

Circular solution reduces plastic waste in Australian wine industry

ENVIRONMENT – ANDREW SPENCE OCT 8TH 2019

A vineyard drip tube recycling program in South Australia is proving the viability of the circular economy for an increasingly sustainable wine industry.



The program has recycled 1500km of drip tube this year, yielding 110 tonnes of resin that has been turned into irrigation pipe and plastic-coated vineyard posts.

It is a rare recycling success story in a tough market since China stopped importing plastic waste in January 2018, effectively reducing the value of recycled plastic in Australia to zero.

The project is managed by Adelaide-based business [Sustaining Endeavour](#) in partnership with [Netafim Australia](#), [Woodshield](#) and [Recycling Plastics Australia \(RPA\)](#).

Sustaining Endeavour tracks the amount of end-of-life drip tube available for recycling in various regions of South Australia and schedules consignments for recycling with RPA.

Netafim and Woodshield then purchase the recycled resin from RPA. Woodshield uses it to produce its posts for the viticulture, aquaculture, equine and agriculture industries while Netafim uses the resin to make general purpose LDPE irrigation pipe for use by nurseries, landscapers, horticulturalists and some vineyards.

With the help of grants and Sustaining Endeavour as project manager, Netafim has also funded the purchase of three re-coiling machines, which are owned by regional supply partners in the South Australian wine regions of McLaren Vale, Barossa and Langhorne Creek.

When a grower goes in to buy irrigation supplies to replace their old drip tube, the supply store offers to loan the recoiling machine to safely recoil their used drip tube. This allows for denser bundles of drip tube for recycling, easing the freight burden for the grower.



Giulio Dimasi from d’Arenberg, which has installed Woodshield posts in some of its McLaren Vale vineyards.

Sustaining Endeavour manager Uma Preston said while plastic recycling programs were common among packaging producers, they were extremely rare when it came to durables. “What we’ve done here is demonstrate what can be done to manage end of life plastic – it’s a pragmatic response and it shifts a grower’s focus when they need a recycling solution beyond ‘I need my waste gone’,” she said. “But it needs commitment from the whole supply chain. “It’s not just recyclers that you need, you also need manufacturers who are prepared to take the recycled resin and then you want growers to support the recycled (end) products.

“For a long-term sustainable model you need a perfect circular economy where the commitments are matched all the way around the circle.”

Netafim has been recycling its dripper tube for several years but the partnership with Sustainable Endeavours, which began in the 2016/17 financial year, has formalised the program and led to higher volumes from more wine regions.

Sustainable Endeavour collected 43 tonnes of drip tubing in its first year mainly from the South Australian wine region of McLaren Vale but stopped when the recycler closed its doors. The sale of the Adelaide-based recycling business and its reopening in December 2018 has allowed the program to start again. Sustaining Endeavour helps growers organise to transport their bundles of recoiled drip tube to the Recycling Plastics Australia facility in Adelaide’s northern suburbs. However, the fact that end-of-life drip tube no longer has a monetary value means transport costs cannot be offset and growers need to cover their own freight costs.



Uma Preston with some partially processed driptube at RPA's recycling facility in Adelaide.

"I also charge \$1 per kilometre and a \$25 processing fee," Preston said.

"I think that's reflective of where the value of recycled plastic is now and all the businesses in this circular economy we've all given as much as we can in terms of commitment to keep that price as low as possible and to keep it happening."

Preston said she was now seeking to work with growers, suppliers and transport operators to find an affordable way to bring South Australia's Riverland – Australia's largest wine growing region – into the program.

"In Australia there's 463,718km of vines and a little over half is in South Australia – 240,395km," she said.

"About half of this is in the Riverland – 120,000km. There's a lot of drip tube out there and a certain amount every year is going to reach end of life and my suspicion is that there is certainly enough for me to reach 200 tonnes of resin by the end of this financial year.

"But if there isn't support for the products that the recycled resin goes in to, you can't maintain a recycling program or pursue expansion."

Participating wineries that have used the recycling program and purchased products containing the recycled resin from RPA include d'Arenberg, which uses the Woodshield posts in its vineyards and Henschke Cellars, which has used the Netafim low-density polyethylene (LDPE) pipe to help establish native seedlings as part of its integrated pest management strategy.

Netafim Australia business development manager Peter Durand said he was not aware of another irrigation company with a similar full cycle recycling program.

He said the company began marketing its LDPE pipe containing recycled material last month and was confident the product would be well received.

"We are now feeling that there's a place in the market for that sort of message and Uma has been quite instrumental in pushing for that," Durand said.

"We deal with a lot of corporate wine industry clients and sustainability is something they are taking into consideration more and more when they make purchasing choices."

However Durand said because the recovered material no longer had a value, Netafim had to absorb some of the cost for transporting the recycled resin to its manufacturing facility in Victoria.



Sustaining Endeavour Marketing and Social Media Coordinator Shivani Preston with Henschke Cellars Vineyard Manager Craig Markby at Henschke's Lenswood vineyards in the Adelaide Hills.

“We are now accepting that it might have to be a bit less profitable in order to do the right thing and I think everyone in the circular economy is a bit the same – everyone at each step needs to give a little.”

Woodshield business development manager Ashley Davidson said using the recycled plastic fitted in well with the company’s strategy of producing a premium post with a small carbon footprint.

He said the product began as a stronger, longer lasting alternative to the chemically treated wooden posts traditionally used in vineyards and had also been used at oyster farms, horse properties and playgrounds in Australia, New Zealand and Japan.

“The whole ethos with us was to have untreated timber so there was no chemicals in the wood and if you put plastic over the timber you give it extra strength and more flexibility,” Davidson said.

“Our product was designed for vineyards in South Australia because of all the breakages that were happening when they do mechanical harvesting – the treated posts were rotting at ground level and cracking and snapping.

“The popularity of our product in the beginning was because we were a sustainable option and it lasts four to five times longer than treated timber.

“Now there’s a bit more pressure on to utilise recycled products so working with Uma the whole aim is to get people to think beyond the bottom line.”



Woodshield posts are used in equine, viticulture and aquaculture industries.

Recycling Plastics Australia general manager Stephen Scherer said the recycler had a strategy of working with companies wanting to take responsibility for their products. He said there had been a noticeable shift in the attitudes of younger people on sustainability and environmental issues.

“When Millennials go to the shop they don’t view things purely commercially like previous generations did.

“Now there is a much more significant environmental conversation going on about how we use our resources and what effort we put into reusing and minimising the loss of those resources.

“It’s those types of activities we want to participate in and anything that’s modelling the circular economy is interesting to me.

“It is a way for us to be sustainable in the long term and if we’re not participating in the responsible use of our own resources, at some point we’ll be held accountable.”