



Computer Monitors



2021 Proposal: Maintain 2020 criteria

Total Energy Consumption (E_{TEC}) in kilowatt-hours per year shall be calculated as follows:

$$E_{TEC} = 8.76 \times (0.35 \times P_{ON} + 0.65 \times P_{SLEEP})$$

Where:

P_{ON} = measured On Mode power in watts; P_{SLEEP} = measured Sleep Mode power in watts;

Total Energy Consumption (E_{TEC}) shall be less than or equal to Maximum allowable Total Energy Consumption in kilowatt-hours per year calculated as follows:

$$E_{TEC_MAX} = (1.9 + (0.12 \times A) + [3.1 \times (r + C)]) \times eff_{AC_DC}$$

Where:

A = viewable screen area in square inches;

r = Total Native Resolution in megapixels up to 5.0 megapixels total. Products with >5.0 megapixels Total Native Resolution can receive a maximum r of 5 megapixels; and

$$c = \begin{cases} 1.2 & \text{if } A < 180 \text{ in}^2 \\ 2.0 & \text{if } 180 \text{ in}^2 \leq A < 220 \text{ in}^2 \\ 1.2 & \text{if } A \geq 220 \text{ in}^2 \end{cases}$$

$$eff_{AC_DC} = \begin{cases} 1.00 & \text{for AC-powered monitors} \\ 0.85 & \text{for DC-powered monitors} \end{cases}$$

Computer Monitors



- **Rationale:**

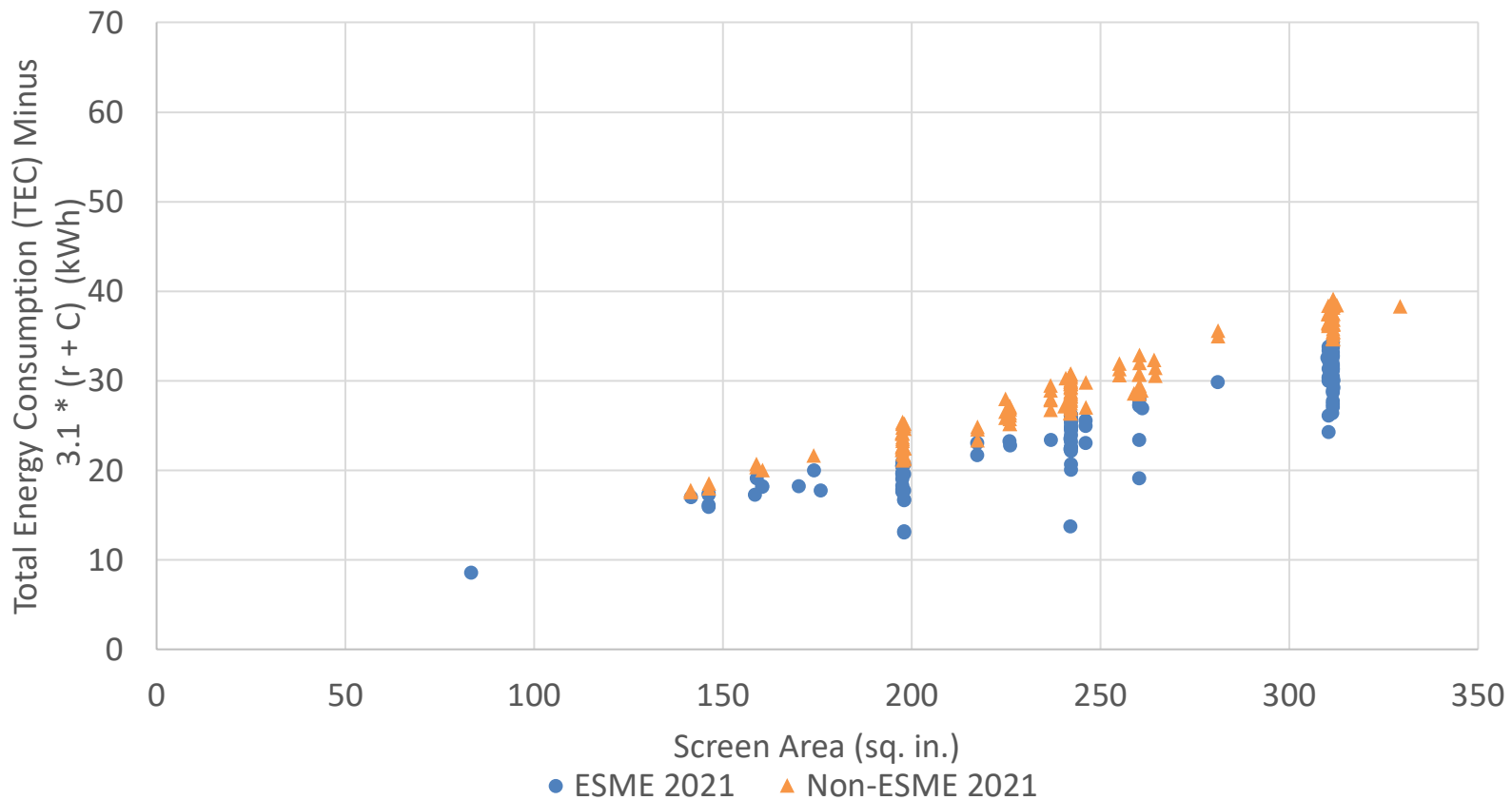
- EPA revised the recognition criteria in 2020 and is proposing to maintain those levels in 2021.
- Based on participation in ENERGY STAR Most Efficient 2020, the current criteria are serving as a high-performance benchmark.
- The savings potential for more stringent criteria is minimal; more differentiation is expected in 2022.

