

Can It Be Done?

How to Meet the 50% Threshold for the New Federal Energy Efficient Homes Tax Credit

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Background

- **2005 EPAct**
 - \$2,000 credit for energy efficient new homes
 - Must use no more than 50% of 2004 IECC
 - Space heating/cooling only
- **Treasury → DOE → RESNET**
- **RESNET drafts 05-001: *Procedures for Certifying Residential Energy Efficiency Tax Credits for New Homes***
- **Treasury references 05-001 in Notice 2006-27**
 - IRS will post list of approved software programs

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Background

- **RESNET 05-001**
 - **Details how analysis shall be done**
 - **Based on normalized, modified end-use loads approach**
 - **Specifies software tests for approval**

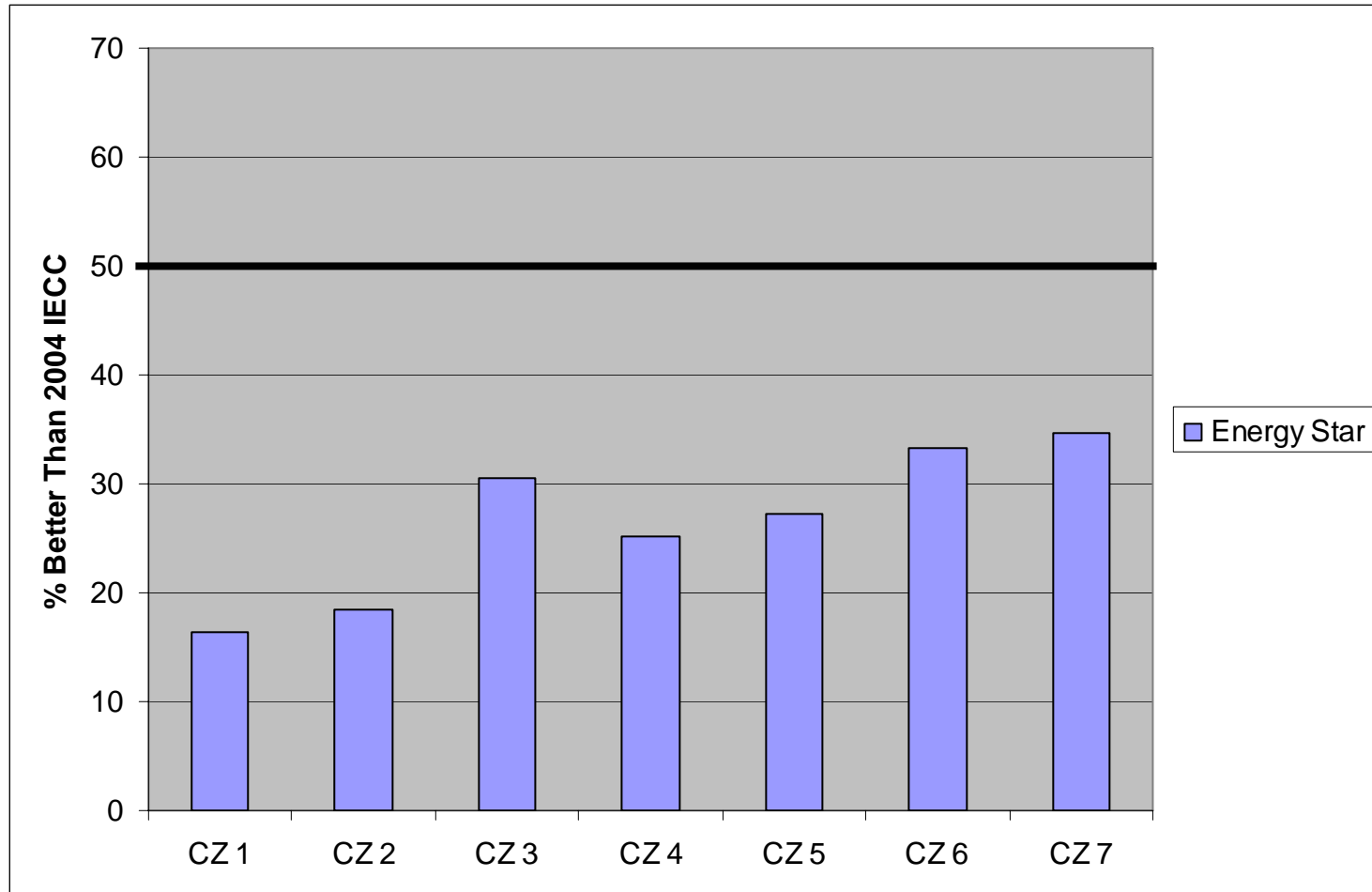
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Analysis Approach

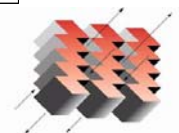
- **REM/Rate™ home energy rating software, v12.1**
- **Seven IECC climate zones**
 - Zone 1: Miami
 - Zone 2: Houston
 - Zone 3: Charlotte
 - Zone 4: St. Louis
 - Zone 5: Indianapolis
 - Zone 6: Minneapolis
 - Zone 7: Duluth
- **Regional-appropriate foundation types**
- **2000/3000 sf homes**
- **Mixed fuel – gas heating, electric cooling**
- **~Energy Star level to start**

