WECC
wisconsin energy
conservation corporation

proving the value of energy efficiency

Meeting the New Home Energy Efficient Tax Credit Threshold

A Wisconsin Analysis

2006 RESNET Building Performance Conference
Gregory A. Nahn
Wisconsin Energy Conservation Corporation

Wisconsin Experience:

Background of Building Performance

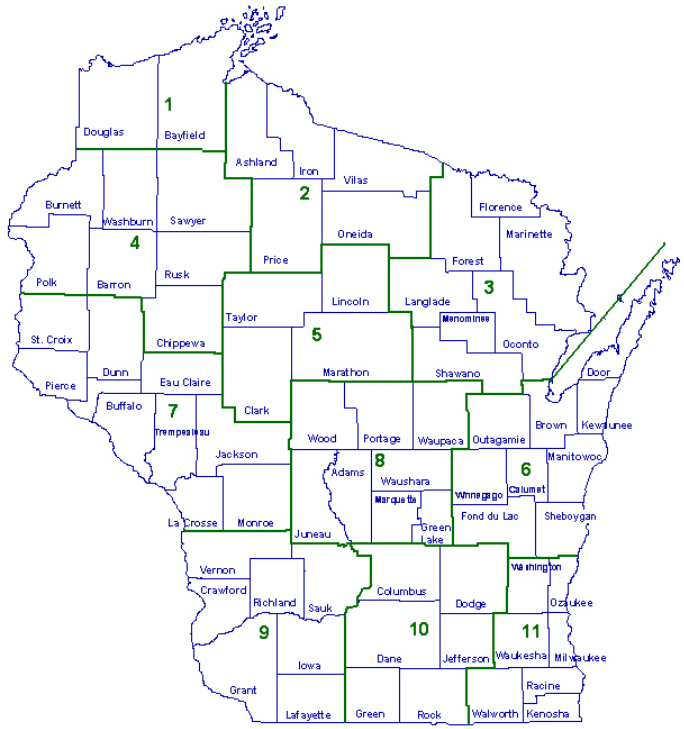
Experience with Tax Credits Qualification

- **Initial findings**
- **ASHRAE 62.2 interpretation**
- **13 SEER minimum**
- **Conclusions, Questions, Concerns**

Background of Building Performance

Wisconsin's Climate – drives performance?

- **Cold to severe cold climate**
- **IECC Zone 6-8**
- **Range state wide (max/min)**
  - **HDD: 9150, 7096**
  - **CDD: 230, 616**



Typical Housing Stock

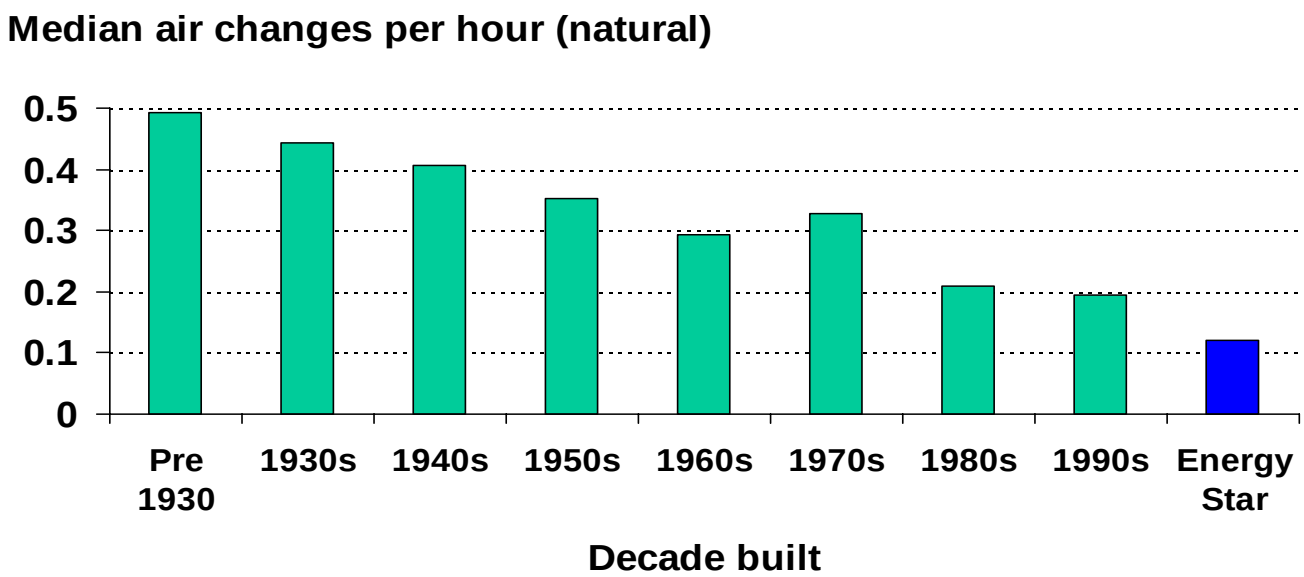
Wisconsin new construction*

- **Average size**
  - **3230 SF CFA**
  - **3598 SF CFA**

•Energy Center of Wisconsin
Energy and Housing in Wisconsin: A Study of Single Family Owner Occupied Homes
Energy Savings from the Wisconsin ENERGY STAR Homes Program

Typical Housing Stock

Wisconsin housing by decade: Median air tightness



Typical Housing Stock

Wisconsin new construction

Average Estimated Heating Energy Intensity (CFA)

- **Housing Characterization study**
  - **3.6 BTU/SF CFA/HDD* (with basement)**
  - **5.5 BTU/SF CFA/HDD (without basement)**
- **Wisconsin ENERGY STAR Energy Savings Analysis**
  - **2.8 BTU/SF CFA/HDD* (with basement)**

* Total gas usage approximately = (1030 vs. 1024 therms)

Typical Housing Stock

Wisconsin new construction: Typical components

- **R 38 - 44 Attic**
- **R19^{+} wall (2x6 16oc)**
- **Window at .35 Uo or less**
- **R5 foundation – conditioned basement**
- **R0 under slab**
- **90+% AFUE furnace**
- **10 SEER AC**
- **NG Water heater @ .58 EF**

Background of Building Performance

Previous and on-going efforts to improve efficiency

- **PSC and past Utility programs / rebates**
- **High penetration of efficient heating equipment**
- **Strong building code and expanded inspections**
- **The Wisconsin ENERGY STAR® Homes Program**

High Penetration of Efficient HVAC equipment

WI. market share of high efficiency for HVAC equipment

State wide - New and Existing Homes A/C market share

SEER	2002	2003	2004	2005
10	78.7%	67.2%	67.6%	69.5%
11	4.5%	11.7%	11.4%	9.2%
12	14.3%	15.8%	10.8%	8.9%
13	2.2%	4.6%	6.7%	6.6%
14	0.3%	0.7%	3.6%	5.9%

State wide - New and Existing Homes - Gas Furnace

Market Share	ECM	90% + AFUE
2003	20.0%	**84.8%**
2004	20.0%	**84.8%**
2005	**22.3%**	**88.1%**

Progressive Building Code

Wisconsin Uniform Dwelling Code

- **Duct insulation / sealing required in un-conditioned space***
- **Mechanical ventilation required***
  - **Bath = 50 CFM intermittent, 20 CFM continuous**
- **Expanded inspection for all municipalities**
  - **New opportunities with new inspectors**
  - **Integration of code and building science trainings**

*Wisconsin Uniform Dwelling Code: Comm. 22.17 & 22.18

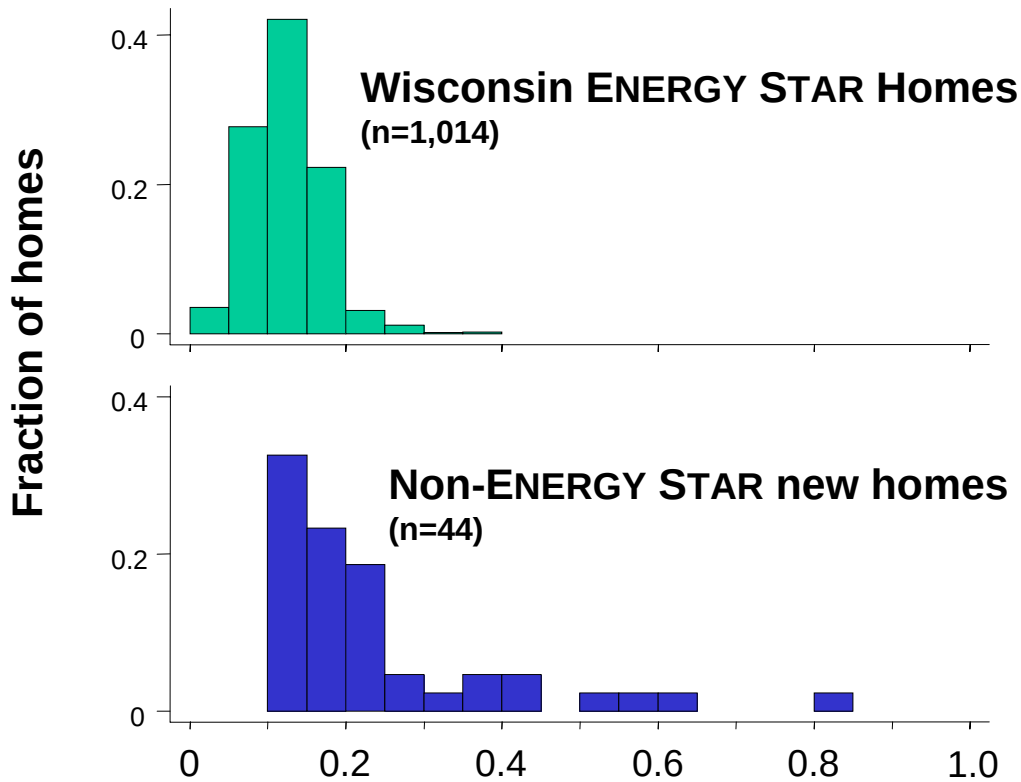
The Wisconsin ENERGY STAR Homes program

5 years and 6,500 certified homes

- **Addresses building performance (beyond code & efficiency)**
  - **Building tightness**
  - **Ventilation capacity**
  - **Safe Combustion**
  - **Homeowner education**
  - **Customer satisfaction**