Area	Estimated Total Market (# of monitors per 2019 ES QPL)	# Monitors in Current ES QPL	# Monitors Meeting ESME 2021	% of Total Market Meeting ESME 2021
< 180 sq. in.	131	56	21	16%
180 - 220 sq. in.	195	85	48	25%
> 220 sq. in.	676	371	183	27%
All	1002	512	252	25%



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TEC minus $3.1 * (r + C)$ of 2021 ESME Products





Televisions



- Most Efficient Criteria for Televisions 2021 are under development.
- The ENERGY STAR specification for Televisions is currently under revision; EPA is delaying release of ENERGY STAR Most Efficient 2021 criteria until the revision process is more complete.
- EPA will release a proposal for stakeholder review and comment.

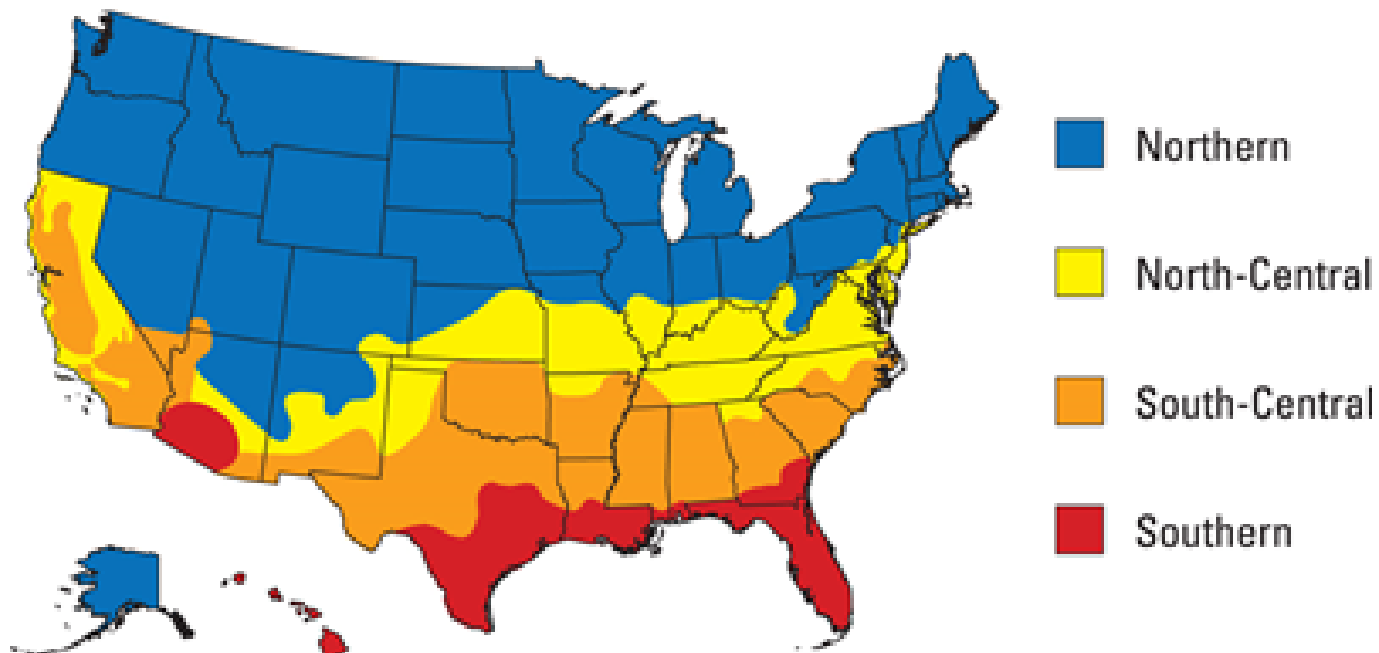


Residential Windows and Sliding Glass Doors

- **2021 Proposal:**
 - Maintain current U-factor and SHGC criteria (No change)
 - Residential window and sliding glass door products only (No swinging doors, skylights, or TDDs)
 - Meaningful savings and improved comfort
 - Verification testing required!
- **Rationale:**
 - High Performance ME window products are widely available; but still a relatively small slice of total market
 - 45 manufacturers
 - 475 ME product lines
 - 5 new ME sliding glass door product lines
- **Future:**
 - EPA is doing analysis to see if an ENERGY STAR criteria revision is possible. This may impact ES ME window criteria and/or climate zones in the future.

Residential Windows and Sliding Glass Doors

Climate Zone	U-factor	SHGC
Northern	≤ 0.20	≥ 0.20
North-Central	≤ 0.20	≤ 0.40
South-Central	≤ 0.20	≤ 0.25
Southern	≤ 0.20	≤ 0.25





Next Steps

- Comments are due August 7; send to MostEfficient@energystar.gov
- Slides will be posted to: https://www.energystar.gov/products/spec/energy_star_most_efficient_2021_criteria_development_pd
- The 2021 criteria will be finalized in August 2020
- Products will be recognized as ENERGY STAR Most Efficient 2021 beginning January 1, 2021



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Thank you for your participation today.