TOWARDS ZERO

SUMMARY

A JOURNEY OF THE HOUSEHOLD OF ZHANG

Towards Zero: a journey of the household of Zhang

Our PV system is designed to generate 3 times more electricity than our usage to offset two major emissions: gas and transport.

By using the Household Calculator, I can document the emissions. The system has exported more renewable energy to the grid than our usage, and it has also offset other emissions.

The data shows our household achieved the "Towards Zero" target in the last year.

The system has also significantly reduced our electricity bills. The investment will be recovered in 3 years.

The design principle is simple:

Emission Offset = Reduction + Consumption - Generation.

The offset from the PV has been combined with other reduction actions we have been able to make:

a) Design a new house with a large living area but a small emission footprint. We went above the standard of 6 Star Energy Rating.
b) Install solar hot water system with twin heat collectors and a large tank for storage.
c) Install highly efficient cooling.
d) Install highly efficient woodfire heating unit because wood is s a renewable fuel.

Apart from the “hardware”, there is also a “software”.

Behaviour change reduces consumption. It is done by each person: turning off the lights, using public transport, setting the temperatures to 20C for heating, 24C for cooling, etc.

It is our behaviour change that has made the Towards Zero target achievable.

Overall, our quality of life has not been reduced, but rather improved. We live comfortably and healthier, and our lives are more connected with the environment.

You don’t have to build a new house to make a change.

Over the years, we have done many things to reduce waste as the main method of caring for the environment. Please see the other document “10 things to reduce waste”.

You can make a change.

Rev Dr Ji Zhang