Fag end of research find
Jamie First

The ever-present image of cigarette butts littering our walkways and cities may become a thing of the past.

South Korean researchers have discovered a simple process to turn used fag filters into a high-performing material that allows computers, phones, cars and wind turbines to store energy.

Publishing their findings in the journal *Nanotechnology*, the scientists showed the material performing better than what is commercially available today.

The substance will be used to coat the electrodes of supercapacitors, which store large amounts of electrical energy, charging and discharging much faster than batteries.

RMIT University research fellow at the centre for design and society Simon Lockrey said it's an interesting and exciting development.

"It shows there is value in doing research with materials that are outside the square," he said.

"The quest for high-density and high-performance energy storage is like the golden egg. Once you get a significant improvement, you really are ahead of the game and breaking a new market open."

He said the recycled creation has potential for many industries.

"This could be utilised in a range of technology platforms where you are required to use these capacitors, such as automotive, telecommunications and infrastructure."

But, Mr Lockrey said while it has altruistic qualities, its viability has to be questioned.

"It's all fine and dandy that a study has been done, but then you have to think 'how do we make it a commercial reality and saleable, how do we make it a standardised commodity that we could apply?'

"You've got to take it with a grain of salt, whether it's feasible or not."

He said the researchers needed to prove the product wasn't cost-prohibitive and would sustain itself through time.

Study co-author Professor Jongheop Yi, from Seoul National University, was hopeful their green solution would also meet society's energy demands.

"Numerous countries are developing strict regulations to avoid the trillions of toxic and non-biodegradable used cigarette filters that are disposed of into the environment each year; our method is just one way of achieving this," Prof Yi said.

As many as 5.6 trillion cigarette butts are flicked onto the world's streets each year.