

Building Labels for Federal Agencies

Presented to the GSA Green Building Advisory
Committee

by the

Building Labeling Task Group

November 12, 2013

General

- Our intent is not to set performance goals but to help agencies report progress toward achieving goals that have already been set.
- Labels should be clear, transparent and understandable to the general public.
- Labels should define reporting parameters and establish a baseline against which to measure performance over time.
- All labels should be modeled on the graphic “bar” with mean performance indicated as well as the performance of the subject property.
- Bar graph should include a performance scale with code minimum performance at one end and high achievement at the other (with extended ranges below code minimum and above high achievement). As codes become more rigorous, the ranges should “move” with the code.
- The format for graphic representation should be the same for each metric.
- Metrics should be compared by building type
- Labels should reference established metrics supporting environmental sustainability and human health and wellbeing.

Energy

- Label should report absolute energy use and energy use intensity (EUI) per person and per SF by source (electricity, gas, etc.). Building data should include size (SF) and FTEs.
- Energy should be reported for the whole building and by building system (e.g. base building, lighting, plug load). Codes are moving toward sub-metering and our recommendations should anticipate that and include sub-meters as part of best practice.
- Label should report asset level metrics (based on the building's design potential) and as well as operational metrics (actual performance).
- Energy use data should be entered into Energy Star Portfolio Manager.
- It is recommended that GSA establish a requirement that they will not lease a facility if the facility does not provide the data required to populate the label.

IEQ

- Label should report on potential stressors (e.g. noise levels, temperature, air flow, light, pollutants, etc.) that should be kept within known ranges of human comfort. Bar graph should be scaled to include known comfort ranges (with extended ranges below and above known comfort ranges).
- Future labels should report on human responses to building IEQ in real time and place (that is, tie the metrics to the occupants rather than to the building).

Water

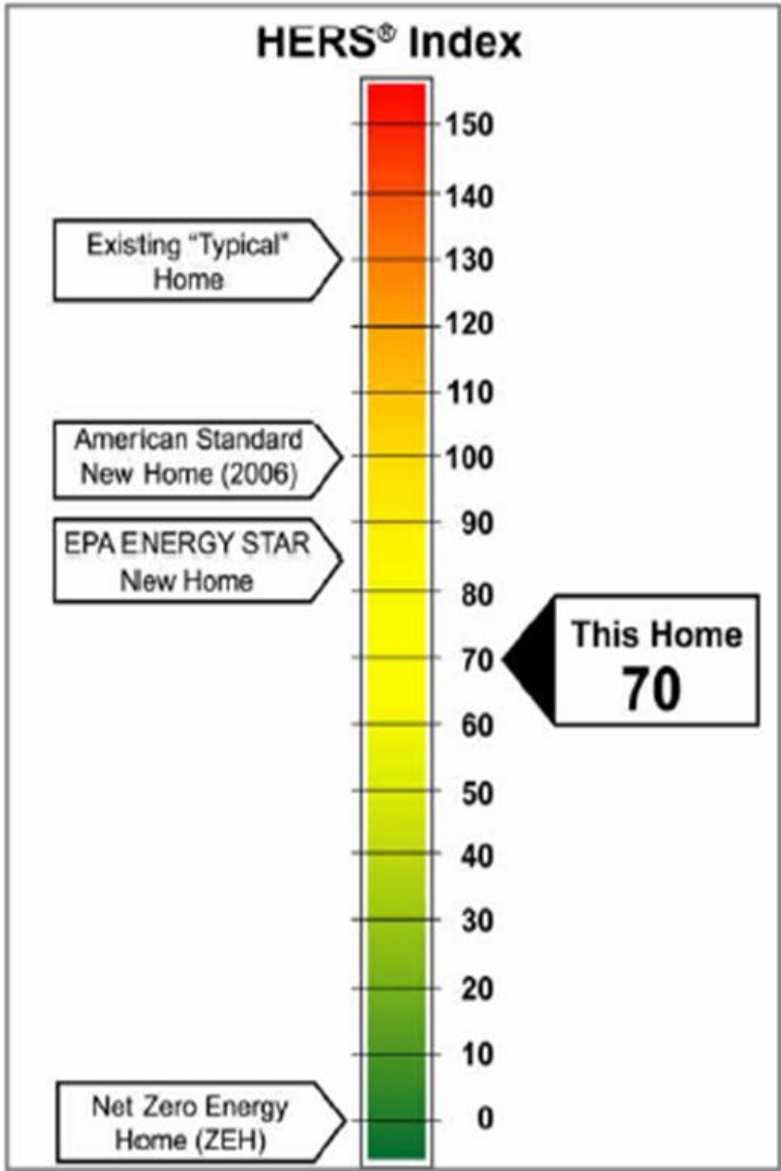
- Label should report total water consumption, total potable consumption
- Label should report absolute water use as well as water use intensity per person and per SF.
- The goal should be to report use by building system and report building use separate from grounds use (irrigation and maintenance)
- CDP water accounting protocol asks for information about water withdrawals by source, water discharges to various receiving bodies and water use intensity. This may be beyond our ability today but CDP protocols should be considered in future as a basis for detailed water risk management
- Water data should be entered into Energy Star Portfolio Manager.

