

MCCALLUMS GROUP



ABOUT McCALLUM GROUP

Services



Established in 1927, McCallums Group provides dry cleaning, laundry, monogramming and overall hire in Southland, Central Otago and up to Dunedin

Process



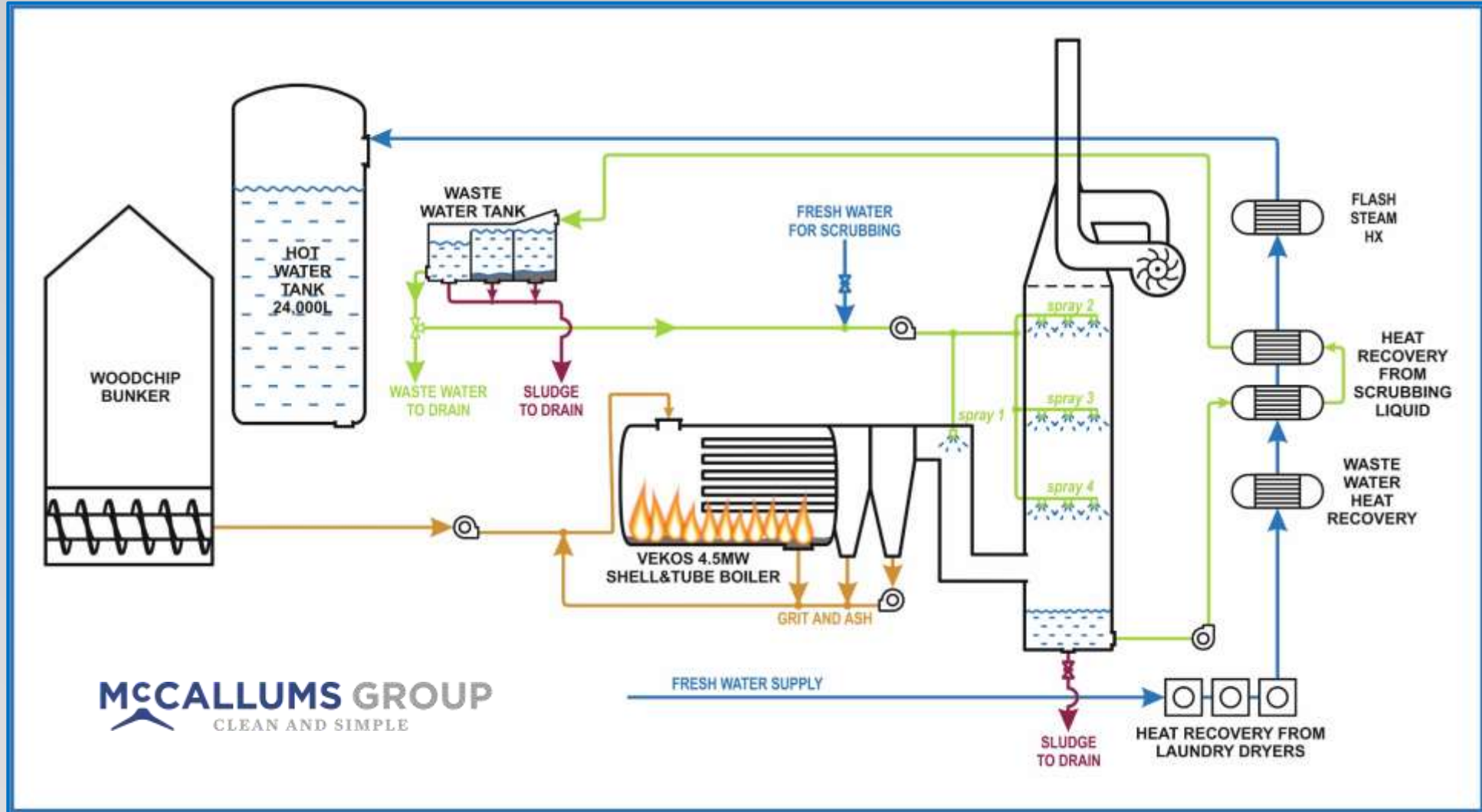
Commercial enterprises of this type are especially demanding for large amounts of thermal energy (steam, hot water and direct heat), which is generally referred to as “process heat”.

