

“ Energy savings pay for our **VELUX skylights** in less than 2 years! ”

CASE STUDY

CHALLENGE

SOLUTION

RESULT



VELUX skylights were not part of the plan when Bill Aggenbach built his new Carpet Choice in Wangaratta. But when the roof was installed he realised he needed more light.

“ CHALLENGE: LOTS OF SPACE – LACK OF LIGHT ”



Bill Aggenbach's Carpet Choice in Wangaratta three hours north of Melbourne has been in the same spot for more than two decades. Operating from two old woolsheds since 1986, Bill decided to build new premises in 2006.

"85% of our customers are female and they appreciate good presentation. So we decided to build new premises, consisting of showroom, mezzanine and warehouse/preparation area, a total of 2,372 m²."

"At first, we didn't even consider skylights. We had skylights in our old premises and not only were they too hot during summer, they also caused our stocked carpets to fade. We often had to throw away the first meter or so on a roll. But when our new roof was installed, we realised how dark it would be inside."

"I discussed it with our building designer. He suggested VELUX skylights, claiming they would block out most of the heat and almost all UV rays. I'm sceptical by nature but I did my research and discovered that he was right. Initially we installed three VELUX in our warehouse/preparation area and found them sensational...so soon after we ordered two more."

△ With five VELUX skylights in the warehouse/preparation area, there is little need for the ten 400w lamps.

▶ Carpet Choice, Wangaratta, operated out of these two old woolsheds for 20 years.





VELUX skylights block UV rays so that brand new carpets can be placed right underneath without risk of fading.



Building designer Robert Rowland uses VELUX to provide light without heat.

SOLUTION: VELUX: LIGHT WITHOUT HEAT

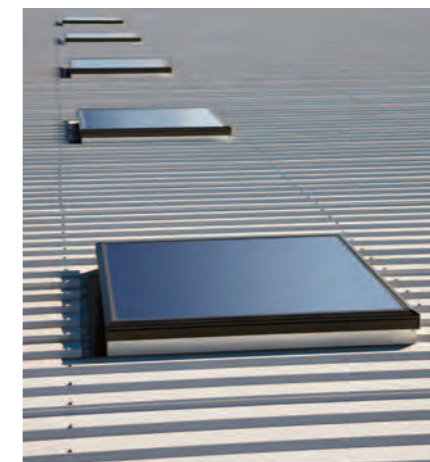
Building designer Robert Rowland was the one suggesting VELUX for Bill Aggenbach's new building.

"I have specified VELUX for at least a handful of jobs, primarily domestic residences. So when Bill presented the problem – he wanted light but no heat or UV – I knew VELUX was the answer. They let the light in but keep the heat, the cold and the UV rays out. Besides, they won't leak – even on a flat roof like Bill's."

"I remember the day the first VELUX were installed. It was a 42°C summer's day and I honestly felt sorry for the poor guy installing them. But he was standing there underneath the VELUX without even bothering to put his cap on! That convinced even Bill, I think."

At present Bill Aggenbach has five VELUX FCM skylights installed in the warehouse/preparation area and two more on the mezzanine. But he is planning for more.

"Before the end of the year we will install five more VELUX in the warehouse/preparation area and four more on the mezzanine. A total of 16 which will give us all the light we'll ever need. Unfortunately the mezzanine is above our showroom so we can't have VELUX in the showroom. They would really add something special there!"



VELUX FCM skylights are designed for commercial applications and flat roofs. For Bill Aggenbach, 0074 glazing was used to meet AS1288 3m+ height requirements.



VELUX skylights save so much energy that Bill Aggenbach's investment will be paid back in less than two years. Over 20 years he saves \$28,800 (see chart below).

The mezzanine floor is right above the showroom...otherwise Bill would install VELUX in the showroom as well. ▾



Carpet Choice's Reg Carmody enjoys the natural light when he is cutting and colour matching carpet. ▷



“ RESULT: MORE LIGHT – LESS COST ”

So...at the end of the day, how would Bill summarise the result?

"VELUX provide all the light we need without the side effects you usually associate with skylights. The heat gain is minimal and the UV block prevents fading. We place carpets right underneath our VELUX and there is no fading whatsoever."

"The natural light creates a pleasant environment, much appreciated by both staff and customers. An added bonus for an industry like ours is that natural light makes colour choice and colour matching much easier. The colour you see is the colour you get."

"In terms of money, VELUX is an excellent investment. Each of my VELUX is about \$500 but that investment is quickly

recouped in saved energy. In the warehouse/preparation area alone we have ten 400w lamps that would need to run non-stop without VELUX. Our VELUX allow us to have them switched off all day every day, except maybe for an hour on a dark winter morning."

Reg Carmody has been working for Bill Aggenbach's Carpet Choice nearly 15 years. Much of his working day is spent underneath the VELUX skylights in the warehouse/preparation area.

"I'm a country boy so I don't like being locked in a shed all day. VELUX gives me a clear view to the sky so that it almost feels like I'm out in the open. They definitely make my day nicer and my work easier. Natural light is so much better when I'm cutting and colour matching carpet."

HOW VELUX SAVES \$28,800 IN ENERGY...

Bill Aggenbach has ten 400w lamps in the warehouse/preparation area, consuming a total of 4000w. At an estimated kWh price of 15c, the energy cost is 60c per hour. His five VELUX skylights allow him to turn the lamps off and save 60c per hour.

In an 8-hour day Bill saves 8x60c=\$4.80 in electricity. With approximately 300 working days in a year his total annual savings are \$1,440 (300x\$4.80).

With an estimated lifespan of 20 years, Bill's VELUX skylights will save him a total of \$28,800 in energy costs (20x\$1,440).

Bill's five VELUX skylights cost \$509 each, a total of \$2,545. Over 20 years his net savings will be \$28,800-\$2,545=\$26,255. With annual energy savings of \$1,440, the payback time for his VELUX skylights is 1.8 years (2,545:1,440).

THE NUMBERS

Total energy savings (\$1,440 annually for 20 years)	\$28,800
Five VELUX FCM skylights (each \$509)	\$2,545
Net savings	\$26,255

The calculations are based on 2009 prices and do not take installation costs and consumables (light-bulbs and lamps) into account. Please note that each VELUX installation is different and that the numbers in the chart only apply to this case study.

VELUX®

VELUX Australia Pty Ltd

Telephone: 1300 859 856

Fax: (02) 9550 3289

Email: customer.service@VELUX.com.au

Website: www.VELUX.com.au

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