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Home Energy Rating Certificate

ESH 86.1 Example
Toledo, OH



5 Stars
Based On Plans

Uniform Energy Rating System

1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus
0-19	20-39	40-49	50-59	60-69	70-79

Energy Efficient

4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
80-82	83-85	86-89	90-100

Energy Rating Points: **86.1**

General Information

Conditioned Area: 1400 sq. ft. HouseType: Single family detached
 Conditioned Volume: 16800 cubic ft. Foundation: Conditioned crawl space
 Bedrooms: 3

Mechanical Systems Features

Heating: Fuel-fired air distribution, Natural gas, 90.0 AFUE.
 Water Heating: Conventional, Natural gas, 0.61 EF.

Duct Leakage: Total: 50.00 CFM @ 25 Pascals.
 Ventilation System: None
 Programmable Thermostat: Heating: Yes Cooling: No

Building Shell Features

Ceiling Flat: R-30 Exposed Floor: NA
 Vaulted Ceiling: NA Window Type: U-0.50 SHG-0.50
 Above Grade Walls: R-13 Infiltration:
 Foundation Walls: R-5.0 Rate: H: 0.35 C: 0.18 ACHnat
 Slab: NA Method: Blower door test

Lights and Appliance Features

Interior Incandescent Fixtures: NA Clothes Dryer Fuel: Natural gas
 Interior Energy Efficient Fixtures: NA Range/Oven Fuel: Natural gas
 Exterior Incandescent Fixtures: NA Refrigerator Efficiency: NA
 Exterior Energy Efficient Fixtures: NA

REM/Rate - Residential Energy Analysis and Rating Software v10.3

This information does not constitute any warranty of energy cost or savings.
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Rating Number:

Certified Energy Rater: Paul Rimelspach

Date:

Rating Ordered For:

Estimated Annual Energy Cost

Based On Plans

Use	MMBtu	Cost	Percent
Heating	51.7	\$484	33%
Cooling	0.0	\$0	0%
Hot Water	24.4	\$213	15%
Lights/Appliances		\$629	43%
Service Charges		\$127	9%
Total		\$1452	100%

This home meets the minimum criteria for all of the following:

EPA Energy Star Home
 1995 CABO Model Energy Code

Paul Rimelspach

Energy Designed Homes (sm)

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Energy Efficient

4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
80-82	83-85	86-89	90-100

Energy Rating Points: **74.1**

General Information

Conditioned Area: 1400 sq. ft. HouseType: Single family detached
 Conditioned Volume: 16800 cubic ft. Foundation: Conditioned crawl space
 Bedrooms: 3

Mechanical Systems Features

Heating: Electric air distribution, Electric, 98.0 % EFF.
 Water Heating: Conventional, Natural gas, 0.61 EF.
 Duct Leakage: Total: 50.00 CFM @ 25 Pascals.
 Ventilation System: None
 Programmable Thermostat: Heating: Yes Cooling: No

Building Shell Features

Ceiling Flat: R-30 Exposed Floor: NA
 Vaulted Ceiling: NA Window Type: U-0.50 SHG-0.50
 Above Grade Walls: R-13
 Foundation Walls: R-5.0 Infiltration: Rate: H: 0.35 C: 0.18 ACHnat
 Slab: NA Method: Blower door test

Lights and Appliance Features

Interior Incandescent Fixtures: NA Clothes Dryer Fuel: Natural gas
 Interior Energy Efficient Fixtures: NA Range/Oven Fuel: Natural gas
 Exterior Incandescent Fixtures: NA Refrigerator Efficiency: NA
 Exterior Energy Efficient Fixtures: NA

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Rating Number:

Certified Energy Rater: Paul Rimelspach
 Date:
 Rating Ordered For:

Estimated Annual Energy Cost

Based On Plans

Use	MMBtu	Cost	Percent
Heating	48.0	\$1754	64%
Cooling	0.0	\$0	0%
Hot Water	24.4	\$213	8%
Lights/Appliances		\$629	23%
Service Charges		\$127	5%
Total		\$2723	100%

This home meets the minimum criteria for all of the following:

- With an Electric Furnace, this mode **DOES NOT**
- PASS** Energy Star compliance in Ohio.
-
- There are no shell improvements possible that will
- offset the 12 point score penalty.
-
- An air source or ground source electric heat pump
- could pass ES compliance.

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Home Energy Rating Certificate

ESH 86.1 Example
Toledo, OH



5 Stars
Based On Plans

Uniform Energy Rating System

1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus
0-19	20-39	40-49	50-59	60-69	70-79

Energy Efficient

4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
80-82	83-85	86-89	90-100

Energy Rating Points: **86.2**

General Information

Conditioned Area: 1400 sq. ft. HouseType: Single family detached
 Conditioned Volume: 16800 cubic ft. Foundation: Conditioned crawl space
 Bedrooms: 3

Mechanical Systems Features

Integrated Htg/DHW: Natural gas, Htg eff 0.78 CAafue. DHW eff 0.78 CAef.