The Wisconsin ENERGY STAR Homes program

- **90% less then .20ACH**
- **50% less then .25ACH**

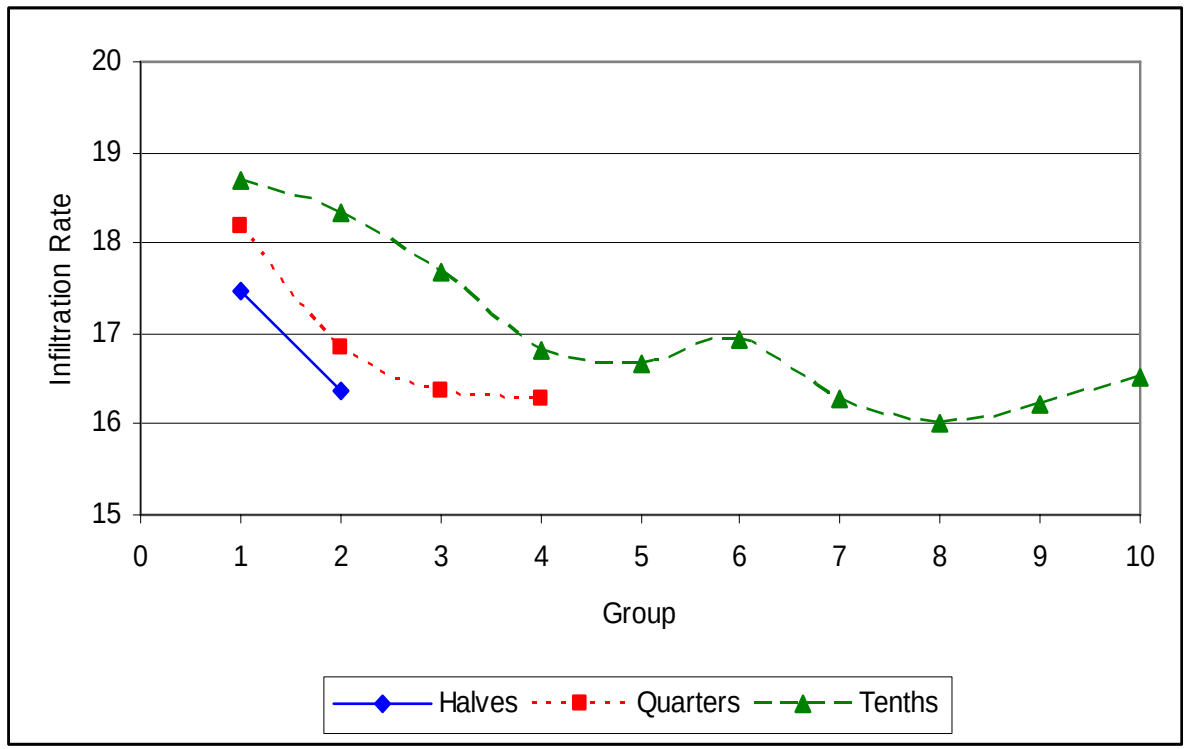


ENERGY CENTER
OF WISCONSIN

The Wisconsin ENERGY STAR Homes program

Building tightness

- **Effect of Site visit #1**
- **Evaluation by**
  - **50 percentile**
  - **25 percentile**
  - **10 percentile**



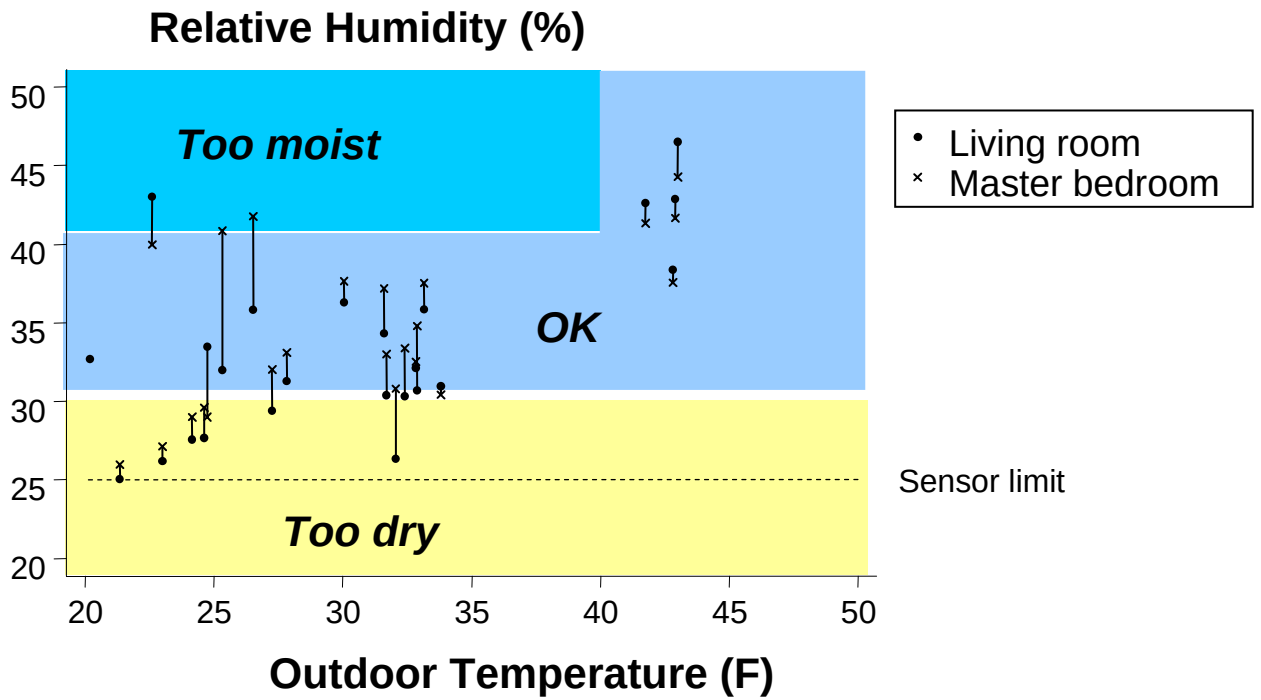
The Wisconsin ENERGY STAR Homes program

Building Statistics 2005

- **Average tightness = .16 CFM@ 50 / sq. ft ext. surface area**
- **Average estimated natural ACH_n = .14**
- **Average tested ventilation performance = 70% of rated flow**
- **Average Heating Energy Intensity**
  = 1.308 Btu/ sq. ft ext. surface area /HDD

The Wisconsin ENERGY STAR Homes program

Ventilation effectiveness



ENERGY CENTER
OF WISCONSIN

The Wisconsin ENERGY STAR Homes program

Combustion safety

Program requires sealed, power vented, or direct vent (closed) combustion equipment.

Device	Average Pressure to Outside
Baseline (no fans operating)	-0.9
Kitchen exhaust fan	-5.0
Bath exhaust fan(s)	-8.6
Clothes dryer	-9.3
Air handler	-7.6
HRV/ERV	-8.3
Water Heater	-11.0
Other	-10.9

