



# Riding on a sunbeam

**If you are weary of spending a small fortune filling up your car with petrol, Matthew Timmins has a one-cent-a-kilometre alternative.**

The Mosman Park resident and University of WA researcher makes solar-powered electric bikes and says they are a cheap and environmentally friendly way to get around.

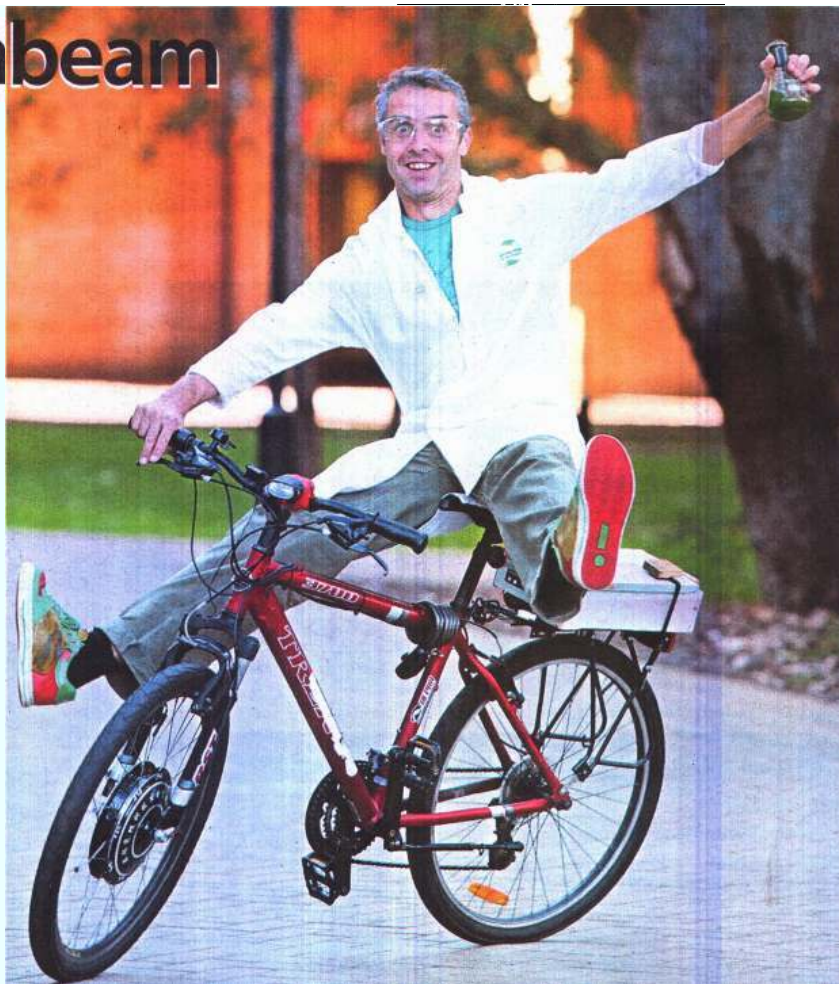
"I've sold about 50 in the past year," he said. "Everyone I've sold one to absolutely loves them and finds it hard to imagine how they got around without one."

"I make conversion kits that can be put on nearly any bike to make it electric, healthy, fast and cheap transport."

The converted bikes are recharged using a solar module or normal household power.

The module is not mounted on the bike: it stays at home in a sunny area collecting energy all day.

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**Free power ...** Matthew Timmins celebrates the success of his solar-powered battery and motor packs. The electric motor is circular and is embedded in the front hub of this bike.



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“When you return home in the evening you connect the two systems and the energy is transferred from the solar module to the bicycle,” Matthew said.

“If you can’t use a solar module then you can recharge the bicycle from any home power outlet.”

It is a challenge getting the balance right with the solar bikes: the heavier the equipment, the faster it goes – but it also costs more.

“The balance we are aiming for with the conversion kits is affordable price, strong motors and the most advanced lithium ion batteries,” Matthew said.

“We are constantly testing new motors and researching better battery and solar systems with the aim to provide a simple, high quality, affordable and durable system for anyone to use.”

Matthew said it was possible to travel more than 30km on one charge – further if riders pedalled.

“They are a joy to ride: healthy, quiet and relaxing and are ideal for people travelling up to 40km each day,” he said.

“Because the bicycle is so much more enjoyable to ride than a regular bike you use it far more often.

“You will use it for most journeys and when you do you will have no concerns for hills, traffic, parking, getting sweaty, wind or distance.”

The cost is about \$800 for a conversion kit.

The motors are brushless, which means the only moving part is the wheel.

“They will last a long time with no maintenance,” Matthew said. “The only additional cost there should be a new battery every three to five years.

“This works out to be about one cent per kilometre.”

One new solar bike rider is Cottesloe policeman Lee Rudrum. He commutes to his Curtin Avenue station from home: a round trip of about 25km.

“It’s a great bike and I’m on it just about every day,” he said. “You can pedal, use power or have a combination.

“You have to keep fit being a policeman, and going to the gym bores me. If I jump on the bike I just have to start pedalling and get to work.”

The solar bikes are just the start, Matthew believes: he would like to devise bikes powered by solar hydrogen and then algae hydrogen.

Contact Matthew via [solarbike.com.au](http://solarbike.com.au).