



**Our new more efficient compressor means we now have less down time – and of course the savings are fantastic.**

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# Chemson Pacific: energy efficiency brings big rewards

The actions we have taken based on the recommendations in our energy audit, especially in replacing our aging compressor, are really paying dividends.

## ABOUT US

We have been operating since 1987 and are the market leader for polyvinyl chloride (PVC) additives in Australia and New Zealand. Our PVC additives are used to vary the properties of PVC – for example to soften it, colour it, or make it longer lasting.

We operate three production lines at our plant located at Eastern Creek, and employ the equivalent of 17 full time workers.

## OUR SITUATION

We had some old equipment including a 15 year old fixed speed compressor that operates our eleven vacuum conveyors which move materials for our various processes including mixing, granulating, pelletising and packing. This compressor used to breakdown regularly, almost on a monthly basis.

## BY THE NUMBERS

### Implementation costs:

Compressor – \$233,000  
Solar panels – \$225,000  
Solar HWS – \$7100

Office lighting upgrade when completed – \$4500 approx

### Cost savings:

\$46,000 per year – 37% of total energy cost

### Energy savings:

250 MWh per year – 34%

**Simple payback:** 10 years



Chemson's 100kW solar power system



New energy efficient compressor with blue storage tank

We also had only one electric hot water system for all our staff showers. As health and safety regulations require our workers to shower before going home, it meant they had to wait for hot water before they could leave. This was frustrating for our workers and not an efficient use of our staff's time.

## WHAT WE DID

We had already made some energy efficiency improvements such as upgrading our warehouse lighting and installing power factor correction equipment following an earlier energy audit.

We replaced our aging compressor with a highly efficient, variable speed compressor fitted with auto-stop technology that means it shuts off if one of our process lines ceases operation. Because we intend to be around for the long haul, and because energy prices continue to increase, we made the decision to invest in a 100kW solar power system which will put us on a sound footing for the future.

We replaced our hot water heater with an electric boosted solar one which has bigger capacity and better heating cycle to deal with hot water demands in the staff showers. We are also progressively replacing the existing fluorescent lighting in our office spaces and bathrooms with highly efficient fluorescents.

## THE RESULTS

We have cut our energy consumption by more than a third, which is fantastic, but the other benefits have been just as exciting. The new compressor with variable speed drive means that it responds to match the pace of our production lines instead of operating at full speed the entire time. It also shuts down automatically when production stops, and of course doesn't break down every month. This has resulted in a significant increase in our productivity and we no longer have production staff standing idle, or needing to be re-deployed to sweep floors while the compressor is down.

The new hot water service means we no longer have complaints from staff waiting for the shower water to heat up and they can also finish their working day quicker.

## THE TECHNOLOGIES

### Compressed air

Compressed air is one of the most costly process aids in the manufacturing industry and is so widely used that it is sometimes referred to as the fourth utility after electricity, gas and water. It's important to ensure that compressed air systems are working efficiently.

### Solar power systems

The most commonly installed system uses photovoltaic cells or PV cells, which consists of semi-conductors that convert the sun's light (solar energy) into electrical energy. The Office of Environment & Heritage (OEH) has information on solar power financing options for businesses.

### Energy efficient lighting

Energy efficient lighting uses less energy without compromising brightness and quality. OEH's Energy efficient lighting report provides information on technologies and costs to help you determine the best option for your needs.

## TAKE ACTION

To find out more about saving on your energy costs, contact the Energy Efficient Business team.

### EMAIL

[energy.saver@environment.nsw.gov.au](mailto:energy.saver@environment.nsw.gov.au)

### CALL

1300 361 967 (ask for the Energy Efficient Business team)

### VISIT

[environment.nsw.gov.au/business](http://environment.nsw.gov.au/business)