

# Bioenergy NZ Conference

## Experience Sourcing Wood Fuel in Otago and Southland Regions

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GM – Strategy and Business Development



# Overview

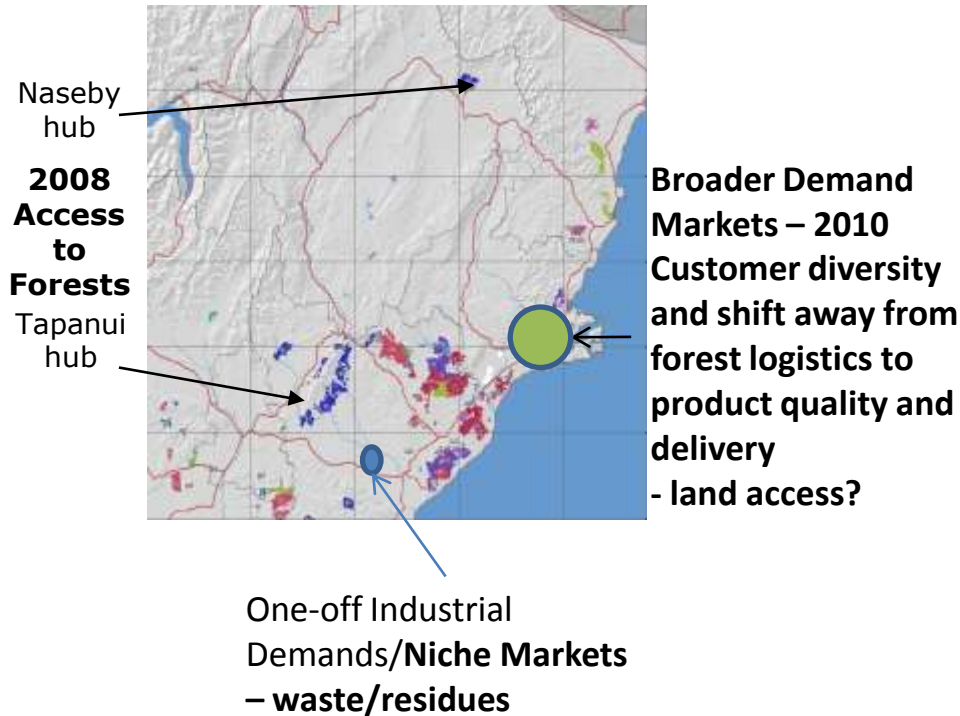


- Contracting for Wood Supply
- Systems and Structures for Supplying Fuel

- Matching fuel to Plant Design
- Dual Fuelling



# Contracting for Wood Supply – a Logistics Exercise



There is generally plenty of wood fuel – but not all of it is suitable for use directly from source - like say coal or gas – so its all about handling, fuel quality and logistics.

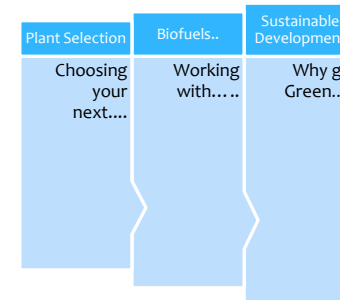
# Systems and Structures for Supply

The Customers' Preferences/Specification?

Solid technical support information and guidelines supported by case studies in BANZ knowledge base – **and good diversity within the membership base**



Life cycle comparisons with other fuelling options, with coherent design, specification and contracting standards – **advisors being up to date with wood fuel and technology progress**



