

# BIOMASS WASTE-TO-ENERGY PLANTS

## **Waste not, want not**

BWSC has delivered dozens of bioenergy boilers to power plants in the UK and Northern Europe. In addition to reducing fossil fuel dependence, the power plants are bankable energy investments.

With BWSC biomass boilers, Australia could tap into that expertise and expand its bioenergy sector exponentially. All it takes is politicians and investors who have the vision to turn a waste product into an energy source.

## **BWSC boilers at a glance**

A power plant equipped with a BWSC boiler transforms biomass waste products into a fuel source. We specialise in designing biomass boilers that produce 10 to 25 MW of electricity production. And when built as a combined heat and power plant, efficiency levels can reach 34% on electricity and up to 94% on boiler efficiency.

As a worldwide leading boiler maker, BWSC also draws on decades of experience in the area of operation and maintenance (O&M) services. So by involving BWSC in a biomass waste-to-energy project, project managers and contractors secure flexibility and a reliable O&M scheme.

## **An abundant fuel supply**

Sugar cane trash and straw provide a good example of an untapped biomass waste product. Currently, some 25% of the biomass in Australia's sugar cane crops goes unused or is burned at harvest time. The open burning process releases harmful pollutants in the air – and a potential energy source goes literally up in smoke.

Although gathering sugar cane trash, straw and other biomass waste products adds another step to farming methods, the benefits are clear:

1. Farmers dispose of their biomass waste in an environmentally friendly way. With a subsidy programme in place, their biomass waste becomes a source of revenue.
2. Harmful pollution is virtually eliminated due to the power plant's clean, controlled burning process.
3. Tens of thousands of homes and businesses obtain a reliable, renewable energy source.
4. And since biomass is renewable, the country's carbon emissions and dependence on fossil fuels is reduced.

**BWSC boiler systems: The idea is simple. The technology is remarkable. And the benefits are many.**

**Contact us to learn more about BWSC biomass boiler solutions. There's no time to waste.**



*During open burning season, the biomass energy contained in sugar cane fields goes up in flames. But with our boilers, it's possible to harness that energy and use it to produce electricity.*

# THE BWSC BIOMASS WASTE-TO-ENERGY POWER PRODUCTION CYCLE

1. Biomass waste products (e.g. sugar cane trash, straw or other biomass) are gathered from fields/forests and delivered to the power plant.
2. A specialised fuel feeding system transports the biomass fuel to the boiler's grate where it is combusted at about 1,400°C.
3. Water circulates through the boiler's evaporator system, turning to steam in the internal superheaters. High pressures raise the steam's temperature to 520°C.
4. The steam can then either be channelled to turbines which turn generators and produce electricity for the grid. Or the heat energy can be used for district heating/cooling or manufacturing processes.



## Bioenergy benefits

- delivers reliable baseload energy (in contrast to wind and solar)
- increases Australia's energy security
- reduces greenhouse gas emissions
- provides jobs and regional development

**BWSC boilers can be scaled to produce 50/65/75/80/90 ton of steam per hour**

**Conditions for steam production:**

**Pressure: 80-100 bar**

**Temperature: 480-520°C**

**Fuel: 24-48 Heston bales per hour**