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Reaching 50%

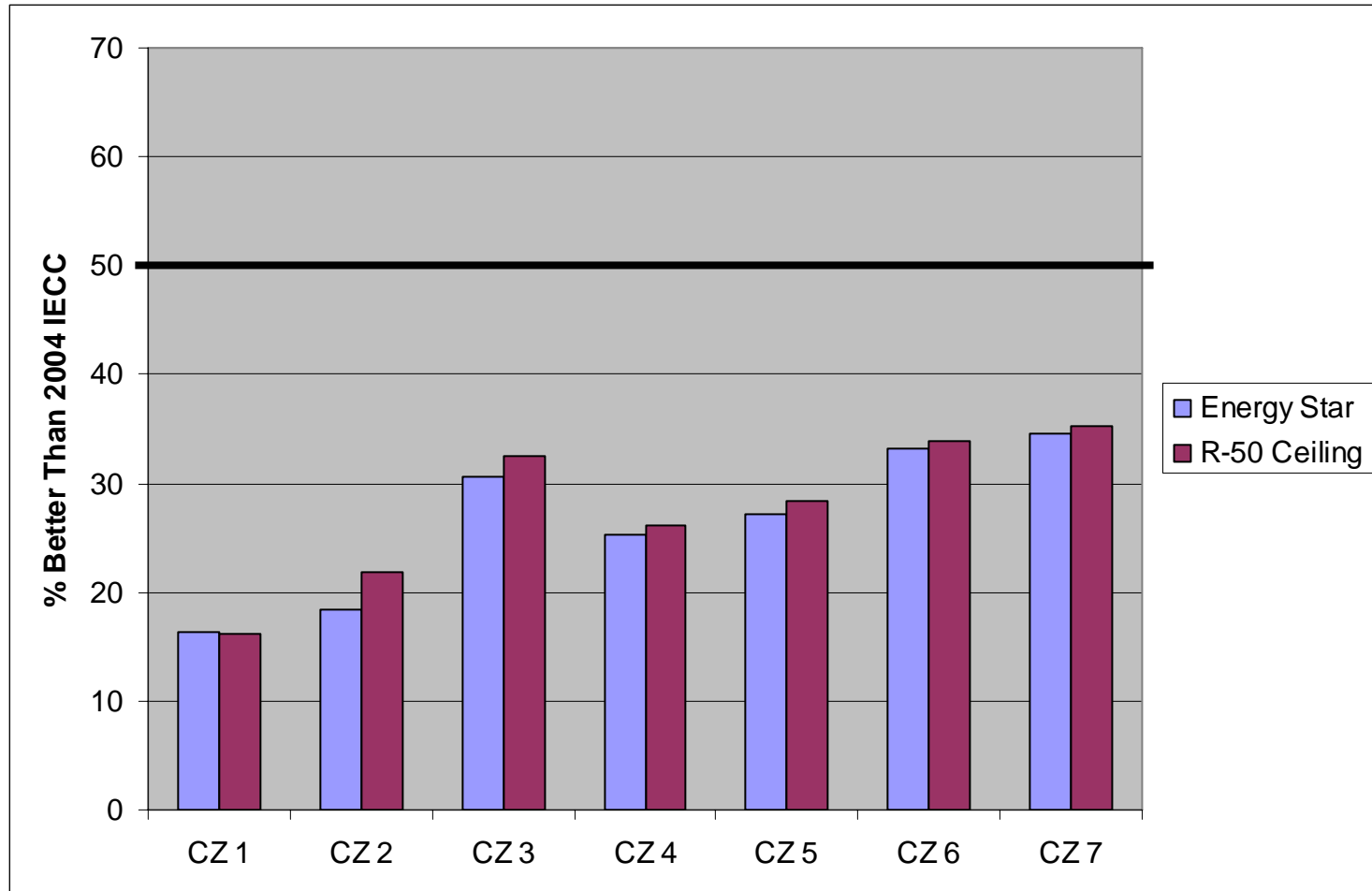


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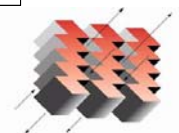