Sustainability



McCallums takes sustainability and energy efficiency seriously. The group is committed to continued improvement through research of new practices.

SYSTEM DESIGN



SWITCHING TO WOOD

Key Technology's Features

- 3.4 MW Vekos steam boiler converted from lignite firing to wood residue
- Consumes 1480 tonnes/year of wood
- Wet scrubbing tower
 - controls particulate emissions
 - recovers heat from the flue gas to pre-heat hot water
- Two weather-proofed containers 30 m³ capacity each with pneumatic feed system
- Using high quality kiln dried wood fuel from Niagara's finger jointing plant
- Six truck loads per week
- Automated (i.e. unattended) boiler and scrubber controls



In 2009 with the site relocation energy options were reviewed. Waste oil was trialed, and management visited sites burning wood waste and lignite. A good supply of high quality wood residue was found from the Niagara sawmill just 7km away.

SYSTEM'S COMPONENTS



Boiler



Screw feeder



Heat exchangers

BENEFITS

\$323,000

Annual savings in fuel and rising as commissioning continues and load increases

\$14,500

Further saving annually in boiler maintenance

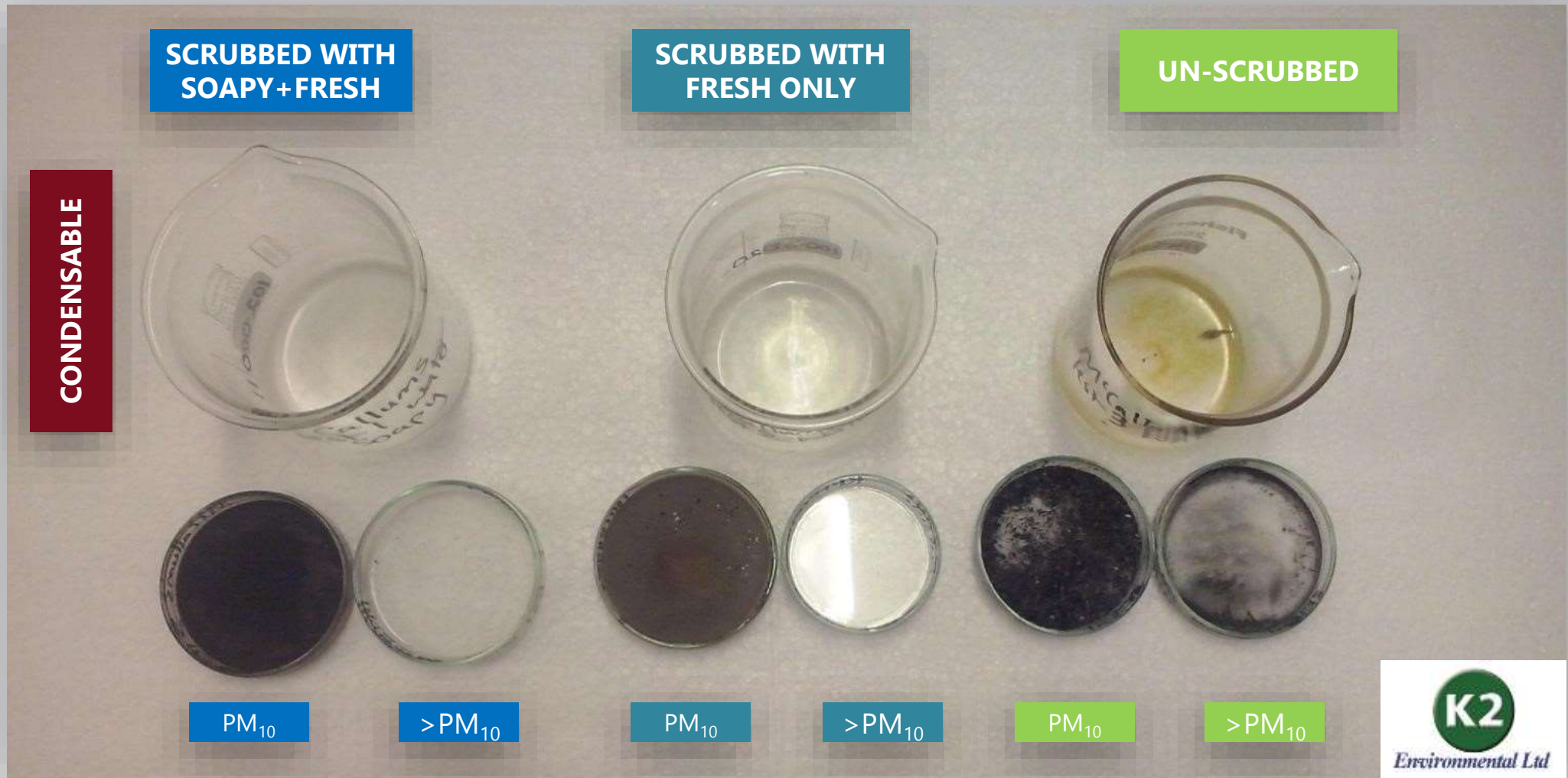
1,426 TONES

Carbon emissions reduction each year

MORE BENEFITS

- Significant reduction in emissions of particulate matter
- Heat recovery and energy saving

EMISSIONS CONTROL - RESULTS



EMISSIONS CONTROL - RESULTS

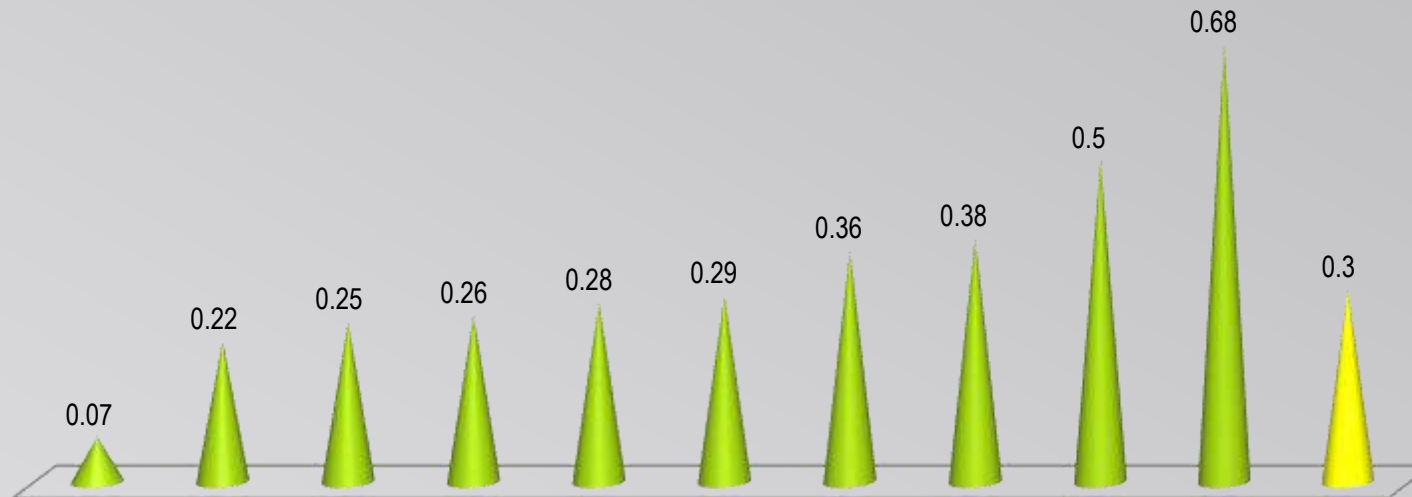
	>PM ₁₀	PM ₁₀	Condensable	Total
	Concentrations (mg/m ³ , dry, 0°C, 1Atm)			
Boiler Un-scrubbed	910	420	540	1870
Fresh Water Scrubbed	50	80	20	150
Soapy + Fresh Water Scrubbed	250	90	30	370
	Effectiveness (%)			
Fresh Water Scrubbed	90	81	96	92
Soapy + Fresh Water Scrubbed	73	79	94	80

EMISSION FACTORS

PM₁₀ Emission factors are 8.5 g/kg before scrubbing, and 1.3 and 1.7 g/kg of fuel

Energy Fuel CO2e per Tonne Apparelmaster Group

Energy CO2e per Tonne



Standardised CO2e per Tonne Apparelmaster Group