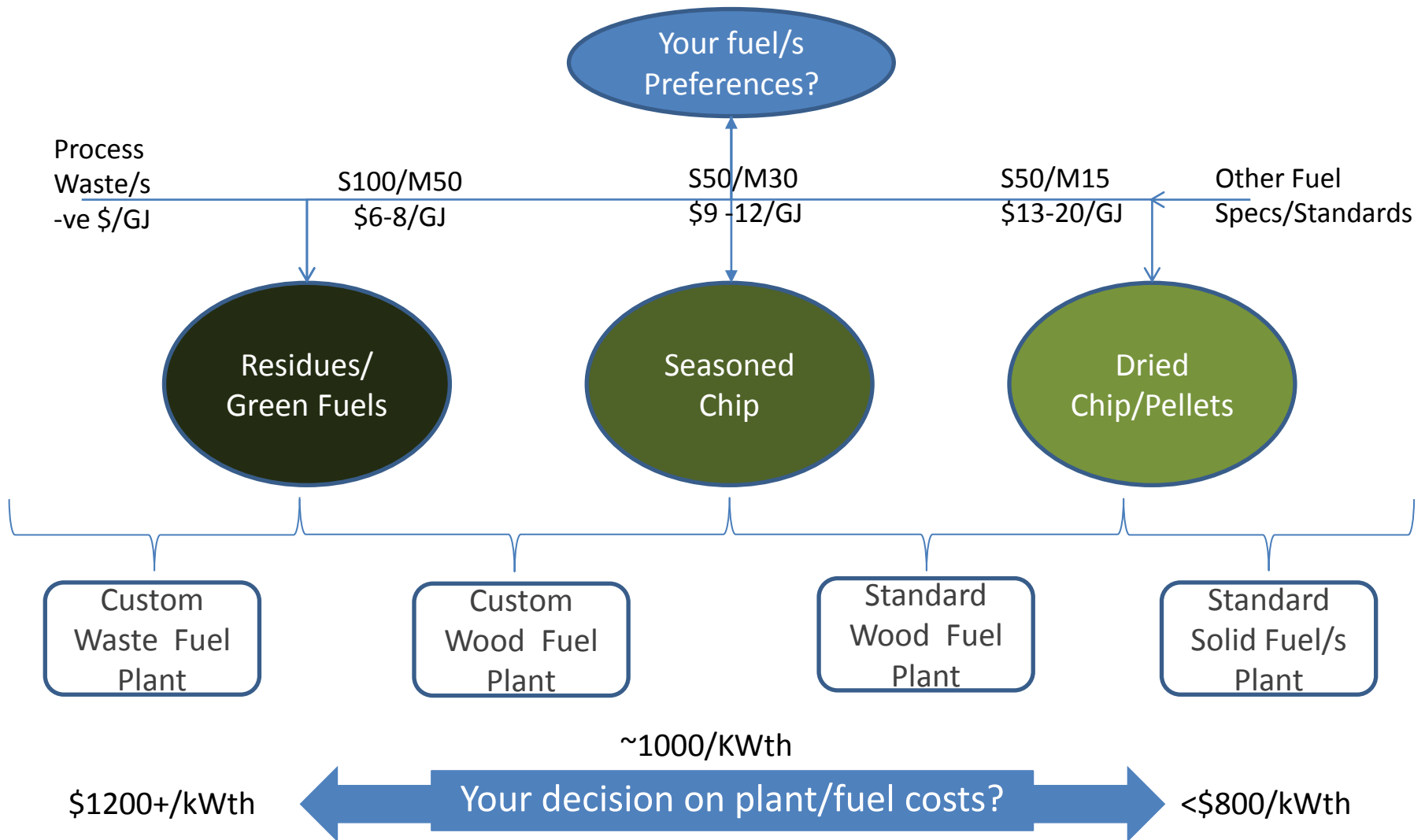
Accreditation and Quality Verification supporting the above market outcomes - **credible and low risk bioenergy supply chain/s**



