

Double Glaze Matters

JANUARY 2017

Alan Cuthbertson

alan@diydoubleglaze.com.au

2016 -The Hottest on Record

Once again we set a new record for world temperature last year. 2016 was .07 degrees higher than 2015. Each of the last 3 years have been the hottest on record.

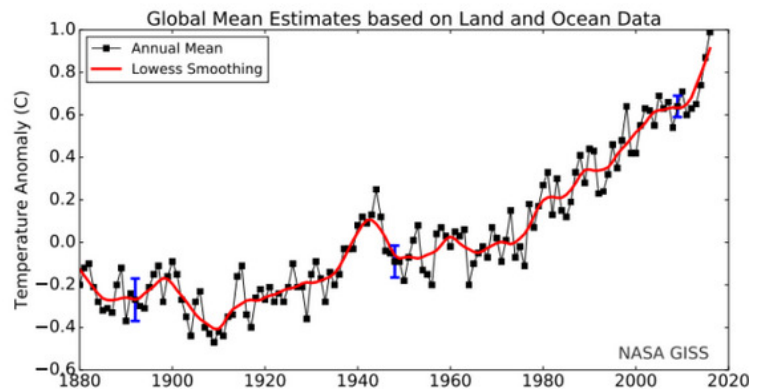
There are many ways of saying the same thing:

- 16 of the world's hottest years were this century
- The 2014 record will probably be exceeded every year after 2024
- If you are aged under 35, you have never seen an average temperature month
- Global temperatures have risen 0.07 degrees per decade since 1880, accelerating to 0.17-degree per decade since 1970

Summary—The world is heating up - the increase in the last 3 years is quite dramatic and concerning

Solar Panels for Araluen

A big thankyou to all those who have offered support for Araluen. Things are progressing and I will get an update to all by the end of February



Franciscus Henri's contribution ...

Solar Panel Shading

It has always seemed difficult to calculate the impact of shading on solar panels. However this site has a very easy way to handle it:

http://www.builditsolar.com/SiteSurvey/site_survey.htm

Basically you print out a Sun map for your latitude (see below). This shows the path of the sun for 20th of the month for 7 months of the year.

For instance on the 20th March it rises at 6am at 90 degrees (due East). At midday it reaches 53 degrees and sets -90 degrees (due West) at 6 pm

On 21st Dec it rises at 4.40 am at 120 degrees (almost South East). At midday it reaches 76 degrees and sets -120 degrees (almost South West) at 7:20 pm

Then you sit on the roof and check the horizon angle in 6 different directions to give the shade map (see below). You

can see, that most of my shading is to the West.

Looking at my map, you can count the hours of shading, approx 26, out of 84, or 35%. This seems very high, but the impact on power is much less. Basically, the shading occurs when the sun is at a very low angle, so it has little impact on power production. Also, because my panels point north, they will never get the evening sun beyond due west (-90 degrees)

I used a spreadsheet that calculates the power generated each hour for my roof and found the shading only reduces the power generated by 6%. It would be a very different story if the shading was in a northerly direction.

There are phone apps that do the same thing. You stand on the roof and photograph the horizon. It then calculates everything. My way is not as accurate but it is easier to understand what is happening.

Note: The web site above talks about his program that calculates power generated. It looks good, but unfortunately it has been temporarily removed due to some bugs.

