

# CALCS-PLUS

## BUILDING PERFORMANCE CONSULTANTS

121 Triple Diamond Blvd. #16  
 Venice, FL 34275  
[www.calcs-plus.com](http://www.calcs-plus.com)

(941) 488-1700

CAC 027359

FAX (941) 488-3834

7-27-2016

To: Jeff Blair  
 Commission Facilitator

Re: Energy Rating Index Workgroup Meeting July 20, 2016, Summary  
 Issue #3

**Recommendation:**

The amount of onsite renewable power generation that can be credited toward the ERI score shall not be greater than 8 Energy Rating Index (ERI) points.

**Rationale:**

The Energy Performance Index (EPI) produced by the Simulated Performance Alternative (Performance) described in Chapter 4 of the 2014 (5<sup>th</sup> Edition) Florida Building Code – Energy Conservation Section R405 is very similar to the Energy Rating Index described in ANSI/RESNET 301; *Standard for the Calculation and Labeling of the Energy Performance of Low-Rise Residential Buildings Using the HERS Index*. The main difference, the EPI is based on heating cooling and water heating where as the ERI (or HERS Index) includes lighting and appliances along with heating cooling and water heating. For the purposes of this document ERI and HERS Index is considered to be one and the same.

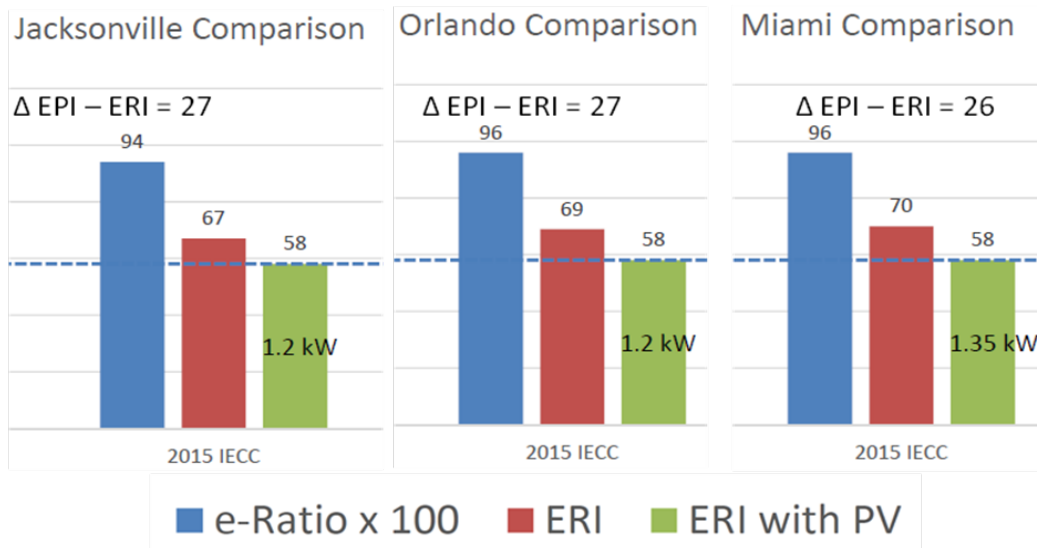
One of the services our company performs is third party energy calculations for the permitting process and we do many of them. We started two years ago giving builders a preliminary HERS Index along with the energy calculations and HVAC load calculations. When we found out that I would be involved with this workgroup, we decided to record on a spreadsheet the EPI and HERS Index for all of the calculations we have performed since January of this year. We were not able to record all of the calculations performed but we did manage enough time to record about 279 residential buildings that we could use in the survey.

	# Homes in Batch	Avg EPI	Avg ERI	Avg Δ EPI-HERS
Homes with EPI of 100	63	100	78	22
Homes with EPI of 99	48	99	78	21
Homes with EPI of 98	37	98	77	21
Homes with EPI of 97	20	97	75	22
Homes with EPI of 96 thru 90	83	94	73	20
Homes with EPI of 89 thru 80	28	86	68	18
<b># Homes in Survey</b>	279			

Above are the results of our survey: The electronic spreadsheet this comes from accompanies this document.

Our survey pretty much agrees with the results of the simulations that were performed by the Florida Solar Energy Center (FSEC) and presented to us at our first meeting. The EPI and ERI Comparisons based on the

2015 IECC shows to have slightly lower ERIs than our results which are based on the current Florida energy code.



Results of the FSEC study based on the IECC 2015. Results include 75% high efficiency lighting.

However, our preliminary HERS Index used *default lighting* where as the FSEC study used 75% high efficiency lighting. When adding 80% high efficiency lighting as is mandated by our current code, our survey aligns fully with the FSEC study.

There is no direct relationship between the EPI and the HERS Index but it is close. I would be comfortable saying that a home which scores an EPI of 100 would have no problem reaching an ERI of 66 by simply adding 100% high efficiency light bulbs and Energy Star appliances, which are calculated as part of the ERI. Therefore, I feel comfortable allowing up to 8 ERI points for renewable energy without watering down the intent of the Florida Building Code – Energy Conservation.

Respectfully

Dennis J Stroer