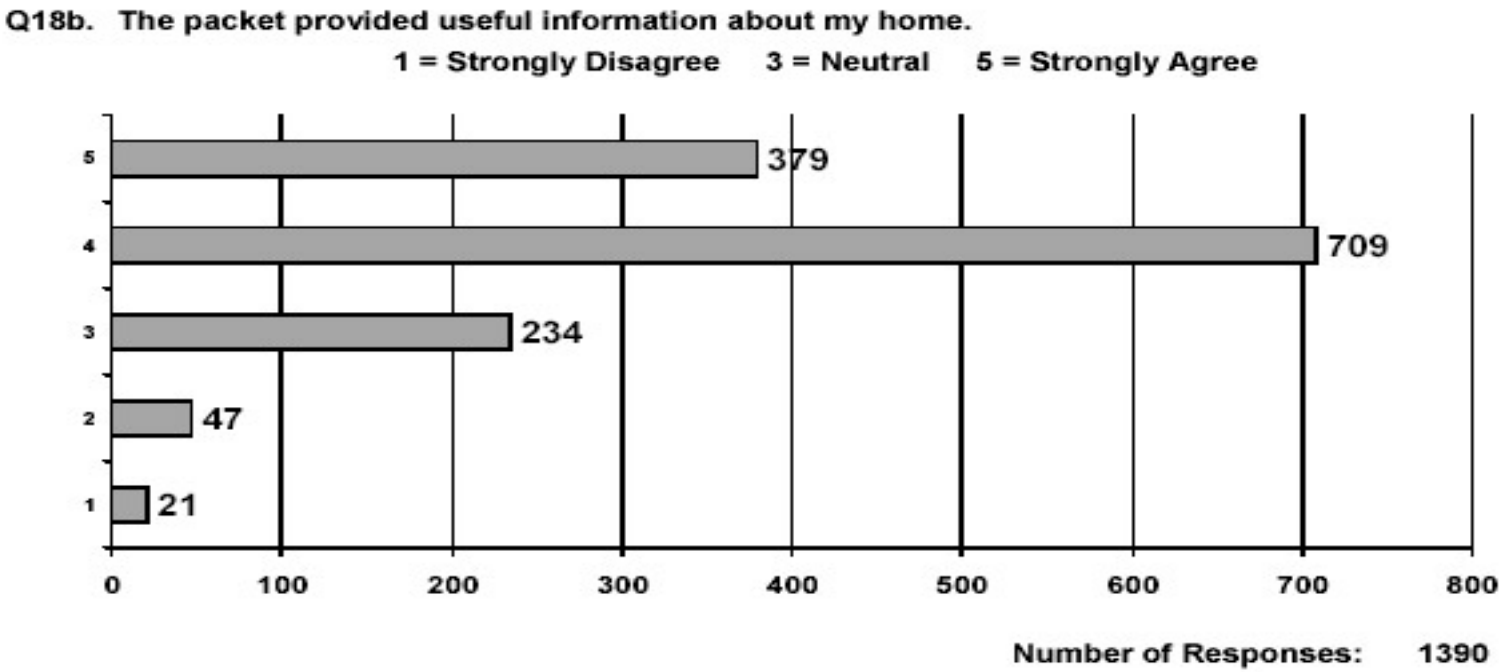
The Wisconsin ENERGY STAR Homes program

Homeowner education

- **Homeowner's manual**
- **Satisfaction follow-up survey**
- **Informed decisions = good decisions**
- **Links homeowner responsibility to home performance**

