

RECYCLING PVC PIPES

DON'T DUMP IT - RECYCLE IT!

When Rob Southey from Berrygood Farm in the northern Sydney suburb of Galston needed to downsize, he had to decide what to do with surplus PVC pipes. He could have just thrown them away. Instead, with some help from Vinidex, these pipes have now begun a whole new life cycle.

Berrygood Farm grows delicious hydroponic strawberries which are sold to providores, the markets or direct to the public at the front gate. The fruit is grown using PVC pipes to supply water and nutrients to the strawberry plants.



The PVC pipes are set up in an A-frame structure with plants at several heights. Each plant is held in a small PVC tube which sits in a hole in the main A-frame pipe. Within each greenhouse there are many rows of A-frames, so when one greenhouse



was dismantled, there were 12.8 km of PVC pipe and thousands of small PVC tubes to dispose of.

Of course, the pipes couldn't be re-used for any other application because they were full of holes, so Rob considered sending them to landfill. This method of disposal would have been expensive, given the volume of material. Eventually, Rob contacted Vinidex who offered to collect the pipes and arrange for them to be recycled.

The pipes and tube sections were collected by Vinidex and held briefly at the Smithfield site before being sent to Cryogrind in Victoria. Here they were cleaned to remove any residual material from the farm, then ground into pieces about 6mm in size. Finally, the reground material was bagged and returned to Vinidex at the PVC plant in Sunshine, Melbourne.

At Sunshine, the recycled material was successfully reprocessed into 90mm stormwater pipes – exactly what

they had been in their previous life. All these new pipes have now been sold into the market place. What might have ended up in landfill is now performing another useful function

So how great is the benefit to the environment? The embodied energy of PVC pipes compares favourably to alternative pipe materials. Even so, more than 90% of the embodied energy in a pipe comes from the manufacture of the PVC raw material.

On the other hand, the cleaning and regrounding processes needed to recycle the old pipes into material suitable for extrusion is estimated to require only 10% of the energy required to produce the same amount of virgin PVC.



For the 7 tonnes of pipe recycled in this case, a conservative estimate gives a saving of about 350 GJ of primary energy, or 30 tonnes of CO₂.