

Home Energy Rating Certificate

Property
Manohar
1404 Marsman
Cascade Twp, MI 49546

HERS
Rating Type: Confirmed
Rating Date: 12/20/21
Registry ID: 480230734

Certified Energy Rater: John R Kuiper
Rating Number:

HERS Index: -10

General Information

Conditioned Area	3092 sq. ft.	House Type	Single-family detached
Conditioned Volume	39516 cubic ft.	Foundation	Slab
Bedrooms	4		

Mechanical Systems Features

Air-source heat pump:	Electric, Htg: 11.1 HSPF. Clg: 9.5 SEER.
Water Heating:	Heat pump, Electric, 3.39 EF, 50.0 Gal.
Duct Leakage to Outside	7.01 CFM25
Ventilation System	Balanced: HRV, 103 cfm, 65.0 watts.
Programmable Thermostat	Heat=Yes; Cool=Yes

Building Shell Features

Ceiling Flat	NA	Slab	R-23.0 Edge, R-20.0 Under
Sealed Attic	NA	Exposed Floor	NA
Vaulted Ceiling	R-56.0	Window Type	U-Value: 0.170, SHGC: 0.170
Above Grade Walls	R-23.0	Infiltration Rate	429 CFM50 (0.65 ACH50)
Foundation Walls	NA	Method	Blower door

Lights and Appliance Features

Interior Fluor Lighting (%)	0.0	Range/Oven Fuel	Electric
Interior LED Lighting (%)	100.0	Clothes Dryer Fuel	Electric
Refrigerator (kWh/yr)	570	Clothes Dryer CEF	3.94
Dishwasher (kWh/yr)	270	Ceiling Fan (cfm/Watt)	0.00

Estimated Annual Energy Cost

Use	MMBtu	Cost	Percent
Heating	13.6	\$586	-135%
Cooling	1.5	\$65	-15%
Hot Water	2.5	\$110	-25%
Lights/Appliances	21.7	\$948	-218%
Photovoltaics	-51.0	\$-2227	513%
Service Charges		\$84	-19%
Total	-11.8	\$-434	100%

Criteria

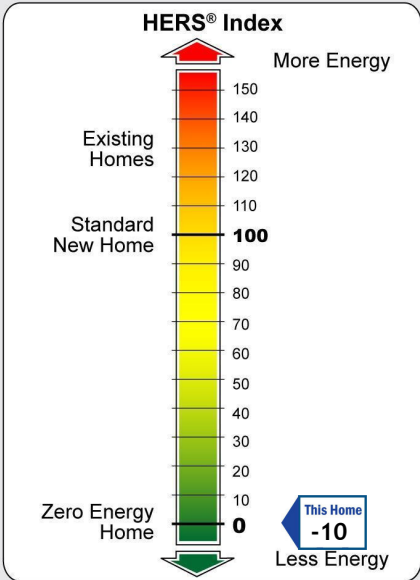
This home meets or exceeds the minimum criteria for the following:

John R Kuiper
The Home Energy Assessor
3015 Rosebury SE
Grand Rapids, MI 49508
616-443-6697
Fax #
johnrkuiper@gmail.com

REM/Rate - Residential Energy Analysis and Rating Software v16.3.2

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The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

RESNET HERS Index Certificate



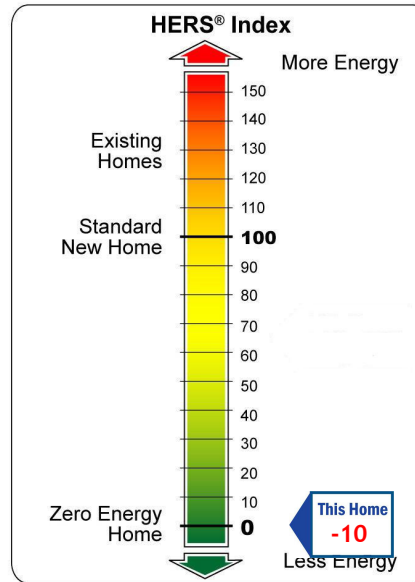
1404 Marsman
Cascade Twp, MI 49546
Rater: John R Kuiper
Registry ID: 480230734
Annual Estimates*:

C02 emissions(Tons): -3
Energy Savings (\$) **: 6958
*Based on standard operating conditions
**Based on U.S. DOE designation of a HERS Index of 130 as the 'Typical Existing Home'

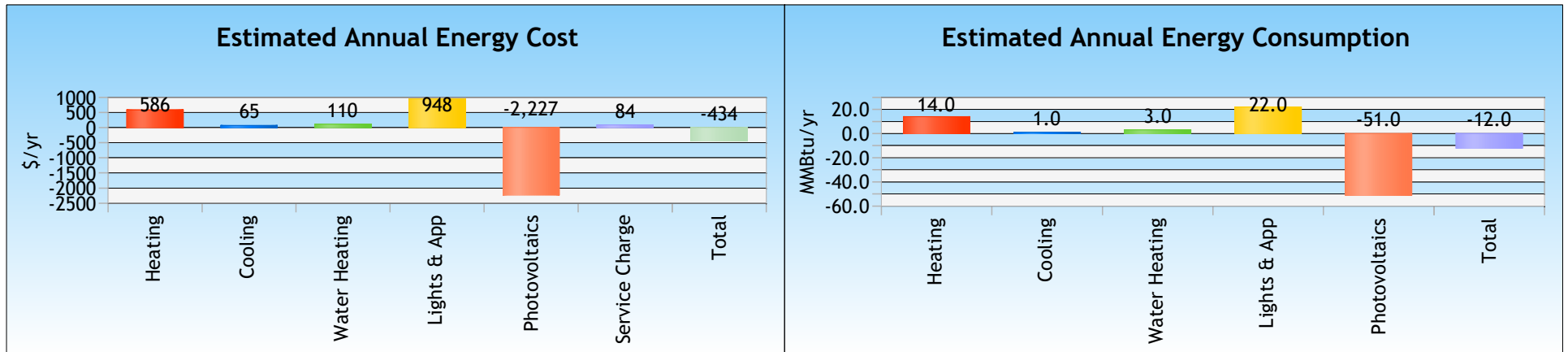
John R Kuiper
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3015 Rosebury SE
Grand Rapids, MI 49508
616-443-6697

This home has been inspected and performance tested in accordance with Chapter 3 of the RESNET standards. **RESNET**[®]
www.resnet.us

HERS PERFORMANCE



ENERGY RATING CERTIFICATE



Address 1404 Marsman
Cascade Twp, MI 49546

House Type Single-family detached

Cond. Area 3092 sq. ft.

Rating No.

Issue Date March 23, 2022

Certification Inspected and Tested

Annual Estimates*
CO2 emissions(Tons): -3
Annual Savings**: \$6958

* Based on standard operating conditions
** Based on a HERS 130 Index Home

John R Kuiper
The Home Energy Assessor
3015 Rosebury SE
Certified Rater John R Kuiper
Rater ID 6388891
Registry ID 480230734
Rating Date 12/20/21

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