Waste

- Label should report volume of waste generated and recycled as well as waste per occupant

Further Recommendations

- Task Group recommends that Agencies institute pilot projects to develop methodologies and ranges supporting environmental sustainability and human health and well-being and case studies to test concepts (e.g. developing devices to monitor physiological responses to the built environment).



HERS

AS DESIGNED
Not Rated

A
IN OPERATION
June 2012



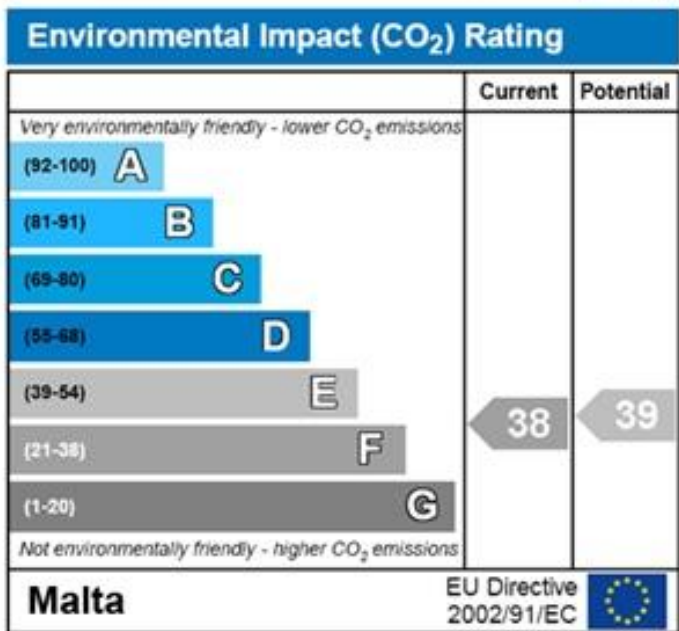
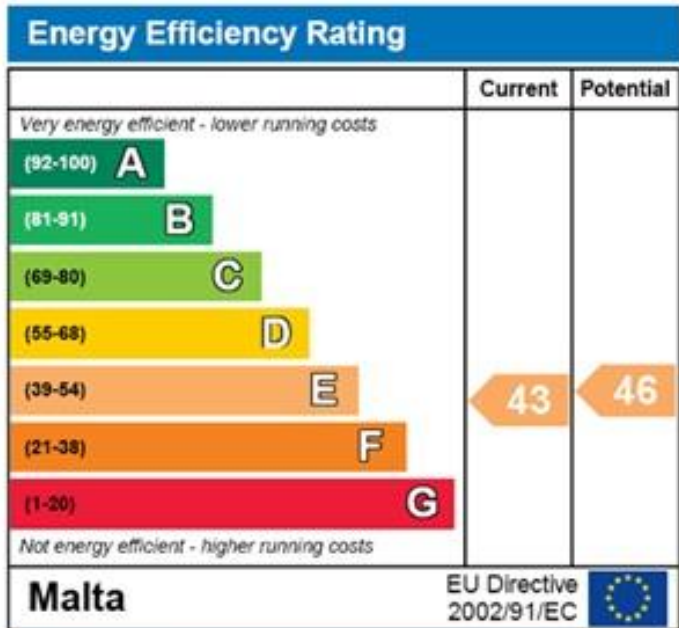
ASHRAE bEQ administered by ASHRAE
www.buildingenergyquotient.com

BUILDING ENERGY QUOTIENT

As Designed: Indicates the estimated energy consumption of this building as designed.
In Operation: Indicates the energy consumption of this building in actual use.