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Reaching 50%

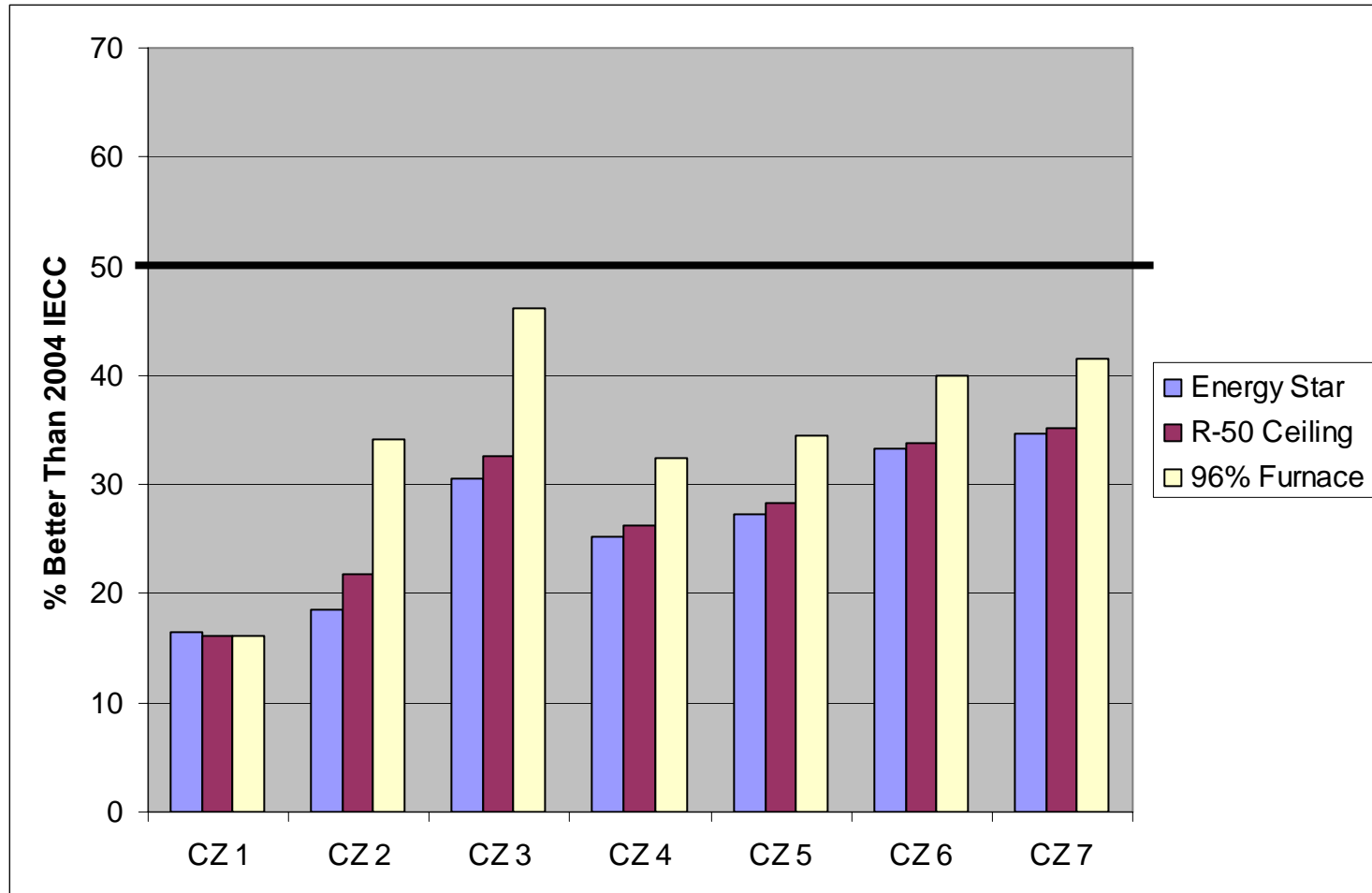


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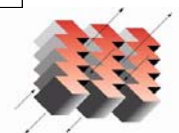