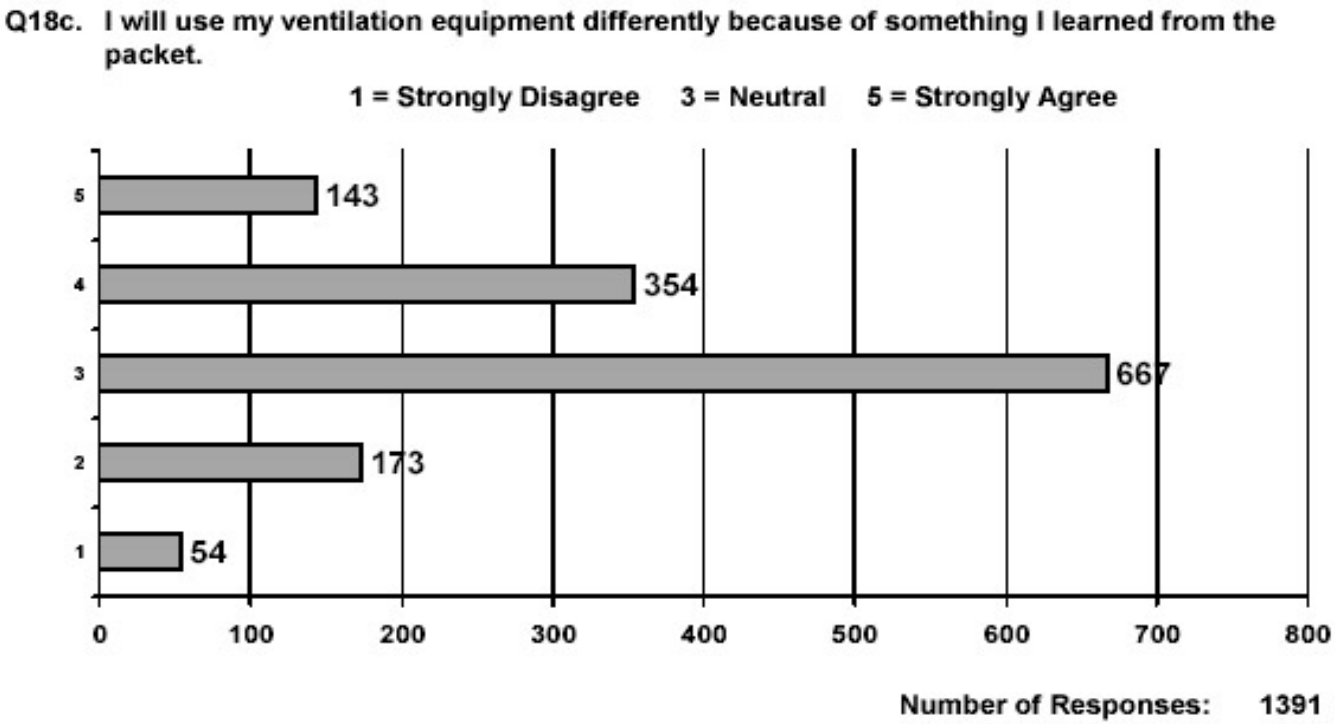
The Wisconsin ENERGY STAR Homes program

Homeowner education



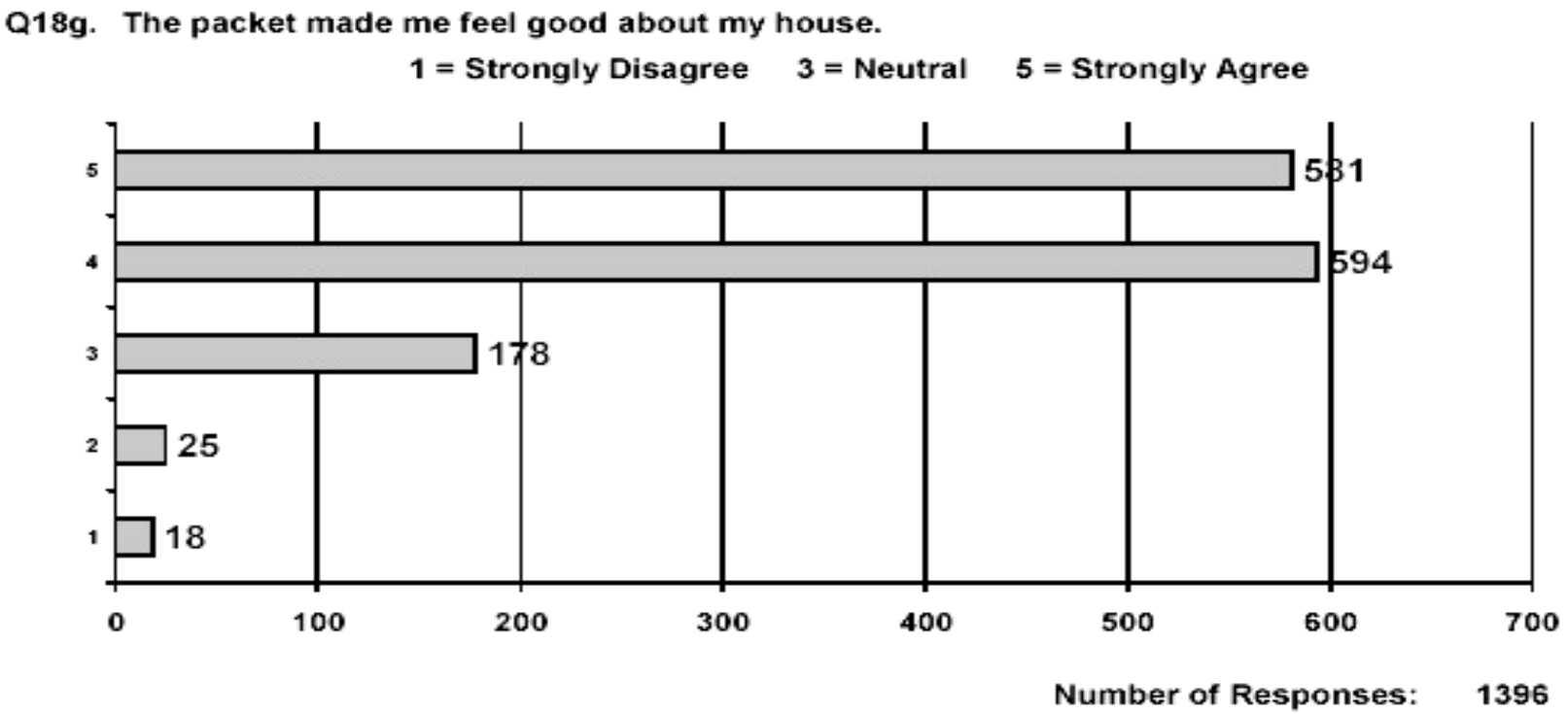
The Wisconsin ENERGY STAR Homes program

Homeowner education



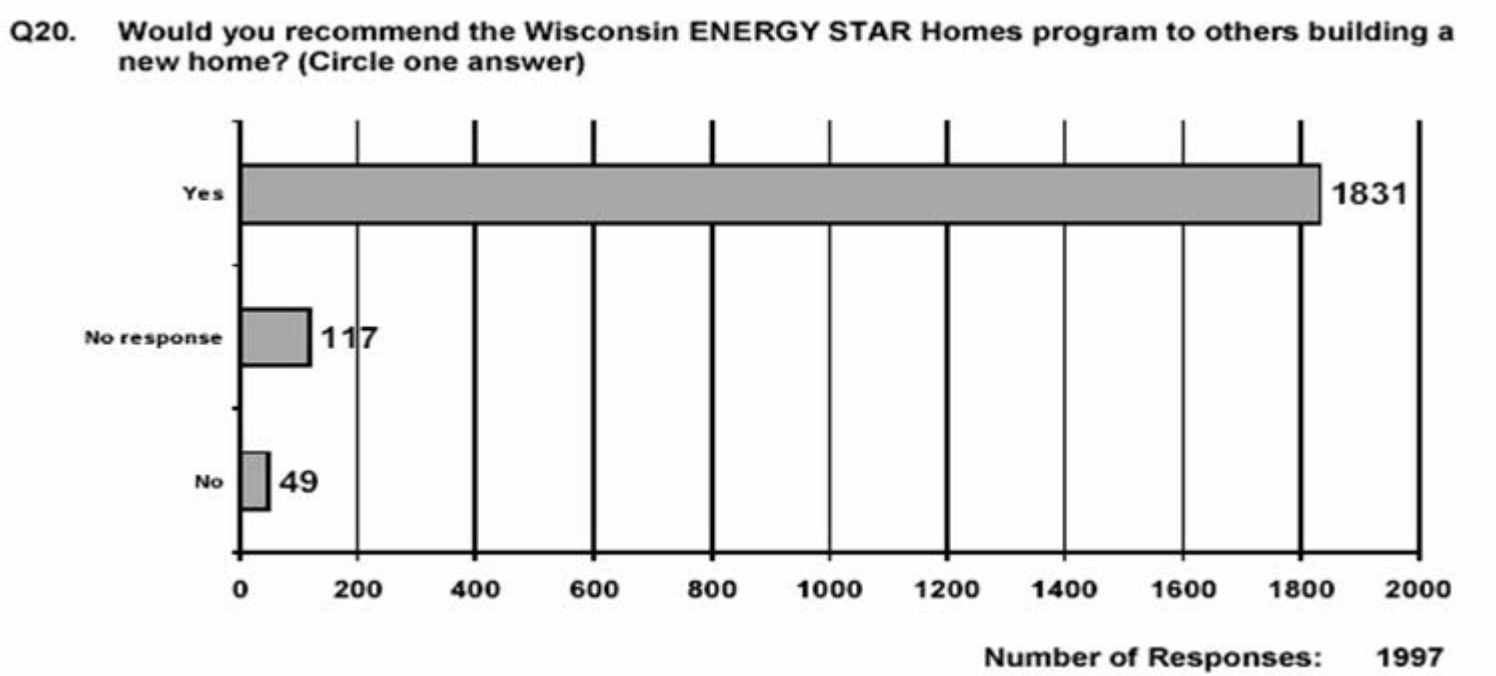
The Wisconsin ENERGY STAR Homes program

Customer satisfaction



The Wisconsin ENERGY STAR Homes program

Customer satisfaction



Wisconsin's Experience with Tax Credits

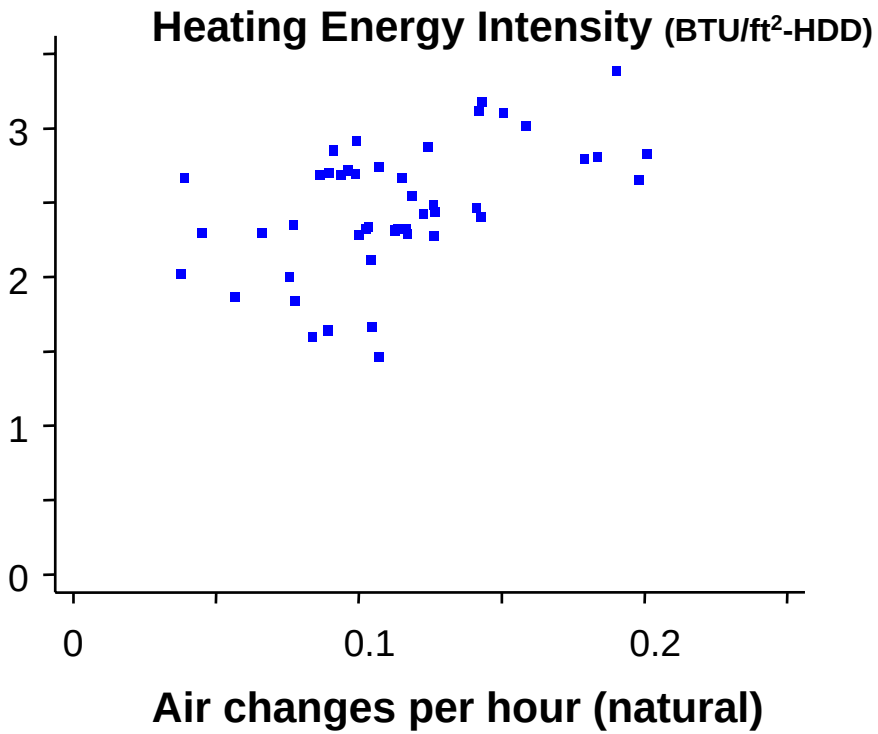
October 2005

24 of 25 certified homes exceeded threshold

- **Increased air tightness = energy savings = less MMBtu**
- **Window area (<<18%)**
- **High heating efficiency – resource efficient**

Building Tight / Vent Right:

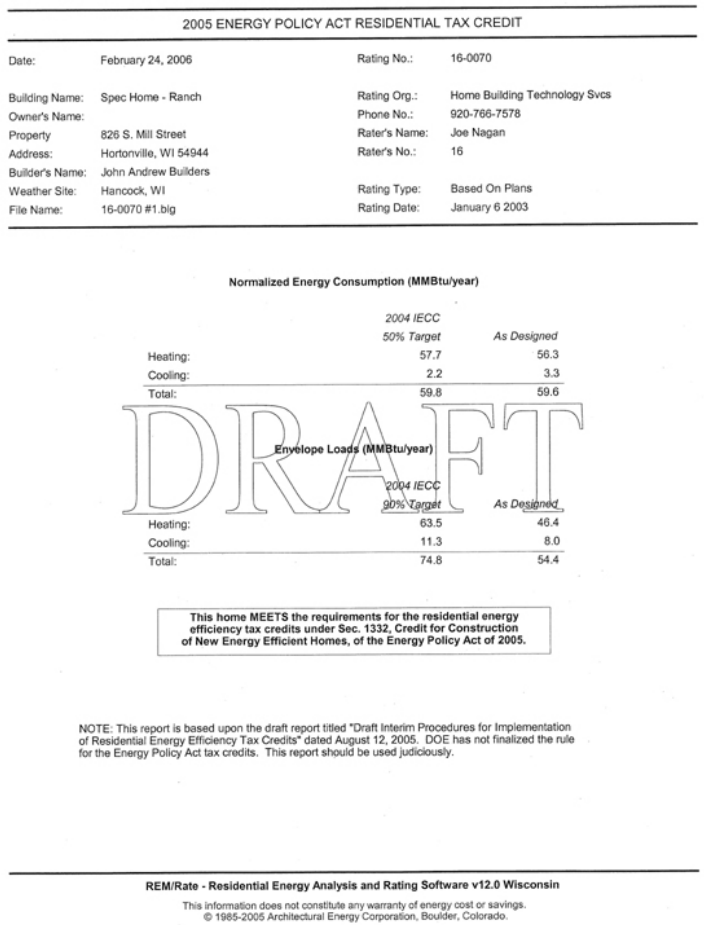
- **Cold climate priority for comfort, durability, IAQ, and energy efficiency**
- **Tighter homes = lower bills**



ENERGY CENTER
OF WISCONSIN

16-0070#1: Typical Ranch

- 3260 CFA / 27,340 vol.
- 90% AFUE / 10 SEER
- .88 duct distribution
- R44 attic / R19 walls / R5 Fnd
- ACHn = .15
- Spot vent =40 cfm @ 8/24



2005 ENERGY POLICY ACT RESIDENTIAL TAX CREDIT

Date:	February 24, 2006	Rating No.:	16-0070
Building Name:	Spec Home - Ranch	Rating Org.:	Home Building Technology Svcs
Owner's Name:		Phone No.:	920-766-7578
Property Address:	826 S. Mill Street Hortonville, WI 54944	Rater's Name:	Joe Nagan
		Rater's No.:	16
Builder's Name:	John Andrew Builders		
Weather Site:	Hancock, WI	Rating Type:	Based On Plans
File Name:	16-0070 #1.blg	Rating Date:	January 6 2003

Normalized Energy Consumption (MMBtu/year)

	2004 IECC 50% Target	As Designed
Heating:	57.7	56.3
Cooling:	2.2	3.3
Total:	59.8	59.6

Envelope Loads (MMBtu/year)

	2004 IECC 90% Target	As Designed
Heating:	63.5	46.4
Cooling:	11.3	8.0
Total:	74.8	54.4

DRAFT

This home MEETS the requirements for the residential energy efficiency tax credits under Sec. 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

NOTE: This report is based upon the draft report titled "Draft Interim Procedures for Implementation of Residential Energy Efficiency Tax Credits" dated August 12, 2005. DOE has not finalized the rule for the Energy Policy Act tax credits. This report should be used judiciously.

