

Are low voltage lights energy efficient

General Opinion

- LOW VOLTAGE does NOT always mean low in energy use as an example a 240 volt transformer converting to 12 volt diachronic down lights are still using a similar amount of energy as standard Globes.
 - Where as 240 volt down lights with low energy globes will reduce your energy bills
 - You can also obtain (certified fire safe) covers and place them over these low energy fittings to eliminate heat entering from the roof/ceiling space in summer through the fitting.
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Hungry Halogen Down Lights 12 Volt

General Opinion

- Today a significant amount of our lighting comes from downlights – in particular halogen downlights. Halogens are 12v MR16 lighting that is installed in roofs. Halogens generally use 50 watts plus a transformer (to convert the electricity from mains 240v to the 12v) which also uses between 10 – 15 watts. Halogens are low voltage lighting, but this does not mean that they are efficient' in fact they are the opposite.
- In the past a 100 watt incandescent globe was used to provide light for a standard room, now we are using at least 4 halogen downlights which equates to 220 watts to light a room instead of 100 watts. Halogen downlights are the epitome of modern interior design but not only are they extremely in-efficient but they are a fire risk.
- Imagine a toaster in your roof – that's exactly what a halogen is. Halogens create heat and as a by-product create light. Halogens can get up to 370 degrees Celsius and pose a significant fire risk especially if there is insulation on top of them. Halogens are a common cause of household fires.
- Lighting can contribute over 30% to your electricity bill, especially if your house is full of halogens. Simply replacing your halogens can reduce your electricity bill and reduce your carbon footprint.
- There are plenty of easy to do solutions to replace halogens and save money, reduce your household emissions and reduce the risk of fire



Low Energy Compact Fluorecent Downlights 240 Volt

General Opinion

- CFL Downlights are a great halogen alternative as they use significantly less energy and create less carbon emissions.
- CFL Downlights create the same warm white glow as halogens and can provide 1:1 light. CFL's generally take about 1 minute to get to full brightness and have a wider beam angle than halogens
- CFL Downlights generally run on 240v GU10 fittings which means you will have to replace your fittings well worth the savings both long term and for piece of mind



Steel Framing is termite and fire proof

General Opinion

- Don't be fooled by this statement
- Steel framed houses are still susceptible to TERMITE ATTACK and there is still the need for the regulated termite barriers & treatments in accordance with Building Code of Australia and the need for routine inspections to be carried out as termites destroy more than just the frame component in a building.
- You should be aware that the building frame of a home can act as a thermal bridge, particularly in cold weather, transferring heat and allowing it to bypass otherwise effective insulation.
- Generally the higher the conductivity of a material the more heat or cold it will conduct.
- Timber is a renewable resource and a fairly good thermal barrier. (ask someone who lives in a log home in Canada or a Swiss Alps chalet)
- Metal framing is a particular issue because of its high conductivity. (timber is a higher valued insulator) The presence of the frame reduces the overall insulation value, as the frame can constitute up to 15 percent of the wall, ceiling or floor surface.
- While this can be overcome with additional frame insulating it will probably add to your overall costs & the embodied energy required to produce the steel is greater than timber which is a managed renewable source



More reasons why I would build a healthy home and do i have a choice.

General Opinion

- If you could protect your family's long-term health and financial assets, without spending any more to build your new home, why wouldn't you?
- Low-toxicity alternatives to conventional pollutant products and materials are now being produced by most manufacturers, and should cost no more to purchase.
- Your home is your sanctuary. It should be a safe, comfortable, inviting place to retreat from the stresses of our everyday working lives.
- Be aware that it is a challenge to build a home making healthy choices instead of using the entrenched mentality of easy acquired that's what we always use and it's cheaper.
- Healthy Construction will drastically reduce the toxins in your home.
- Does it make sense to build anything but a healthy home.

Why should I build a healthy Home

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General Opinion

It is probable that the air pollution levels inside the average new home is 2 to 4 times less healthy than the air pollution levels outside.

- Indoor air pollution from chemicals has been linked to the rises in childhood asthma and respiratory diseases, and chemical sensitivity in adults.
 - Few of the chemical compounds used in the manufacture or treatment of conventional building materials are tested for their effects on humans.
 - Many dangerous compounds (e.g. pesticides, mildewcides, urea formaldehyde, vinyl chloride, chromated copper arsenate) are commonly found in conventional building materials.
 - The early 70's and 80's saw the construction of airtight homes and office buildings that keep heating and cooling costs down, but also trap all the chemicals inside with us!
 - Paints, carpets, insulation, caulking, adhesives, composite wood products, soil treatments, and fumes from natural gas appliances all produce toxic volatile organic compounds (VOCs).
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Does it cost more to live in a healthy home

General Opinion

- Most healthy materials cost no more some are even less! than conventional products, thanks to increasing awareness, demand and responsible product production. Labor costs may rise slightly if the chosen builders are not familiar with the materials or with healthy building techniques, but even then the total increase of the cost to build is recouped in a very short time.
 - Energy savings alone will make up for the extra cost in a year or so, and provide significant ongoing savings thereafter.
 - Current estimates are that an energy saving healthy house is 5-15% more valuable than a conventionally-built home and could increase significantly with probable home star ratings (similar to appliances) in the near future.
 - Most importantly, the health and well-being of you and your family members, and the avoidance of costly medical bills, are the best reasons to build a healthy, non-toxic home.
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How can I make my home healthier