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Reaching 50%

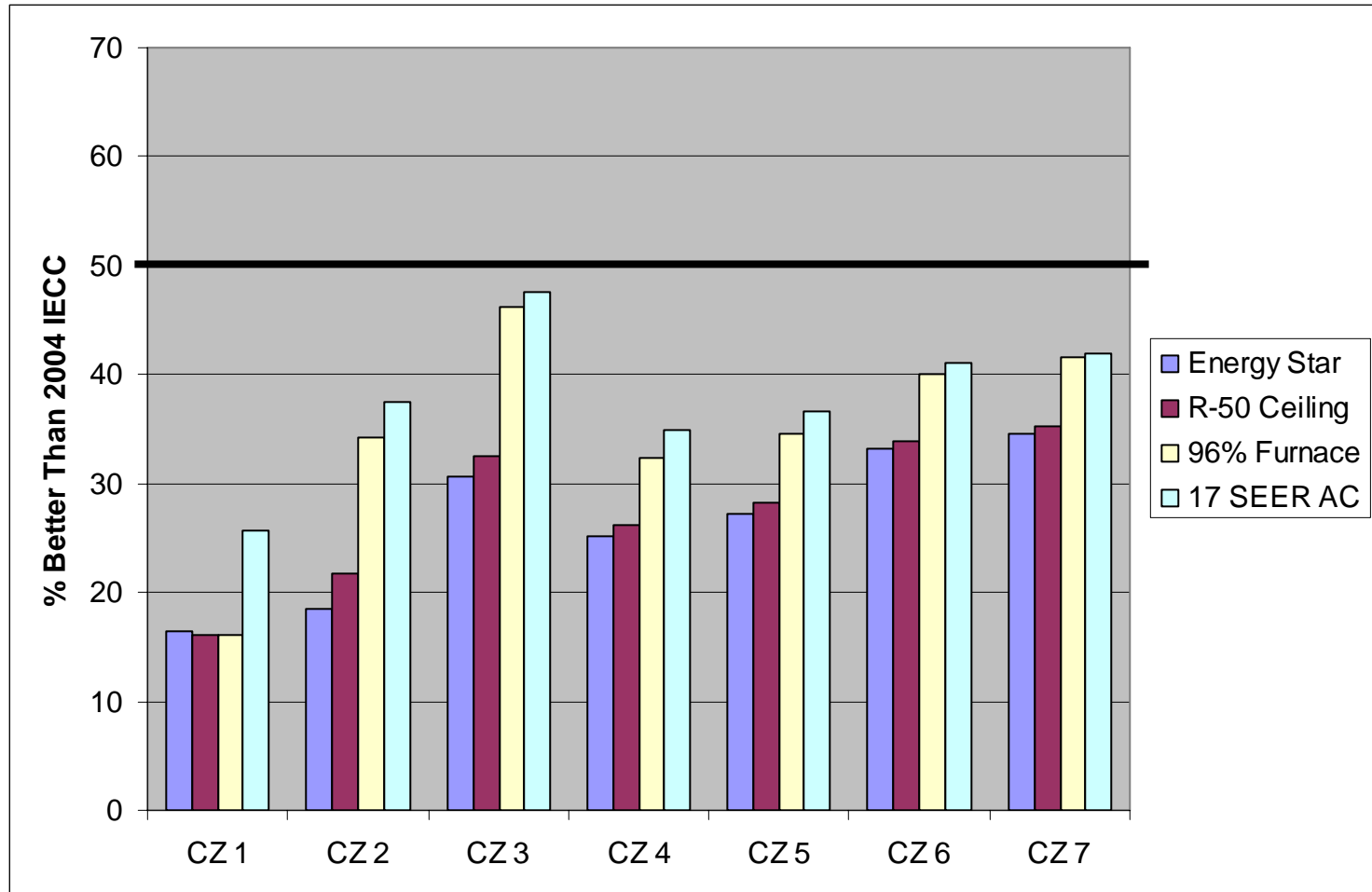


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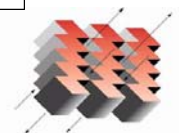


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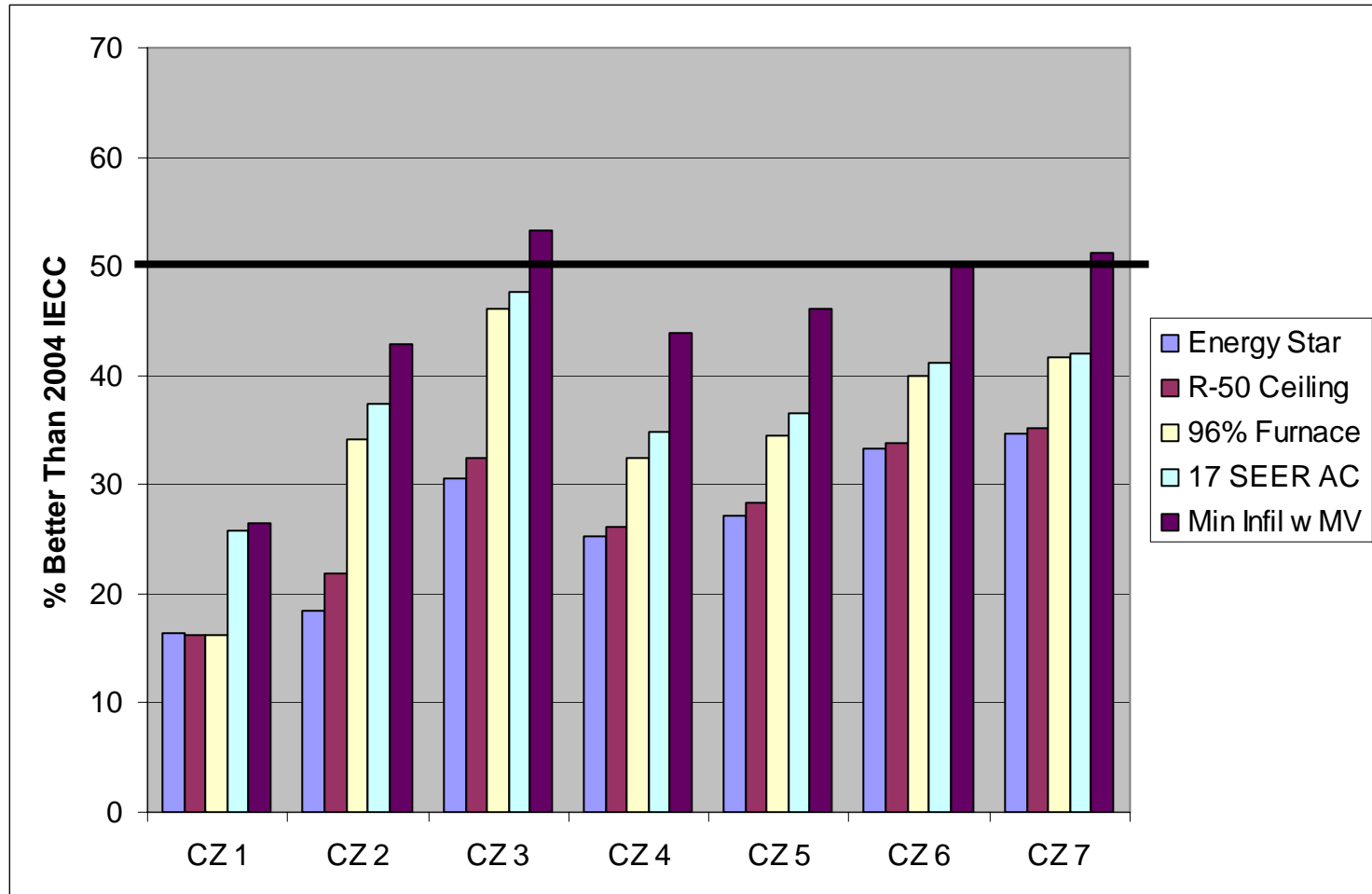


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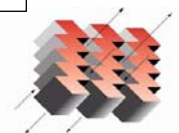