REM/Rate - Residential Energy Analysis and Rating Software v12.0 Wisconsin

This information does not constitute any warranty of energy cost or savings.
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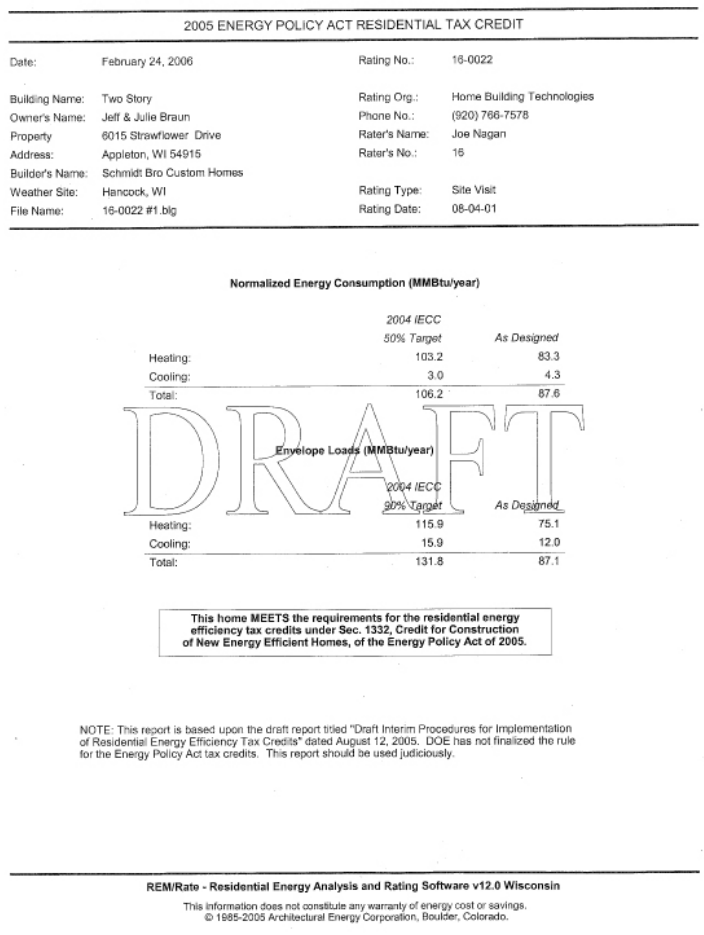
16-0022#1: Typical 2 story

- 4512 CFA / 37,193 vol.
- 94% AFUE / 12 SEER
- .88 duct distribution
- R38 attic / R19 walls / R5 Fnd
- ACHn = .11
- HRV = 100 CFM @ 8/24



2005 ENERGY POLICY ACT RESIDENTIAL TAX CREDIT

Date:	February 24, 2006	Rating No.:	16-0022
Building Name:	Two Story	Rating Org.:	Home Building Technologies
Owner's Name:	Jeff & Julie Braun	Phone No.:	(920) 766-7578
Property Address:	6015 Strawflower Drive Appleton, WI 54915	Rater's Name:	Joe Nagan
		Rater's No.:	16
Builder's Name:	Schmidt Bro Custom Homes		
Weather Site:	Hancock, WI	Rating Type:	Site Visit
File Name:	16-0022 #1.blg	Rating Date:	08-04-01

Normalized Energy Consumption (MMBtu/year)

	2004 IECC 50% Target	As Designed
Heating:	103.2	83.3
Cooling:	3.0	4.3
Total:	106.2	87.6

DRAFT

Envelope Loads (MMBtu/year)

	2004 IECC 50% Target	As Designed
Heating:	115.9	75.1
Cooling:	15.9	12.0
Total:	131.8	87.1

This home MEETS the requirements for the residential energy efficiency tax credits under Sec. 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

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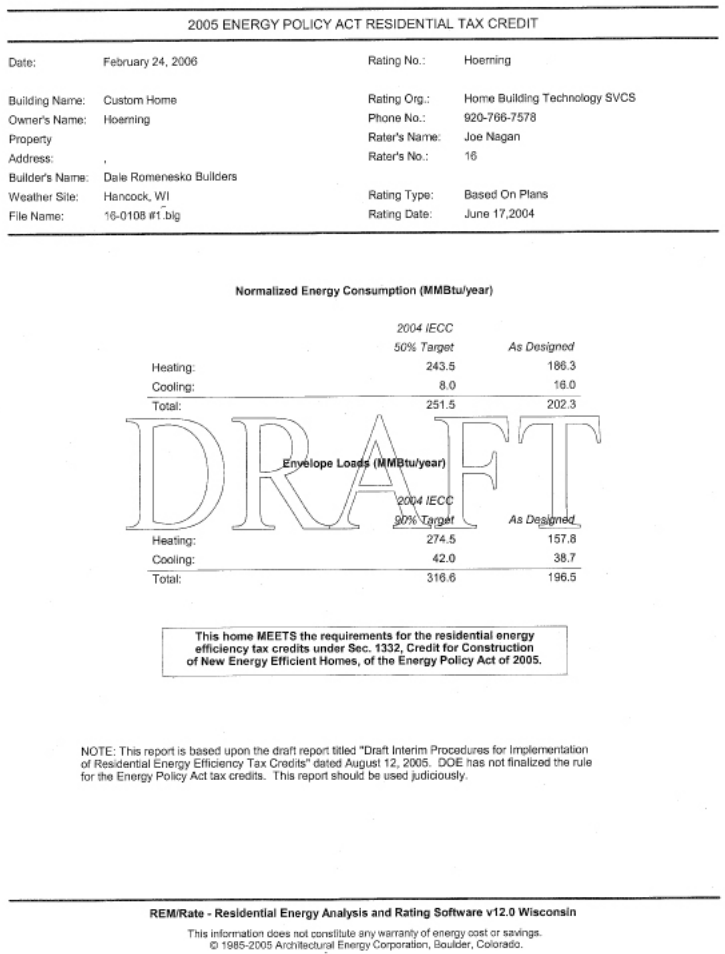
16-0108#1: Custom

- 12,032 CFA / 108,485 vol.
- 94% - 85 % AFUE / 10 SEER
- .88 duct distribution
- R44 attic / R20 walls/ R5 Fnd
- ACHn = .06
- HRV = 227 CFM @ 24/7



2005 ENERGY POLICY ACT RESIDENTIAL TAX CREDIT

Date:	February 24, 2006	Rating No.:	Hoerning
Building Name:	Custom Home	Rating Org.:	Home Building Technology SVCS
Owner's Name:	Hoerning	Phone No.:	920-766-7578
Property		Rater's Name:	Joe Nagan
Address:	,	Rater's No.:	16
Builder's Name:	Dale Romenesko Builders		
Weather Site:	Hancock, WI	Rating Type:	Based On Plans
File Name:	16-0108 #1.blg	Rating Date:	June 17,2004

Normalized Energy Consumption (MMBtu/year)

	2004 IECC 50% Target	*As Designed*
Heating:	243.5	186.3
Cooling:	8.0	16.0
Total:	251.5	202.3

DRAFT

Envelope Loads (MMBtu/year)

	2004 IECC 50% Target	*As Designed*
Heating:	274.5	157.8
Cooling:	42.0	38.7
Total:	316.6	196.5

This home MEETS the requirements for the residential energy efficiency tax credits under Sec. 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

NOTE: This report is based upon the draft report titled "Draft Interim Procedures for Implementation of Residential Energy Efficiency Tax Credits" dated August 12, 2005. DOE has not finalized the rule for the Energy Policy Act tax credits. This report should be used judiciously.

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ASHRAE 62.2 Standard – RESNET interpretation

- **Ventilation to equal 62.2 mechanical requirement**
  -24/7 or equilvant

  - minus 1/2 CFM per 1 CFM over estimated ACHn floor
  - plus 1/2 CFM per 1 CFM under estimated ACHn floor

- **Floor for estimated ACHn approximately = .15ACHn**
  = 2 CFM est. natural ventilation/infiltration per 100 CFA

16-0108#1: Custom

Air leakage report for 62.2 compliance

- 150 cfm at 24/7
- 301 cfm at 12/24

AIR LEAKAGE REPORT

Date:	February 24, 2006	Rating No.:	Hoerning
Building Name:	Custom Home	Rating Org.:	Home Building Technology SVCS
Owner's Name:	Hoerning	Phone No.:	920-766-7578
Property		Rater's Name:	Joe Nagan
Address:	,	Rater's No.:	16
Builder's Name:	Dale Romenesko Builders		
Weather Site:	Hancock, WI	Rating Type:	Based On Plans
File Name:	16-0108 #1.blg	Rating Date:	June 17,2004

Whole House Infiltration

	Blower door test	
	Heating	*Cooling*
Natural ACH:	0.06	0.04
ACH @ 50 Pascals:	0.91	0.91
CFM @ 25 Pascals:	1044	1044
CFM @ 50 Pascals:	1638	1638
Eff. Leakage Area:	89.9	89.9
Specific Leakage Area:	0.00005	0.00005
ELA/100 sf shell:	0.45	0.45

Total Duct Leakage

CFM @ 25 Pascals:	N/A
CFM25 / CFMfan:	N/A
CFM25 / CFA:	N/A
CFM per Std 152:	N/A
CFM @ 50 Pascals:	N/A
Eff. Leakage Area:	N/A
Thermal Efficiency:	88.00

Ventilation

Mechanical:	Balanced
Sensible Recovery Eff. (%):	78.0
Total Recovery Eff. (%):	0.0
Rate (cfm):	227
Hours/Day:	24.0
Fan Watts:	190.0
Cooling Ventilation:	No Ventilation

ASHRAE 62.2 - 2003 Ventilation Requirements

For this home to comply with ASHRAE Standard 62.2 - 2003 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, a minimum of 150 cfm of mechanical ventilation must be provided continuously, 24 hours per day. Alternatively, an intermittently operating mechanical ventilation system may be used if the ventilation rate is adjusted accordingly. For example, a 301 cfm mechanical ventilation system would need to operate 12 hours per day, so long as the system operates at least once every three hours.

