

# Buildings Baseline

## Total GHG Residential Building Emissions

**100,695 tonnes CO<sub>2</sub>e**

### Sources of emissions in this sector

Buildings use energy for heating, cooling, lighting, hot water, cooking, appliances and equipment.

With no major energy-intensive industry in Byron Shire, buildings account for the majority of energy use.

Estimated **number of households in the Shire in 2015: 14,007**

### Energy use in residential & commercial buildings

Depends on factors such as:

- Building size
- Intensity of use
- Efficiency of use
- Construction type
- Local climate

A typical Byron Shire home has been estimated to consume 90MJ/day of electricity (33 GJ/annum) as shown in the table at right.

Item	Energy (MJ/day)
Space conditioning	13
Lighting	10
Hot water	22
Appliances & equipment	36
Cooking	6
<b>Total</b>	<b>90</b>

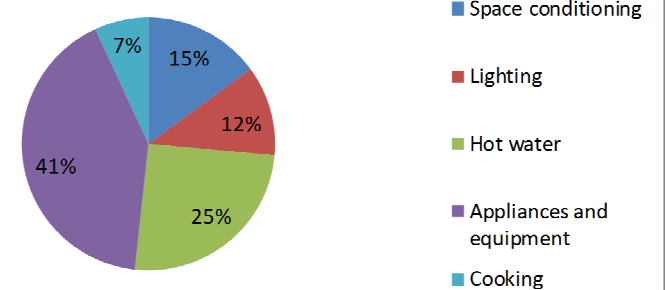
Annual GHG emissions from **electricity use: 96,768 tonnes CO<sub>2</sub>e.**

Annual GHG emissions from **liquefied natural gas use: 3,927 tonnes CO<sub>2</sub>e.**

### Mitigation targets:

- A typical Byron Shire home could **reduce its electricity consumption by 48%** through using reverse-cycle air conditioning and LED lights.
- Use BZE's **Energy Freedom initiative** to implement an information and education campaign for households
- Energy Freedom's 9-step approach **eliminates energy bills and reduces household energy emissions to near zero** (via rooftop solar + energy efficiency). Allows householders to **stop using gas.**
- The capacity of household **solar PV** could be greatly increased from today's level of about 9MW. Potential for this to be increased by up to **48MW.**
- Potential for all home energy requirements to be met with rooftop **solar PV.**
- The **development of community energy schemes** could contribute to lowering emissions in the buildings sector.

### Estimated average electricity use for households in Byron Shire



### Total emissions from the residential buildings sector