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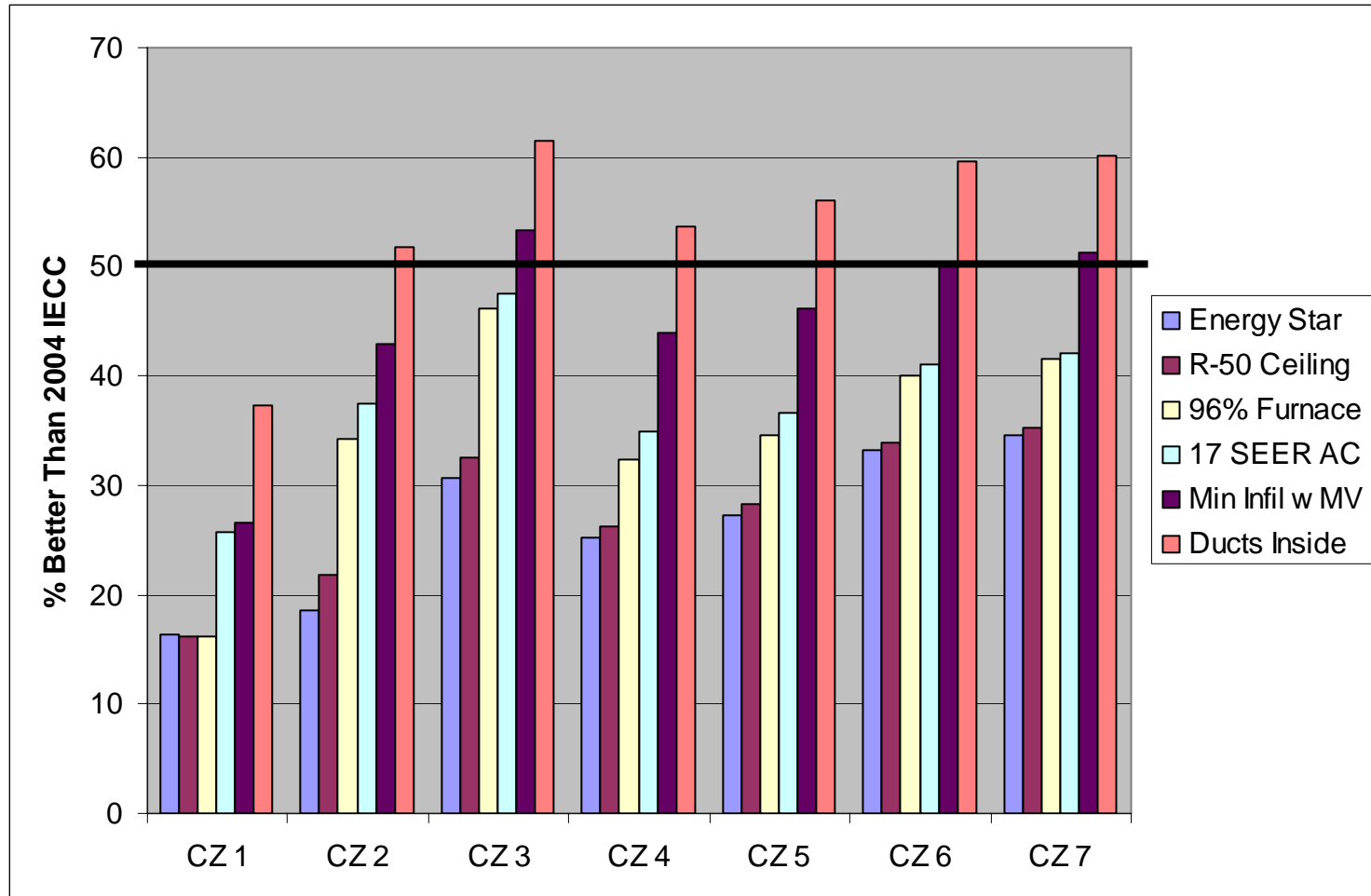


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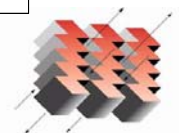