ASHRAE 62.2 Standard
Energy Center of Wisconsin Ventilation Study

Big homes + few people = high cfm per actual occupant
Requirement for typical new home

- 65 cfm mechanical ventilation 24/7

2 bath fans running continuously

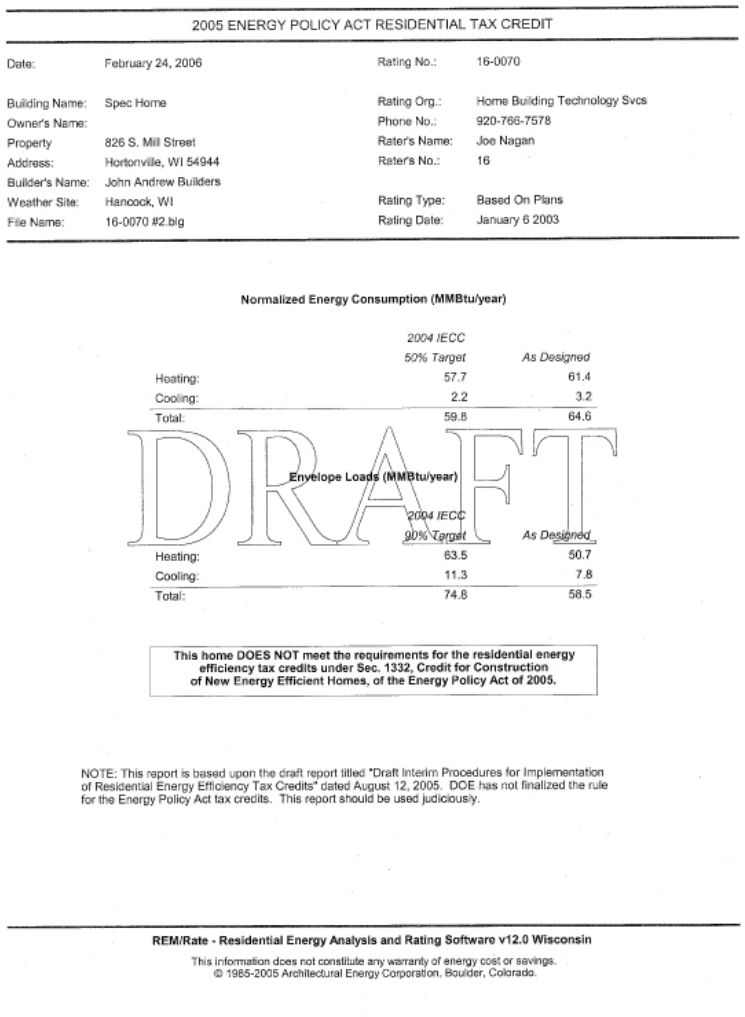
Central system at 50% duty cycle

~20 cfm per occupant

2.6 times current WI commercial code requirement

16-0070#2: Ranch

- **Modified to meet R62.2**
- **10 SEER**
- **Added 1192 CFM @ 24/7**
- **+5 / +4.1 MMBtu**
- **Annual cost est. = $55-9***



2005 ENERGY POLICY ACT RESIDENTIAL TAX CREDIT

Date:	February 24, 2006	Rating No.:	16-0070
Building Name:	Spec Home	Rating Org.:	Home Building Technology Svcs
Owner's Name:		Phone No.:	920-766-7578
Property Address:	826 S. Mill Street Hortonville, WI 54944	Rater's Name:	Joe Nagan
		Rater's No.:	16
Builder's Name:	John Andrew Builders		
Weather Site:	Hancock, WI	Rating Type:	Based On Plans
File Name:	16-0070 #2.blg	Rating Date:	January 6 2003

Normalized Energy Consumption (MMBtu/year)

	2004 IECC 50% Target	*As Designed*
Heating:	57.7	61.4
Cooling:	2.2	3.2
Total:	59.8	64.6

DRAFT

Envelope Loads (MMBtu/year)

	2004 IECC 50% Target	*As Designed*
Heating:	63.5	50.7
Cooling:	11.3	7.8
Total:	74.8	58.5

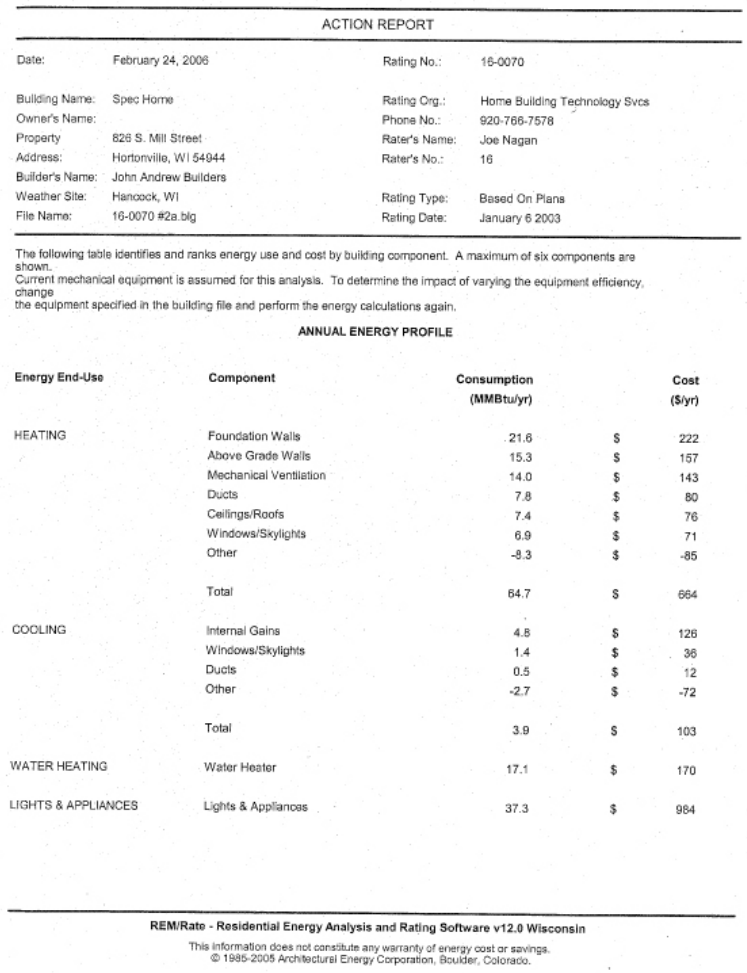
This home DOES NOT meet the requirements for the residential energy efficiency tax credits under Sec. 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

NOTE: This report is based upon the draft report titled "Draft Interim Procedures for Implementation of Residential Energy Efficiency Tax Credits" dated August 12, 2005. DOE has not finalized the rule for the Energy Policy Act tax credits. This report should be used judiciously.

REM/Rate - Residential Energy Analysis and Rating Software v12.0 Wisconsin

16-0070#2a: Ranch

- 13 SEER / 62.2 compliant
- Action report
  - Foundation walls
  - Ag walls
  - Ventilation
  - Ducts



ACTION REPORT

Date:	February 24, 2006	Rating No.:	16-0070
Building Name:	Spec Home	Rating Org.:	Home Building Technology Svcs
Owner's Name:		Phone No.:	920-766-7578
Property Address:	826 S. Mill Street Hortonville, WI 54944	Rater's Name:	Joe Nagan
		Rater's No.:	16
Builder's Name:	John Andrew Builders		
Weather Site:	Hancock, WI	Rating Type:	Based On Plans
File Name:	16-0070 #2a.blg	Rating Date:	January 6 2003

The following table identifies and ranks energy use and cost by building component. A maximum of six components are shown.
Current mechanical equipment is assumed for this analysis. To determine the impact of varying the equipment efficiency, change
the equipment specified in the building file and perform the energy calculations again.