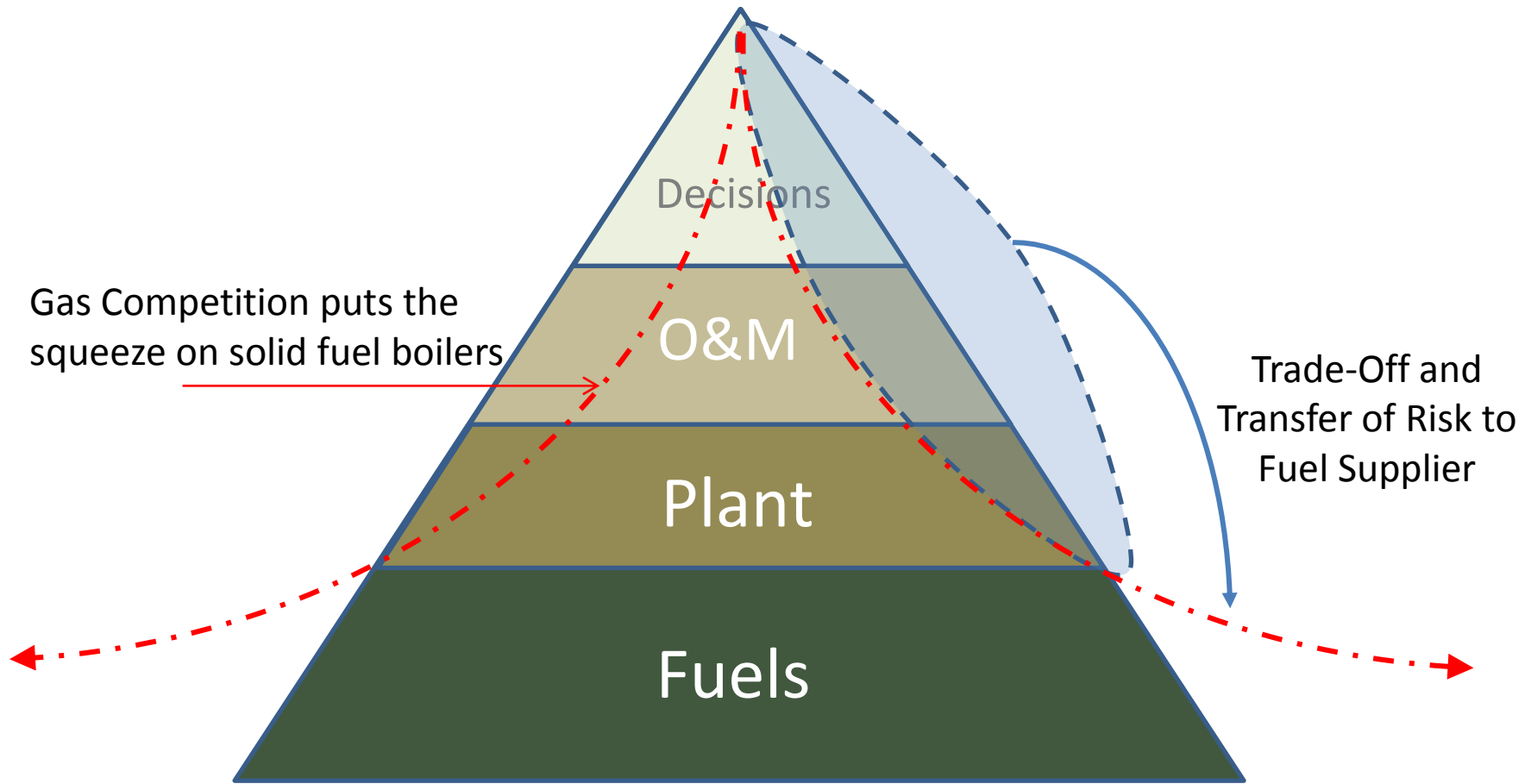
Customers also need a good deal of pragmatism as no solid fuels are going to be as consistent as oil or gas fuels – so design and operational allowances must be made for different fuel specifications and contract terms.

# Systems and Structures for Supply

## Your Investment Profile?



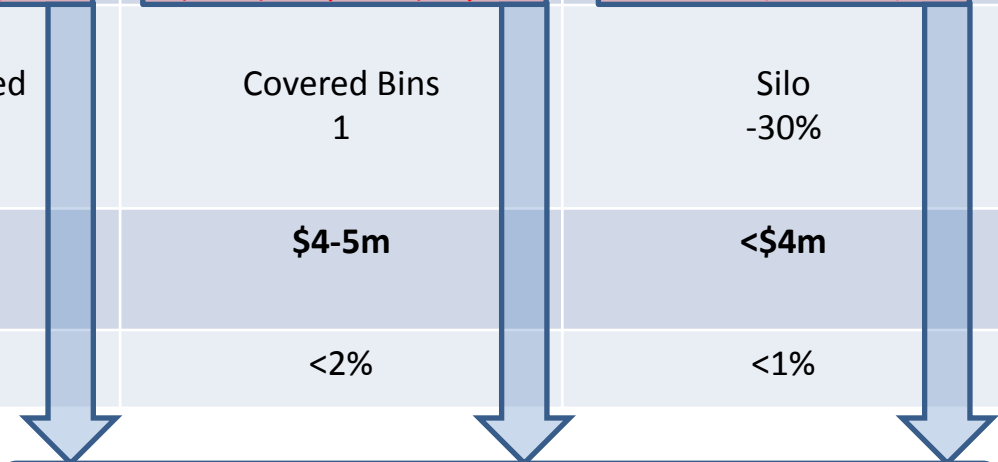
# How do Green Supply costs stack up...?



Fuels are generally your largest life cycle cost – so fuel costs need to be lined up with investment costs – either for you and your supplier/s. To green NZ we need to

# Systems and Structures to Supply Fuels

## Handling and Processing Costs vs Customer Plant Selection

	Residues	Seasoned Chip	Dried Fuels
Resource Recovery	In-forest or Waste	Billet/Pulp Wood	Chip/Sawdust/Shavings
Resource Stockpile	Cut-Over/Forest	Yard	Yard
Bulk Fuel Processing	Screen/Hog	Season/Chip/Screen	Screen/Dry
Bulk Dry Storage	Nil Covered	20% of Yard/Load Covered	50% Yard/Load Covered
Fuel Storage/Delivery	Direct to Pad \$40-\$60/t - <\$6/GJ	Unload to Covered Bins \$90-\$120/t - <\$12/GJ	Covered Bins/Silo \$180-\$280/t - \$15+/GJ
Customer Fuel Storage	Pad or Covered +30%	Covered Bins 1	Silo -30%
Customer 5MWth Boiler Plant Investment	\$6m	\$4-5m	<\$4m
Ash Disposal	>4%	<2%	<1%
			