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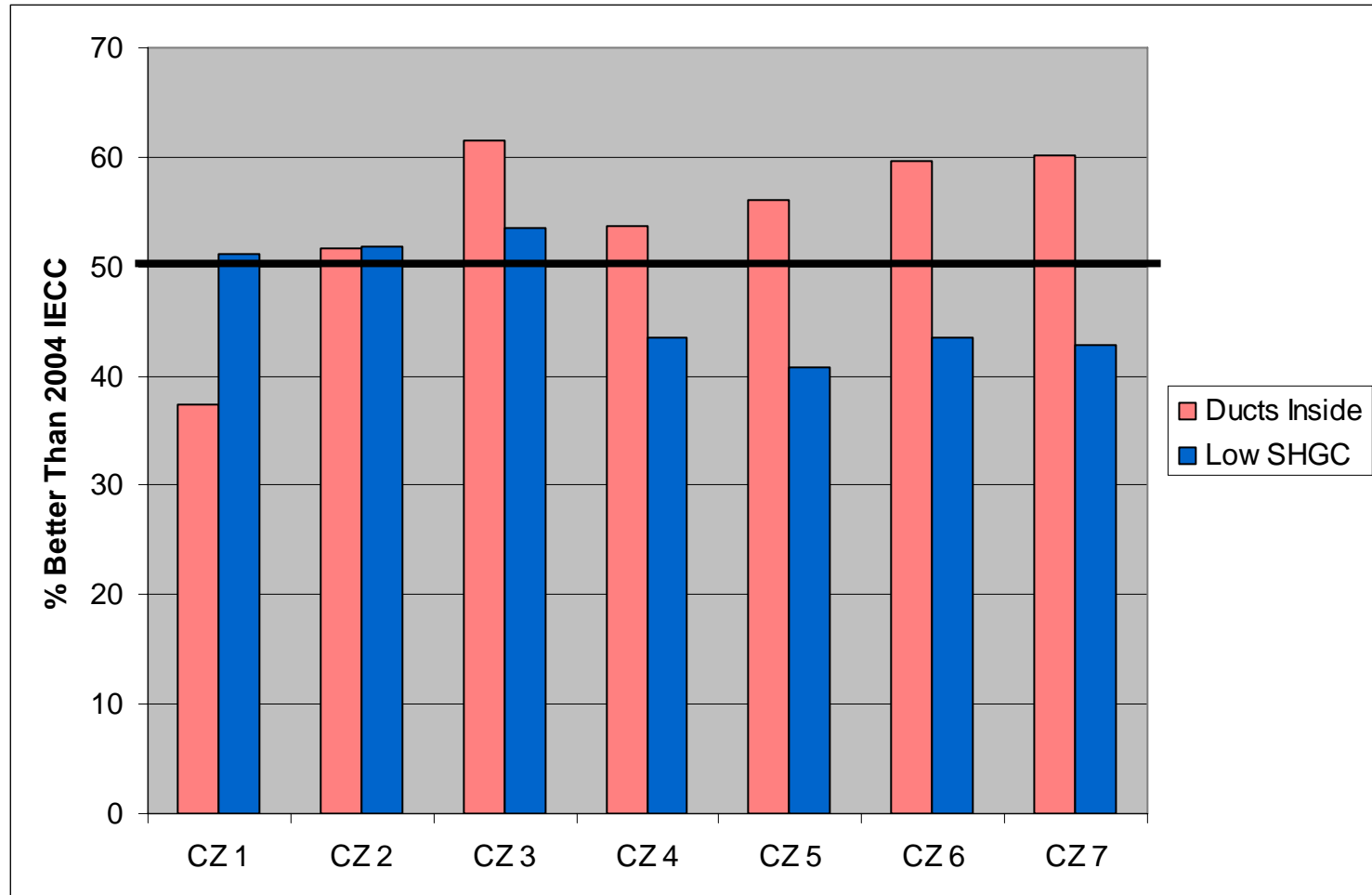


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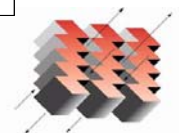