Building Location:
Sample Building
1000 Any Street
Anytown, USA 10000

Building EQ



Malta

Display Energy Certificate

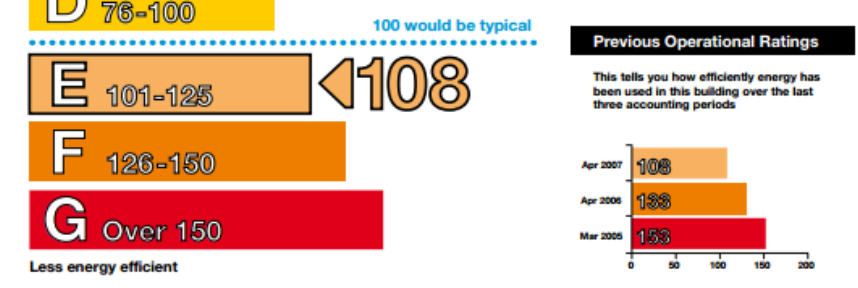
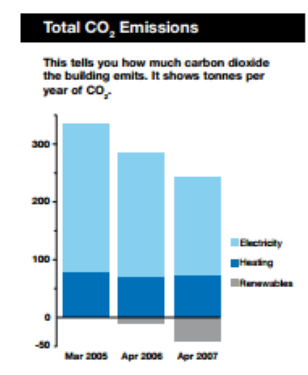
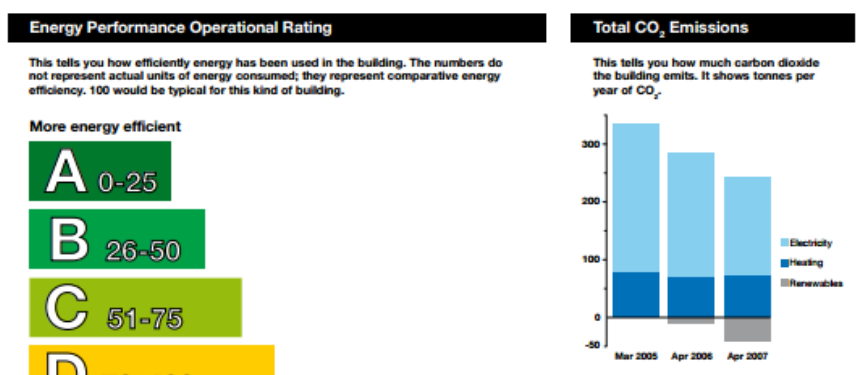
How efficiently is this building being used?

HM Government

A Government Dept
12th & 13th Floor
Jubilee House
High Street
Anytown
A1 2CD

Certificate Reference Number:
1234-1234-1234-1234

This certificate indicates how much energy is being used to operate this building. The operational rating is based on meter readings of all the energy actually used in the building. It is compared to a benchmark that represents performance indicative of all buildings of this type. There is more advice on how to interpret this information on the Government's website www.communities.gov.uk/epbd.



Technical information

This tells you technical information about how energy is used in this building. Consumption data based on actual readings.

Main heating fuel: Gas
Building Environment: Air Conditioned
Total useful floor area (m²): 2927
Asset Rating: 92

	Heating	Electrical
Annual Energy Use (kWh/m ² /year)	126	129
Typical Energy Use (kWh/m ² /year)	120	95
Energy from renewables	0%	20%

Administrative information

This is a Display Energy Certificate as defined in SI2007:991 as amended.