Duct Leakage: Total: 50.00 CFM @ 25 Pascals.
 Ventilation System: None
 Programmable Thermostat: Heating: Yes Cooling: No

Building Shell Features

Ceiling Flat: R-30 Exposed Floor: NA
 Vaulted Ceiling: NA Window Type: U-0.50 SHG-0.50
 Above Grade Walls: R-13 **Infiltration:**
 Foundation Walls: R-10.0 Rate: H: 0.35 C: 0.18 ACHnat
 Slab: NA Method: Blower door test

Lights and Appliance Features

Interior Incandescent Fixtures: NA Clothes Dryer Fuel: Natural gas
 Interior Energy Efficient Fixtures: NA Range/Oven Fuel: Natural gas
 Exterior Incandescent Fixtures: NA Refrigerator Efficiency: NA
 Exterior Energy Efficient Fixtures: NA

REM/Rate - Residential Energy Analysis and Rating Software v10.3

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Rating Number:

Certified Energy Rater: Paul Rimelspach

Date:

Rating Ordered For:

Estimated Annual Energy Cost

Based On Plans

Use	MMBtu	Cost	Percent
Heating	53.5	\$501	35%
Cooling	0.0	\$0	0%
Hot Water	19.2	\$167	12%
Lights/Appliances		\$629	44%
Service Charges		\$127	9%
Total		\$1424	100%

This home meets the minimum criteria for all of the following:

EPA Energy Star Home
 1995 CABO Model Energy Code

Combination Space & Hot Water Heater with R-10 Crawl wall insulation Score changes to 86.2

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ENERGY COST AND FEATURE REPORT

Date:	March 24, 2003	Rating No.:	
Building Name:		Rating Org.:	Energy Designed Homes
Owner's Name:		Phone No.:	614-432-HOME (4663)
Property:	ESH 86.1 Example	Rater's Name:	Paul Rimelspach
Address:	Toledo, OH	Rater's No.:	00-96
Builder's Name:		Rating Type:	Based On Plans
Weather Site:	Toledo, OH	Rating Date:	
File Name:	HfH_86.1-example.blg		

ANNUAL ENERGY COSTS	HfH_86.1-example:Base	HfH_86.1-example	DIFF	% DIFF
Heating	\$ 484	\$ 440	\$ 44	9.1%
Cooling	\$ 0	\$ 0	\$ 0	
Water Heating	\$ 213	\$ 213	\$ 0	0.0%
Lights & Appliances	\$ 629	\$ 629	\$ 0	
Photovoltaics	\$ 0	\$ 0	\$ 0	
Service Charges	\$ 127	\$ 127	\$ 0	
Total	\$ 1452	\$ 1408	\$ 44	3.0%
Average Monthly	\$ 121	\$ 117	\$ 4	3.0%

ENERGY FEATURES

ES Score 86.1 86.8

Ceiling w/Attic:	R30 Attc (2x4 24oc) U=0.032
Vaulted Ceiling:	None
Above Grade Walls:	R13 (2x4 16oc) U=0.085
Foundation Walls (Cond):	R-5.0
Found. Walls (Uncond):	None
Doors:	R-4.4
Windows:	U-0.50 SHG-0.50 U=0.500
Window Shading:	H: None C: Some
Frame Floors:	None
Slab Floors:	None
Infiltration:	H: 0.35 C: 0.18 ACHnat
Infil. Measure:	Blower door test
Interior Mass:	None
Mech Equip List:	Heating: Fuel-fired air distribution, 50.0 kBtuh, 90.0 AFUE. Water Heating: Conventional, Gas, 0.61 EF.
Programmable Thermostat:	Heat=Yes; Cool=No
Ducts:	Uninsulated Conditioned space
Duct Leakage:	50.00 CFM @ 25 Pascals
Lights/Appliances:	Defaults
Active Solar:	None

R19 (2x6 16oc) U=0.061

2 x 6 wall construction is a popular upgrade

It is better, but is relatively expensive for the resulting energy benefit.

It is not required in Energy Star construction.

Preplan analysis can project cost effective energy upgrades

ENERGY COST AND FEATURE REPORT

Date:	March 24, 2003	Rating No.:	
Building Name:		Rating Org.:	Energy Designed Homes
Owner's Name:		Phone No.:	614-432-HOME (4663)
Property:	ESH 86.1 Example	Rater's Name:	Paul Rimelspach
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Builder's Name:			
Weather Site:	Toledo, OH	Rating Type:	Based On Plans
File Name:	HfH_86.1-example.blg	Rating Date:	

ANNUAL ENERGY COSTS	HfH_86.1-example:Base	HfH_86.1-example	DIFF	% DIFF
Heating	\$ 484	\$ 454	\$ 30	6.1%
Cooling	\$ 0	\$ 0	\$	
Water Heating	\$ 213	\$ 213	\$ 0	0.0%
Lights & Appliances	\$ 629	\$ 629	\$	
Photovoltaics	\$ 0	\$ 0	\$	
Service Charges	\$ 127	\$ 127	\$	
Total	\$ 1452	\$ 1423	\$ 30	2.0%
Average Monthly	\$ 121	\$ 119	\$ 2	2.0%

ENERGY FEATURES

ES Score 86.1 86.7

Ceiling w/Attic:	R30 Attc (2x4 24oc) U=0.032
Vaulted Ceiling:	None
Above Grade Walls:	R13 (2x4 16oc) U=0.085
Foundation Walls (Cond):	R-5.0
Found. Walls (Uncond):	None
Doors:	R-4.4
Windows:	U-0.50 SHG-0.50 U=0.500
Window Shading:	H: None C: Some
Frame Floors:	None
Slab Floors:	None
Infiltration:	H: 0.35 C: 0.18 ACHnat
Infil. Measure:	Blower door test
Interior Mass:	None
Mech Equip List:	Heating: Fuel-fired air distribution, 50.0 kBtuh, 90.0 AFUE. Water Heating: Conventional, Gas, 0.61 EF.
Programmable Thermostat:	Heat=Yes; Cool=No
Ducts:	Uninsulated Conditioned space
Duct Leakage:	50.00 CFM @ 25 Pascals
Lights/Appliances:	Defaults
Active Solar:	None

U-0.36 SHG-0.43 U=0.360

High Performance, U-0.36 windows are another popular upgrade.

Again, they are better, but can be relatively expensive for the resulting energy benefit.

They are recommended but not required in Energy Star construction.

Preplan analysis can project cost effective energy upgrades