<div style="background-color: #4a7ebb; color: white; padding: 10px; display: flex; justify-content: space-between; align-items: center;"> <span style="color: red; font-weight: bold; font-size: 1.2em;">\$0.5m</span> <span style="color: white; font-weight: bold; font-size: 1.2em;">Wood Fuel Supplier Investments</span> <span style="color: red; font-weight: bold; font-size: 1.2em;">\$3m+</span> </div>			



# Customer Investments



- Boiler Specification determines the customers investment in capacity/scale and complexity of the boiler managements systems

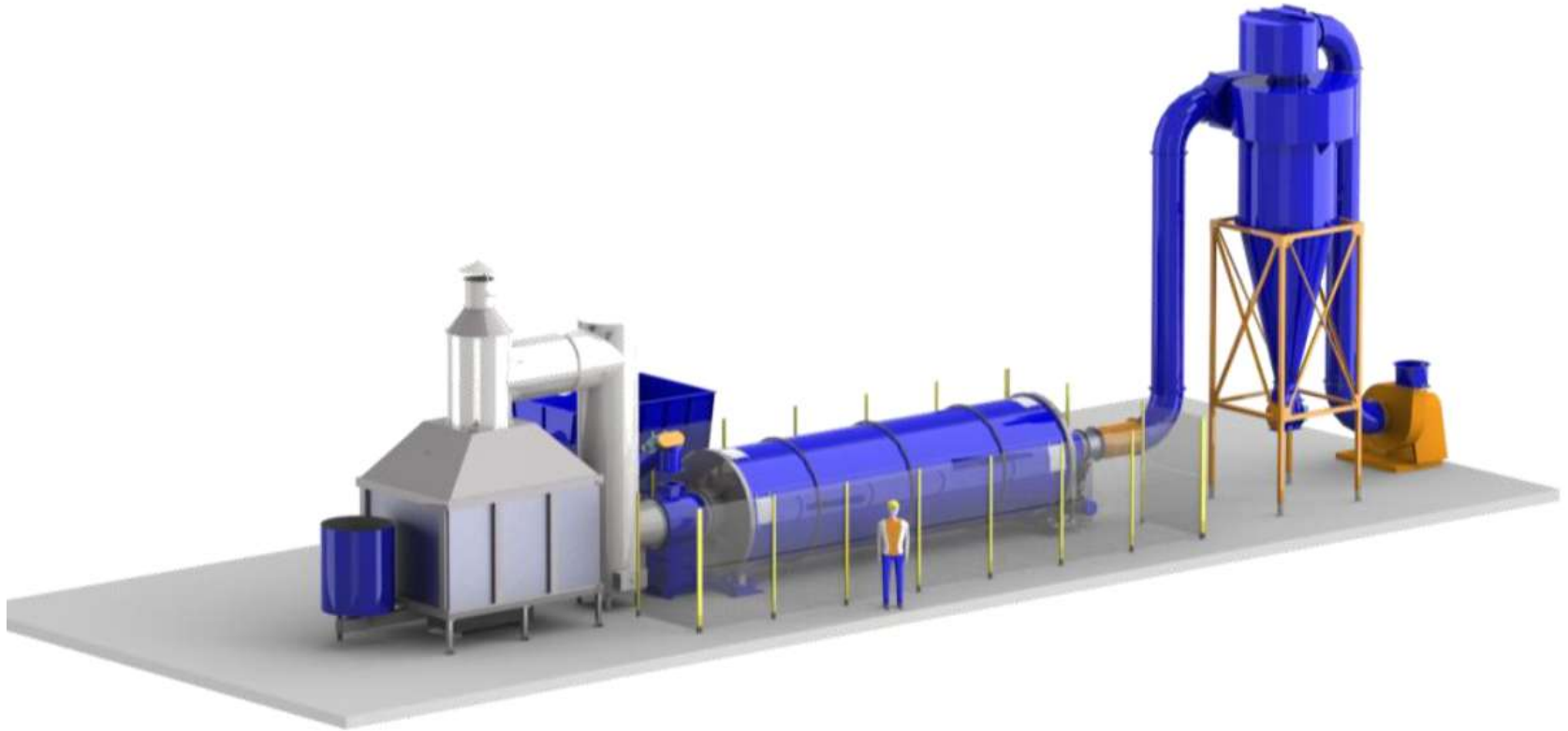
- Wood Fuels Specification determines related investments in capacity/scale and complexity of the fuel/s managements systems