General Opinion

Our criteria for a healthy home include the following possibilities:

- Locating areas of high toxicity and combustible materials such as the garage and other utility areas away from primary living spaces.
- Reductions in or ELIMINATION of chemicals such as formaldehyde, volatile organic compounds in adhesives, sealants and paints;
- Pesticides, fungicides and heavy metals through the use of non-toxic building materials and products.
- Mitigation of possible moulds and vermin by employing efficient use of building techniques and materials from the foundations to the roof.
- Utilization of passive airflow, daylighting, and fresh air exchange through proper placement of windows and doors to achieve cross ventilation.

The benefits are

- homes that are safer, more comfortable, and require less maintenance.
 - A healthy home is also more energy efficient, and therefore incurs lower operating expense
 - Probable increase in the occupants health and well being
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What are the options for reducing energy usage and can I get paid for using them

General Opinion

- o One of the more cutting edge renewable energy sources currently available is geothermal (ground source heat pumps) which are gaining in popularity, and has been used in Australian public buildings for many years.
 - o Ground source heat pumps can also be used to COOL your home in summer
 - o More common are photovoltaic solar electricity panels and gas boosted solar hot water systems that can be designed so as to blend in with the building
 - o Connect Solar to the Grid and you could get Paid for the excess energy you put into your utility supplier
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Building Design is a complex task it is not as simple as drawing a set of plans

General Opinion

- o The Design is one of the most important elements in creating a new home. Building Design is a complex task it is not as simple as drawing a set of plans or pretty pictures and Proper planning will save on building expenses and more importantly preserve the impact on this planet over the life of the building.
 - o Every building site is unique and every client has their own ideas and visions. It is the thought and enthusiasm of the involved Parties that will combine this collection of ideas and make the most of the possibilities and practicalities
 - o Planing the layout of your building in terms of orientation, flow and form to use the maximum advantage of passive design principles, such as solar access and natural ventilation. The correct orientation increases the energy efficiency of a home, making it more comfortable to live in and cheaper to run.
 - o Determine and Balance the climatic features available to enhance and increase your comfort and most importantly decrease your energy use. Is solar access and or access to cooling breezes your priority. Which one is more important in your local climate
 - o Planning controls location and surrounding buildings can have a major influence over your design. Check with your local Council for easements, setbacks and building restrictions before purchasing land or an existing property.
 - o Consider the aspect and orientation of your purchase carefully.
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Making less Impact on this planet

General Opinion

- o Make more efficient use of natural materials.
 - o Minimise the amount of waste during construction.
 - o Use materials with the least possible environmental impact.
 - o Consider the operational and entire life cycle performance of materials in the design. Use fully recycled materials or materials with recycled content where possible.
 - o Choose materials with a lifespan equivalent to the projected life of the building.
 - o Design and build for de-construction, re-use, adaptation, modification and recycling.
 - o Consider how and where the materials are sourced and the impacts this causes.
 - o Minimise the energy used to heat and cool the building by using materials that effectively modify the climatic extremes.
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I need a large family home and i will get more for my money by building a bigger home when i come to resell it wont I

General Opinion

- o Before you buy a home consider what you are going to do with all that wasted space that you will be paying for and will continue to pay for in energy bills every month even when the kids have grown up and left home

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- Would it not be smarter to design the required functional spaces needed efficiently right from the start.
 - The internal arrangement of rooms and spaces should reflect not only the functional relationships between spaces, but also the grouping or zoning of spaces with similar heating, cooling and lighting requirements to help reduce energy consumption.
 - See re-examine our needs
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Should we review and re-examine our needs and requirements.

General Opinion

- Modeling allows you to review and re-examine your needs and requirements. For example, reducing the size and scope of the building,
 - As homes get bigger and bigger and we are expecting to get more for our money they become much harder to heat & cool efficiently in turn costing much more in the longer term, a carefully planned building will be more beneficial as your utility bills WILL increase in cost.
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Is there anything i can do for my buildings health

General Opinion

- The selection of finishes such as floor and wall coverings may have consequences for your health.
 - Many adhesives, paints and finishes have volatile organic compounds (VOCs) that are known carcinogens and toxic to human health.
 - A high standard of indoor air quality can be achieved by avoiding these products altogether and specifying environmentally friendly alternatives.
 - For example, natural oils and waxes along with many bio-paints that are available for internal and external painting like the [PORTERS PAINTS](#) range in Absolutely Fantastic Colours and Environmentally Responsible
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Will insulation help me keep my home cool

General Opinion

- Good Quality and higher R rated insulation, coupled with energy efficient appliances & building materials will in turn improve the energy efficiency of the building.
 - This in turn increases the occupants thermal comfort and reduces operating costs and greenhouse gas emissions over the buildings life cycle
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