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Reaching 50% in CZ1

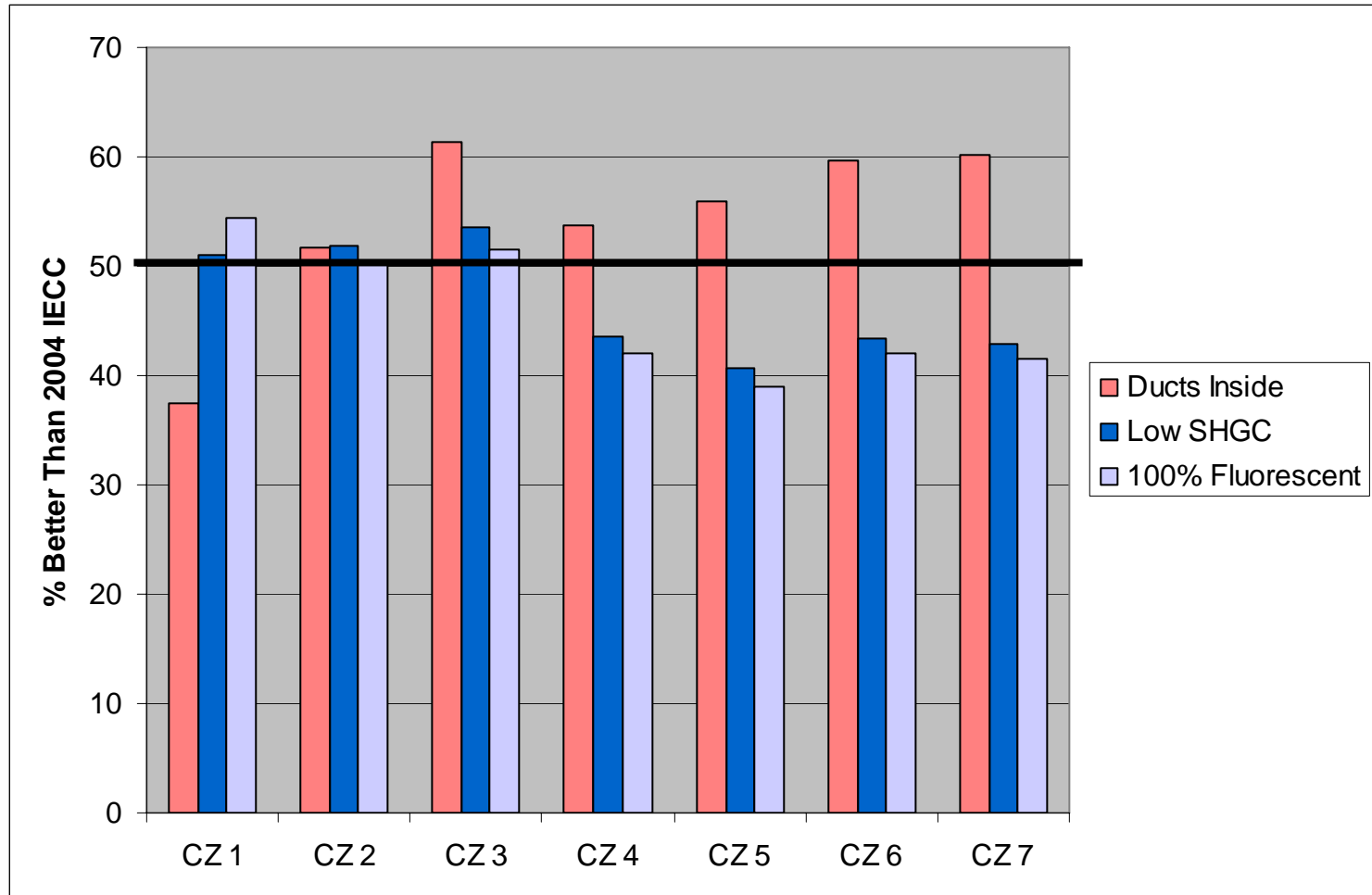


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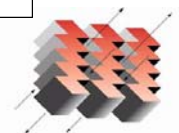


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Reaching 50% in CZ1

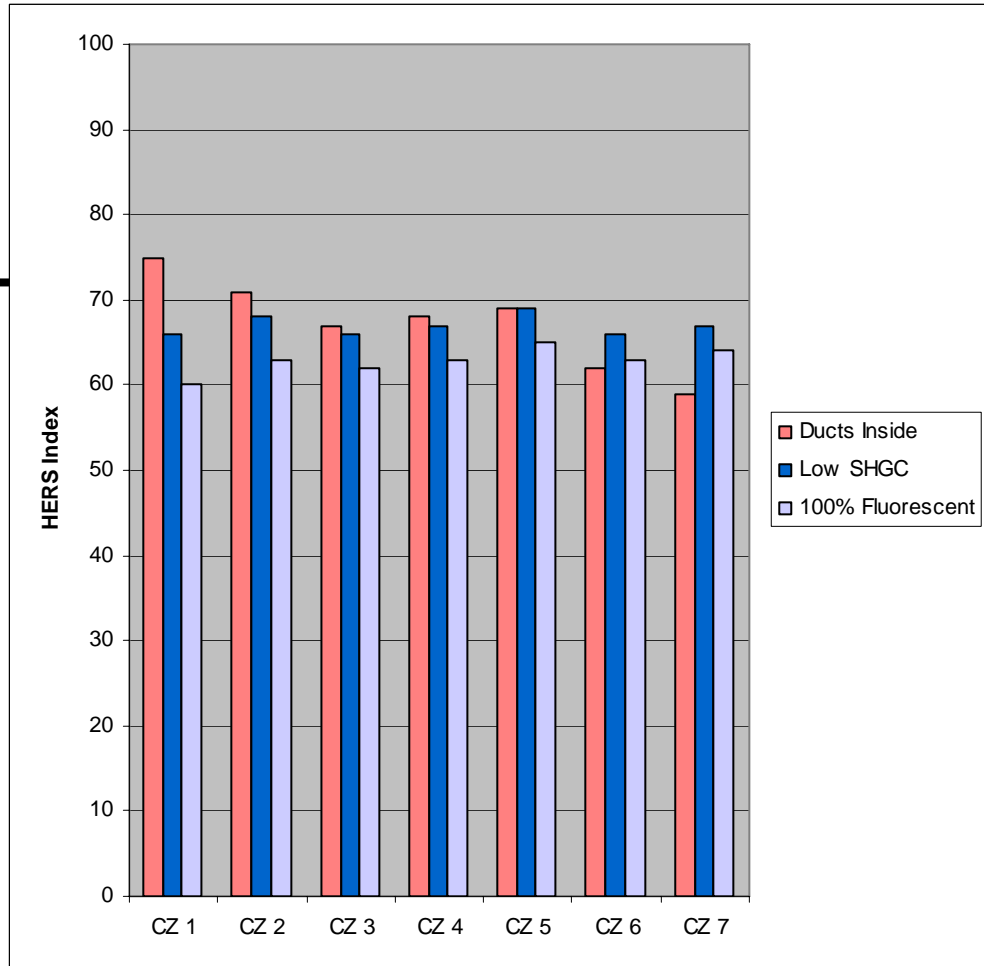
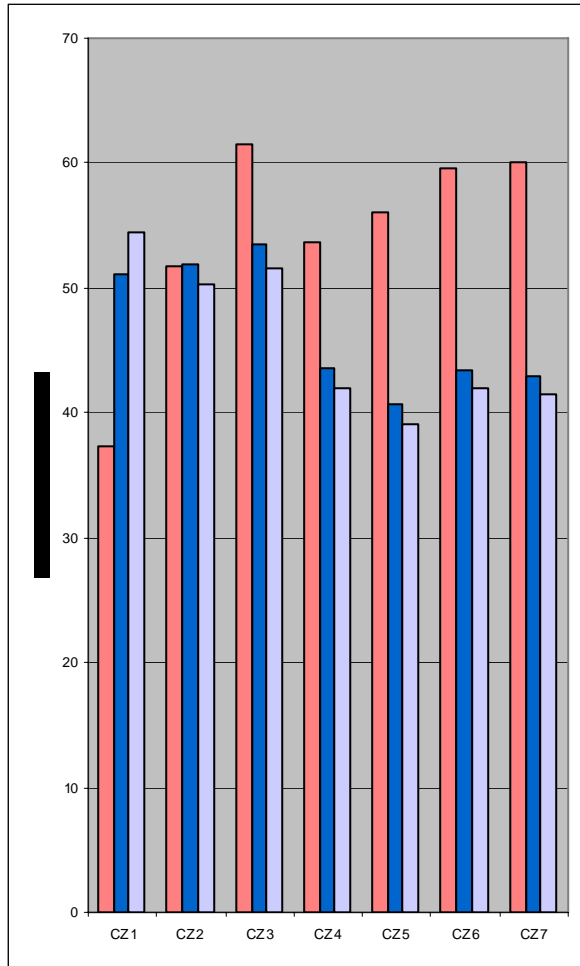