ANNUAL ENERGY PROFILE

Energy End-Use	Component	Consumption (MMBtu/yr)		Cost ($/yr)
HEATING	Foundation Walls	21.6	$	222
	Above Grade Walls	15.3	$	157
	Mechanical Ventilation	14.0	$	143
	Ducts	7.8	$	80
	Ceilings/Roofs	7.4	$	76
	Windows/Skylights	6.9	$	71
	Other	-8.3	$	-85
	Total	64.7	$	664
COOLING	Internal Gains	4.8	$	126
	Windows/Skylights	1.4	$	36
	Ducts	0.5	$	12
	Other	-2.7	$	-72
	Total	3.9	$	103
WATER HEATING	Water Heater	17.1	$	170
LIGHTS & APPLIANCES	Lights & Appliances	37.3	$	984

REM/Rate - Residential Energy Analysis and Rating Software v12.0 Wisconsin

This information does not constitute any warranty of energy cost or savings.
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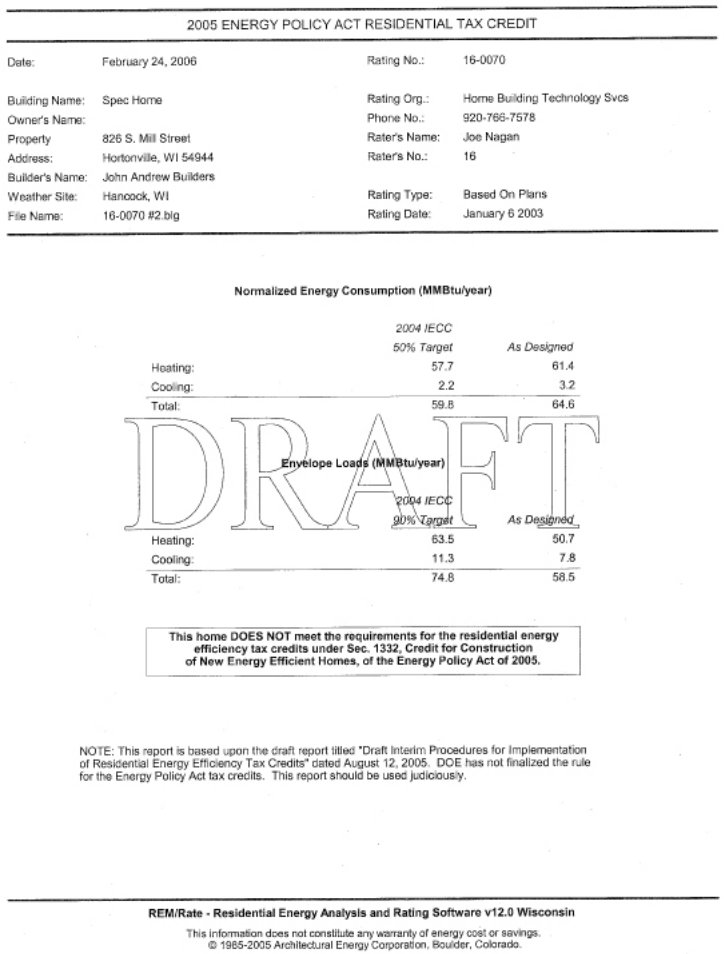
16-0022#2: 2 Story

- **Modified to meet 62.2**
- **12 SEER**
- **Added 1648 CFM @ 24/7**
- **+4.2 / +3.7 MMBtu**
- **Annual cost est. = $45-4***



2005 ENERGY POLICY ACT RESIDENTIAL TAX CREDIT

Date:	February 24, 2006	Rating No.:	16-0070
Building Name:	Spec Home	Rating Org.:	Home Building Technology Svcs
Owner's Name:		Phone No.:	920-766-7578
Property	826 S. Mill Street	Rater's Name:	Joe Nagan
Address:	Hortonville, WI 54944	Rater's No.:	16
Builder's Name:	John Andrew Builders		
Weather Site:	Hancock, WI	Rating Type:	Based On Plans
File Name:	16-0070 #2.blg	Rating Date:	January 6 2003

Normalized Energy Consumption (MMBtu/year)

	2004 IECC 50% Target	*As Designed*
Heating:	57.7	61.4
Cooling:	2.2	3.2
Total:	59.8	64.6

DRAFT

Envelope Loads (MMBtu/year)

	2004 IECC 90% Target	*As Designed*
Heating:	63.5	50.7
Cooling:	11.3	7.8
Total:	74.8	58.5

This home DOES NOT meet the requirements for the residential energy efficiency tax credits under Sec. 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

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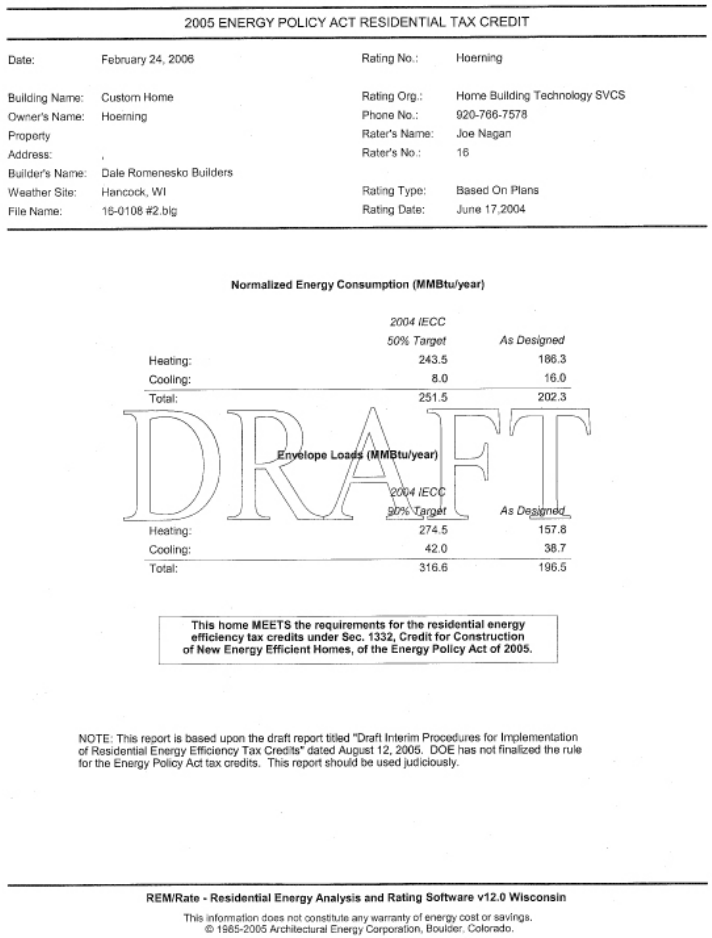
REM/Rate - Residential Energy Analysis and Rating Software v12.0 Wisconsin

16-0108#2: Custom

- **Modified to meet 62.2**
- **10 SEER**
- **Added 4540 CFM @ 24/7**
- **+7.1 / +5.8 MMBtu**
- **Annual cost est. = $77-9***



2005 ENERGY POLICY ACT RESIDENTIAL TAX CREDIT

Date:	February 24, 2006	Rating No.:	Hoerning
Building Name:	Custom Home	Rating Org.:	Home Building Technology SVCS
Owner's Name:	Hoerning	Phone No.:	920-766-7578
Property		Rater's Name:	Joe Nagan
Address:	,	Rater's No.:	16
Builder's Name:	Dale Romenesko Builders		
Weather Site:	Hancock, WI	Rating Type:	Based On Plans
File Name:	16-0108 #2.blg	Rating Date:	June 17,2004

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Cooling:	8.0	16.0
Total:	251.5	202.3

DRAFT

Envelope Loads (MMBtu/year)

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Heating:	274.5	157.8
Cooling:	42.0	38.7
Total:	316.6	196.5

This home MEETS the requirements for the residential energy efficiency tax credits under Sec. 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

NOTE: This report is based upon the draft report titled "Draft Interim Procedures for Implementation of Residential Energy Efficiency Tax Credits" dated August 12, 2005. DOE has not finalized the rule for the Energy Policy Act tax credits. This report should be used judiciously.

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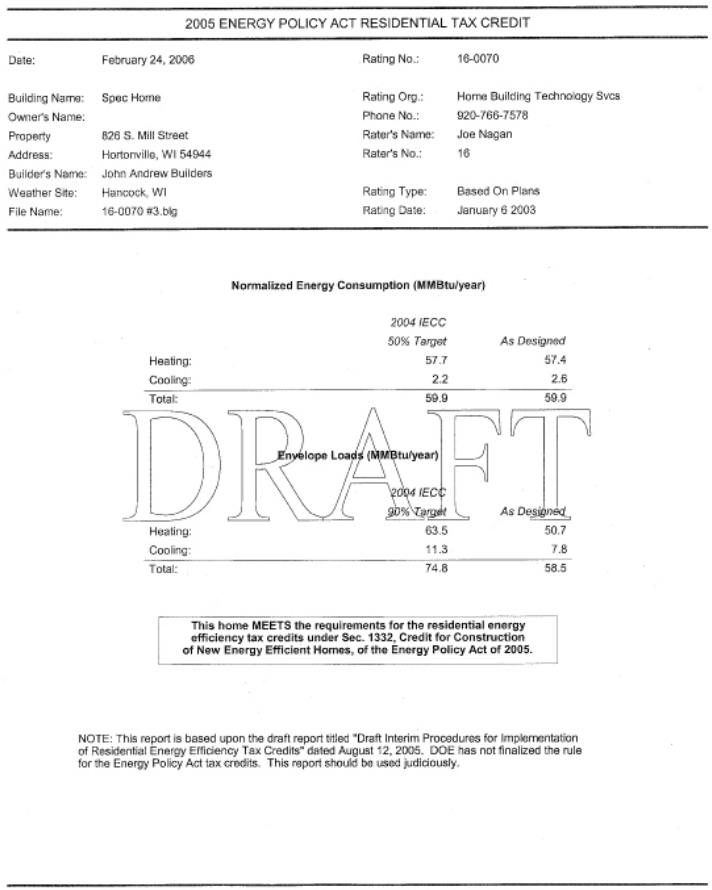
16-0070#3: Ranch