Assessment Software: QR v1
Property Reference: 891123776612
Assessor Name: John Smith
Assessor Number: ABC12345
Accreditation Scheme: ABC Accreditation Ltd
Employer/Trading Name: EnergyWatch Ltd
Employer/Trading Address: Alpha House, New Way, Birmingham, B2 1AA
Issue Date: 12 May 2007
Nominated Date: 01 Apr 2007
Valid Until: 31 Mar 2008
Related Party Disclosure: EnergyWatch are contracted as energy managers
Recommendations for improving the energy efficiency of the building are contained in Report Reference Number 1234-1234-1234-1234

United Kingdom

Building Energy Rating (BER)

DEAP Version X.Y

BER for the building detailed below is:

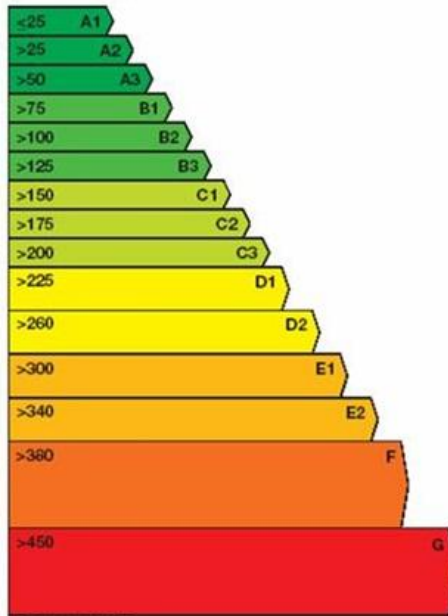
Name of House,
Street Name One, Street Name Two,
Town name One, Town Name Two,
County name One, County name Two,

BER Number: XXXXXXXXX
Date of Issue: Day Month Year
Valid Until: Day Month Year
BER Assessor No.: XXXX
Assessor Company No.: XXXX

The Building Energy Rating (BER) is an indication of the energy performance of this dwelling. It covers energy use for space heating, water heating, ventilation and lighting, calculated on the basis of standard occupancy. It is expressed as primary energy use per unit floor area per year (kWh/m²/yr).

'A' rated properties are the most energy efficient and will tend to have the lowest energy bills.

Building Energy Rating KWh/m²/yr MOST EFFICIENT



LEAST EFFICIENT

Carbon Dioxide (CO₂) Emissions Indicator kgCO₂/m²/yr

BEST
0

WORST
>120

The less CO₂ produced, the less the dwelling contributes to global warming.

IMPORTANT: This BER is calculated on the basis of data provided to and by the BER Assessor, and using the version of the assessment software quoted above. A future BER assigned to this dwelling may be different, as a result of changes to the dwelling or to the assessment software.

California Home Energy Rating Certificate

Poor Energy Performance

YOUR HOME

155

Best Energy Performance

250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0

Range for typical existing home 101-250

High Energy Efficiency / Solar Home

Information goes here on compliance with other programs!

Qualifying Information Goes Here!

HERS Provider and/or Sponsor Co-Branding Logos Go Here!

Energy Impact

Greenhouse Gas Emissions
Carbon Dioxide xxx tons/year

Energy Consumption
Electricity (kWh/year) ---
Cooling ---
Lights ---
Appliances ---
Total ---

Natural Gas (therms/year)
Space Heating ---
Water Heating ---
Total ---

Operating Cost (\$/year)
Electricity ---
Gas ---
Total ---

Renewable Energy Production
None

Ancillary Energy Uses
Swimming pool ---
Spa ---
Landscape lighting ---

Site Information

Address
123 Jones Street
Anywhere, California 9410x

General Information
Conditioned Floor Area 2,200 ft²
Bedrooms 4
House Type Single Family
Foundation Type Slab-on-Grade

Energy Efficiency Features

Insulation
Ceiling R-19
Wall R-11
Floor over crawlspace None
Slab Edge None

Windows
Frame Aluminum
Glazing Single

Heating System
Gas furnace, 0.80 AFUE
Unsealed air distribution ducts

Cooling System
None

Water Heating System
Gas storage type, 0.52 EF

Official Home Energy Rating
in conformance with the requirements of the California Energy Commission
www.energy.ca.gov

A_CA HERS Certificate.png

HERS Provider:
Acme Energy Rated Homes
934 Energy Efficient Way
Power Junction, California
www.AcmeEnergyRatedHomes.com

Rating Information
Rating Number xxxxx-xxxx
Certified Rater EEH, Inc.
Stockton, CA
Rating Date: January 04, yyyy

Rater Signature _____ Date _____

California

Building Energy Rating