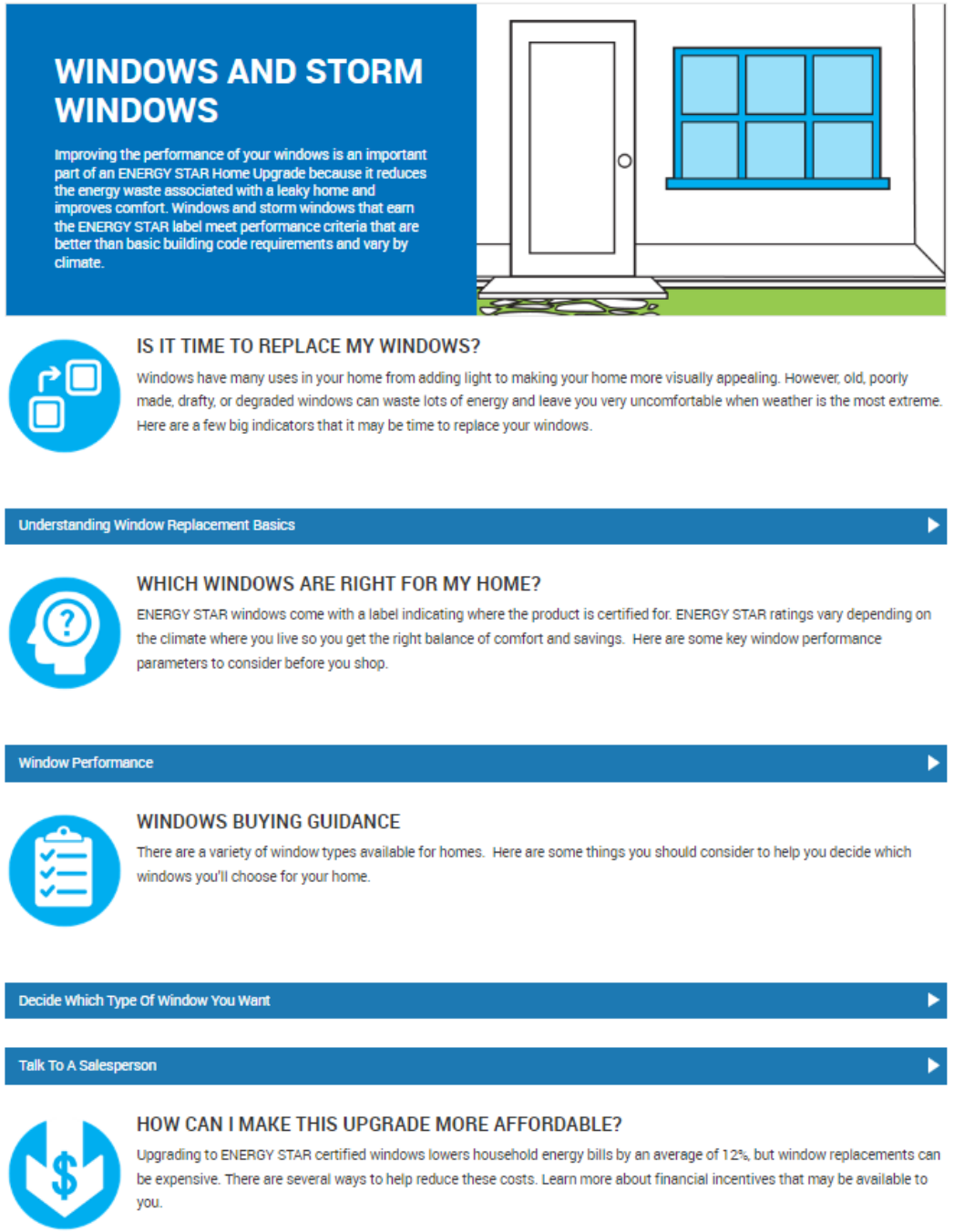
EPA

ENERGY STAR Home Upgrade Tool

Windows Content:

- Answer key questions
- Point to incentives
- Help understand the process
- Suggestions on what to ask for during a sales call
- Suggestions on what to ask a contractor for during the install

Check it out!
https://energystar.gov/homeupgrade



Questions? Thank You!

Contact Information:

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