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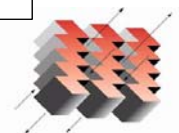


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HERS Scores



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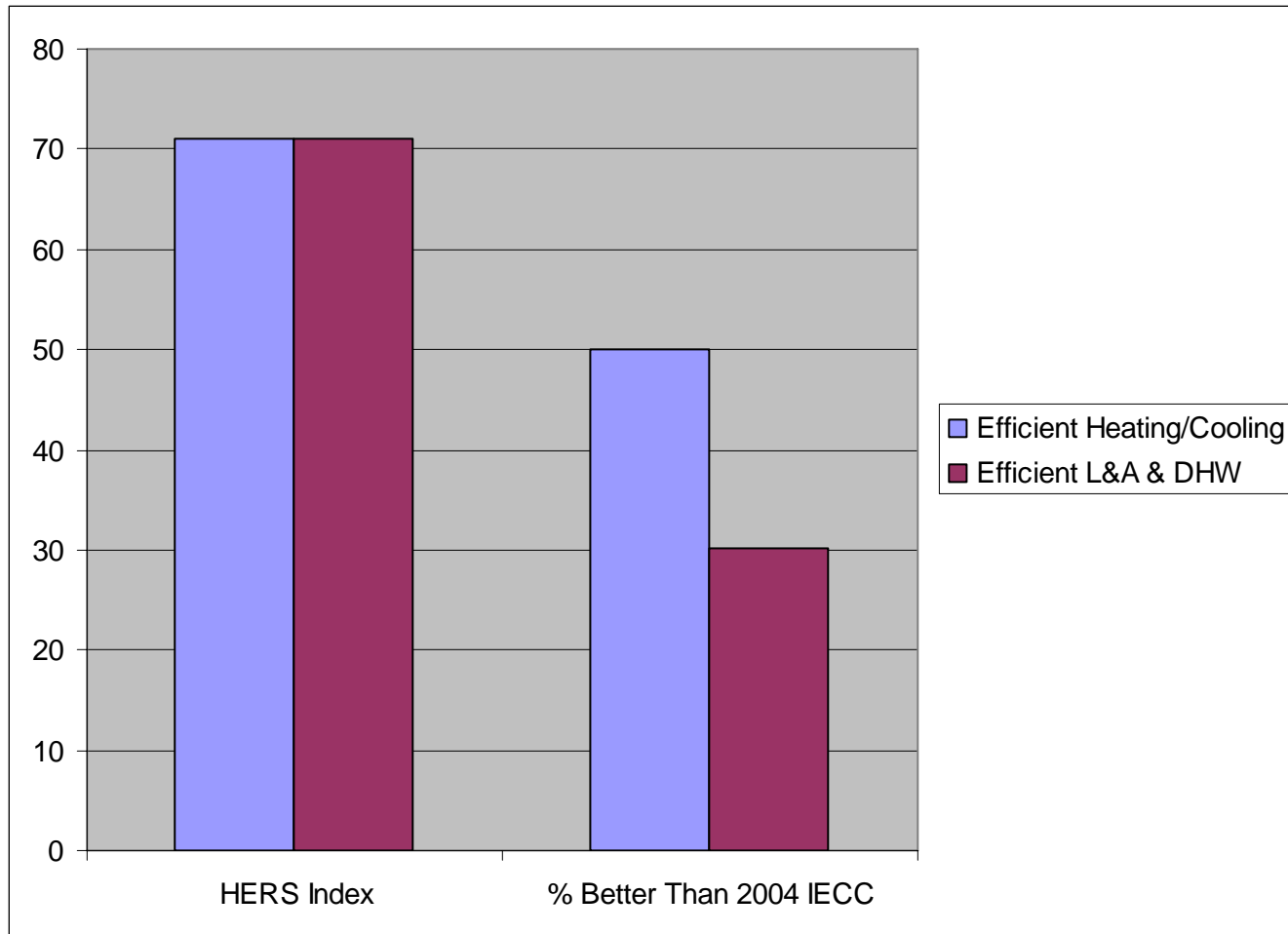
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A Tale of Two Homes

- **Same home**
 - In CTZ 5 (Indianapolis)
 - 3000 sf
 - Conditioned basement
- **Different Efficiency Levels**
 - Upgrades focused on heating and cooling end-uses
 - Upgrades focused on lights/appliances and dhw end-use
- **Same Score**
- **Wildly different tax credit status**

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A Tale of Two Homes



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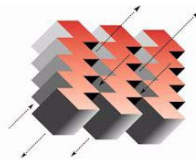
Conclusions

- **Need to use software!**
- **Score may not be a good indicator of tax credit status**
- **Big drivers...**
 - **Tight shell w/ MV**
 - **Duct inside conditioned space**
 - **Low SHGC and reduced internal gains in South**

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Thank you

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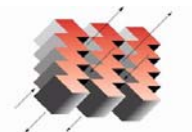


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