13 SEER / 62.2 compliant with:

- **94% AFUE upgrade**
- **.96 duct distribution efficiency**
- **R11 interior (w/R5)**
- **HRV?**



2005 ENERGY POLICY ACT RESIDENTIAL TAX CREDIT

Date:	February 24, 2006	Rating No.:	16-0070
Building Name:	Spec Home	Rating Org.:	Home Building Technology Svcs
Owner's Name:		Phone No.:	920-766-7578
Property Address:	826 S. Mill Street Hortonville, WI 54944	Rater's Name:	Joe Nagan
		Rater's No.:	16
Builder's Name:	John Andrew Builders		
Weather Site:	Hancock, WI	Rating Type:	Based On Plans
File Name:	16-0070 #3.blg	Rating Date:	January 6 2003

Normalized Energy Consumption (MMBtu/year)

	2004 IECC 50% Target	*As Designed*
Heating:	57.7	57.4
Cooling:	2.2	2.6
Total:	59.9	59.9

DRAFT

Envelope Loads (MMBtu/year)

	2004 IECC 50% Target	*As Designed*
Heating:	63.5	50.7
Cooling:	11.3	7.8
Total:	74.8	58.5

This home MEETS the requirements for the residential energy efficiency tax credits under Sec. 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

NOTE: This report is based upon the draft report titled "Draft Interim Procedures for Implementation of Residential Energy Efficiency Tax Credits" dated August 12, 2005. DOE has not finalized the rule for the Energy Policy Act tax credits. This report should be used judiciously.

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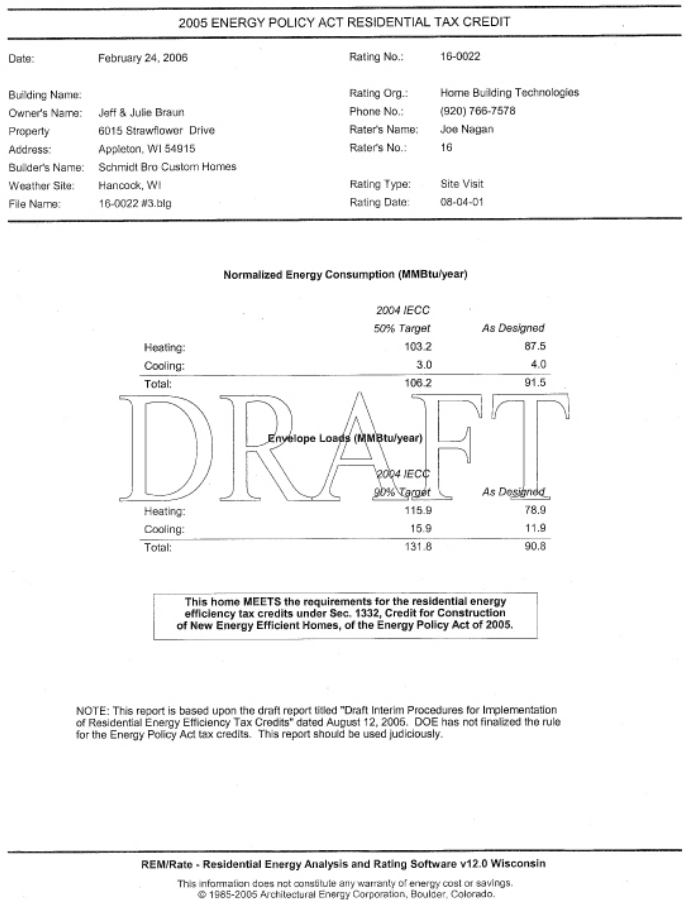
16-0022#3: 2 story

- 13 SEER / 62.2 compliant
- Annual savings est. = -$11*
- -0.3MMBtu



2005 ENERGY POLICY ACT RESIDENTIAL TAX CREDIT

Date:	February 24, 2006	Rating No.:	16-0022
Building Name:		Rating Org.:	Home Building Technologies
Owner's Name:	Jeff & Julie Braun	Phone No.:	(920) 766-7578
Property Address:	6015 Strawflower Drive Appleton, WI 54915	Rater's Name:	Joe Nagan
Builder's Name:	Schmidt Bro Custom Homes	Rater's No.:	16
Weather Site:	Hancock, WI	Rating Type:	Site Visit
File Name:	16-0022 #3.blg	Rating Date:	08-04-01

Normalized Energy Consumption (MMBtu/year)

	2004 IECC 50% Target	*As Designed*
Heating:	103.2	87.5
Cooling:	3.0	4.0
Total:	106.2	91.5

DRAFT

Envelope Loads (MMBtu/year)

	2004 IECC 90% Target	*As Designed*
Heating:	115.9	78.9
Cooling:	15.9	11.9
Total:	131.8	90.8

This home MEETS the requirements for the residential energy efficiency tax credits under Sec. 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

NOTE: This report is based upon the draft report titled "Draft Interim Procedures for Implementation of Residential Energy Efficiency Tax Credits" dated August 12, 2005. DOE has not finalized the rule for the Energy Policy Act tax credits. This report should be used judiciously.

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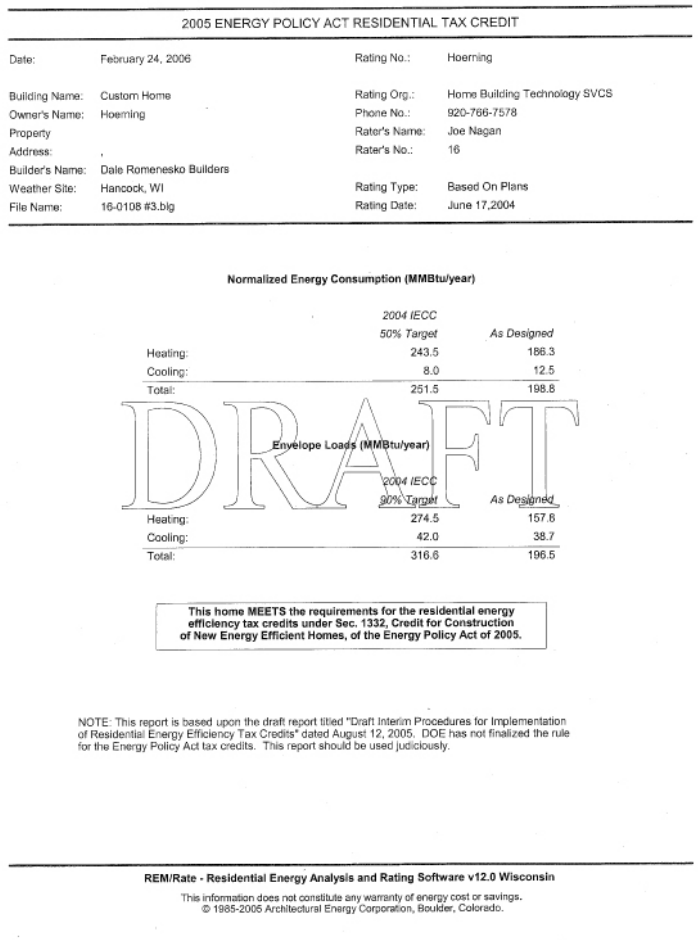
16-0108#3: Custom

- 13 SEER / 62.2 compliant
- Annual savings est. = -$169*
- -3.5 MMBtu



2005 ENERGY POLICY ACT RESIDENTIAL TAX CREDIT

Date:	February 24, 2006	Rating No.:	Hoerning
Building Name:	Custom Home	Rating Org.:	Home Building Technology SVCS
Owner's Name:	Hoerning	Phone No.:	920-766-7578
Property		Rater's Name:	Joe Nagan
Address:	,	Rater's No.:	16
Builder's Name:	Dale Romenesko Builders		
Weather Site:	Hancock, WI	Rating Type:	Based On Plans
File Name:	16-0108 #3.blg	Rating Date:	June 17,2004

Normalized Energy Consumption (MMBtu/year)

	2004 IECC 50% Target	*As Designed*
Heating:	243.5	186.3
Cooling:	8.0	12.5
Total:	251.5	198.8

DRAFT

Envelope Loads (MMBtu/year)

	2004 IECC 90% Target	*As Designed*
Heating:	274.5	157.6
Cooling:	42.0	38.7
Total:	316.6	196.5

This home MEETS the requirements for the residential energy efficiency tax credits under Sec. 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

NOTE: This report is based upon the draft report titled "Draft Interim Procedures for Implementation of Residential Energy Efficiency Tax Credits" dated August 12, 2005. DOE has not finalized the rule for the Energy Policy Act tax credits. This report should be used judiciously.

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Conclusions, Questions, Concerns

- **Climates may drive markets and performance**
- **Building performance takes time (& multiple market channels)**
- **Site visits work!!**
- **Invest in infrastructure – rater/consultants**
- **Small changes can have big impacts (and vice versa)**

Questions, Concerns

- **ASHRAE 62.2 interpretation – benefit?**
- **Duct tightness vs. leakage – right test?**
- **Energy penalty of ducts in conditioned space?**
- **Testing options for verification and compliance?**
  - **Ducts**
  - **Multi-unit condos**

Concerns

- **Credibility**
  - **Rater, Provider, and RESNET**
- **Standards**
  - **Effective, Objective, Achievable**
- **Opportunities (and challenges) the future brings**

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