

BIOSOLIDS

biosolids

A \$76 million biosolids thermal drying facility will provide an environmentally sustainable solution to the treatment of biosolids – a by-product of sewage treatment. The facility is being built adjacent to the Black Rock Water Reclamation Plant near Breamlea and is due to be completed in early 2010.

WHAT ARE BIOSOLIDS?

Sewage treatment uses microscopic organisms to break down and digest waste. Biosolids are composed mostly of dead micro-organisms, plus small amounts of trace elements and other inert materials. Our region's water reclamation plants currently produce more than 40,000 tonnes of wet biosolids every year.

FROM BY-PRODUCT TO RESOURCE

When dried, biosolids become a useful resource. Being rich in organic material and nutrients, they make excellent fertiliser. Dried biosolids are also combustible, making them a viable fossil fuel replacement. Currently the biosolids produced at the Black Rock facility have a high moisture content – around 85 per cent water – so must be dried before they can be re-used.

CURRENT PRACTICES

Presently, biosolids are trucked daily from Black Rock and Barwon Water's smaller water reclamation plants to Melbourne Water's Western Treatment Plant in Werribee. They are stored, spread over a large clay drying pan, periodically turned and gradually air dried over many months. This practice is no longer environmentally sustainable.

MOVING FORWARD

Barwon Water, in partnership with Plenary Environment, is constructing a new facility on the Black Rock site to dry and pelletise biosolids for re-use. The new thermal drying plant will result in 40 per cent fewer greenhouse emissions, require 80 per cent less land and reduce transport by 1000 truckloads annually.

ABOUT PLENARY ENVIRONMENT

Plenary Environment has a 20-year contract with Barwon Water to design, build and operate the new facility. The Plenary group is an Australian-owned business with expertise in the development and operation of public infrastructure. Other Plenary projects include the Casey Hospital in Berwick, the Victorian College of Pharmacy in Parkville and the \$1.4 billion Melbourne Convention and Exhibition Centre.



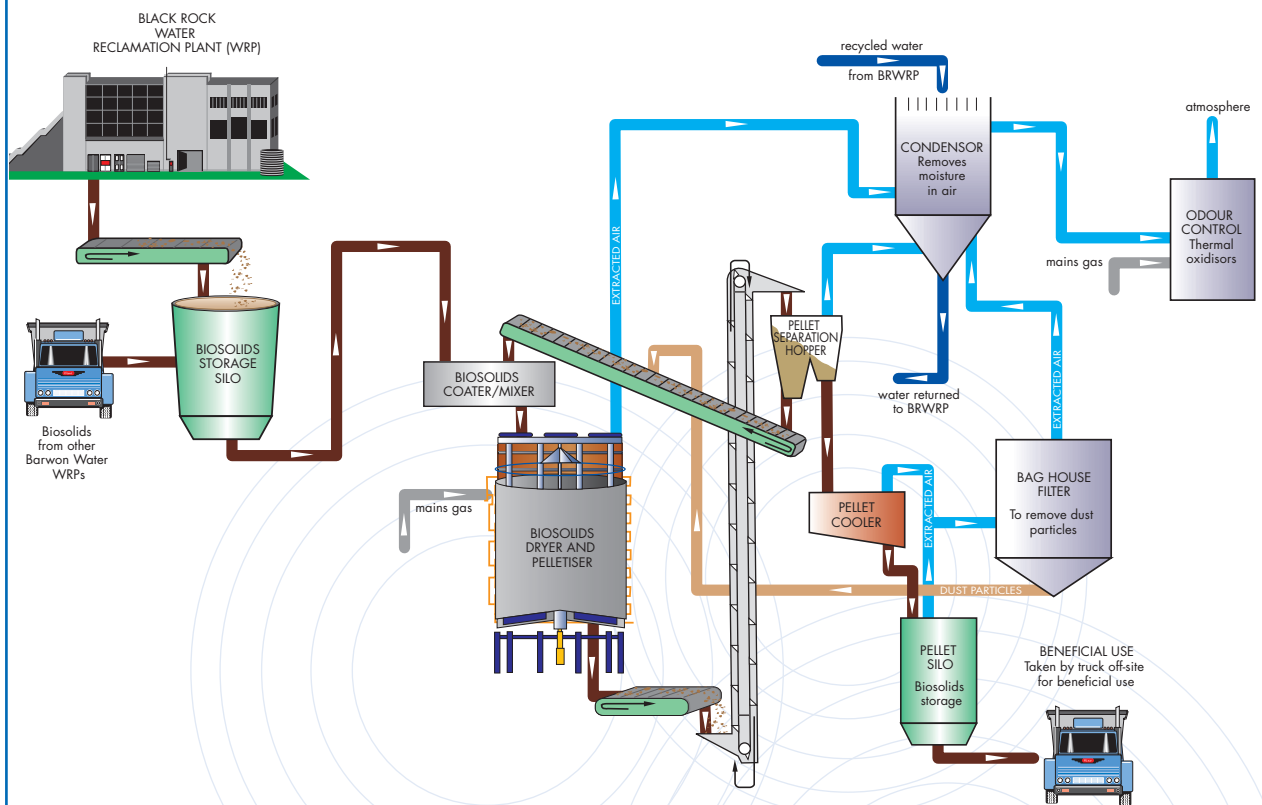
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HOW WILL THE PLANT WORK?

The drying plant will receive wet biosolids via an enclosed conveyor belt from the Black Rock plant and by truck from Barwon Water's smaller water reclamation plants. The gas-fuelled drying process begins by seeding wet biosolids with dry biosolids pellets. The mixture is raked across heated plates until it dries and forms into larger pellets. Smaller pellets are removed and returned and mixed with the wet biosolids entering the plant. After cooling, the pellets are moved by enclosed conveyor belt to a silo for short-term storage.

The pellets will meet the highest standards set by the EPA. The plant process will be cooled using recycled water from the Black Rock plant. Process water will be returned to the Black Rock facility and retreated.



For more information:

More information is available from Barwon Water and Plenary Environment.

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www.barwonwater.plenaryprojects.com