# Supplier Investments

Typical Fuel Drying Set-Up – 3 T/hr input and ~\$1.8m



# Dual Fuelling – A Balancing Option

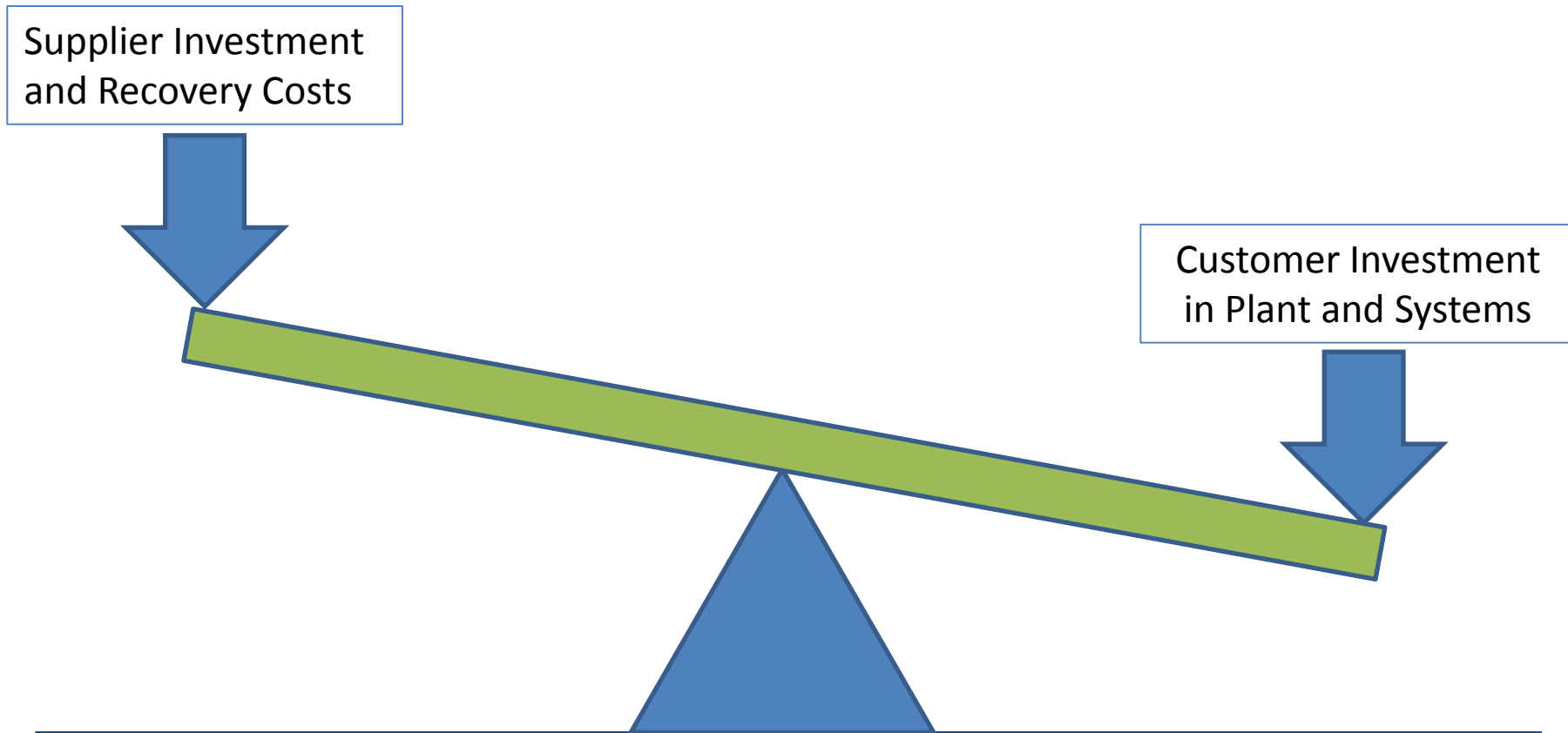
- Balance of Investment between Plant Upgrade and the Higher Fuel Specification - \$1.5m decision



- MVP – Your plant manager deals with the inconvenience of making stuff work for overall lower costs.



# Balancing the Relationship between Customer and Supplier Investment Costs and Risks



Contracting wood fuels needs to reflect the levels of investment across the value chain. The lower the customer installation costs the higher a fuel premium will be paid by customers to ensure fuel quality.