



LONDON METAL EXCHANGE



# LME Plastic Futures

Providing price risk management tools for the plastic industry

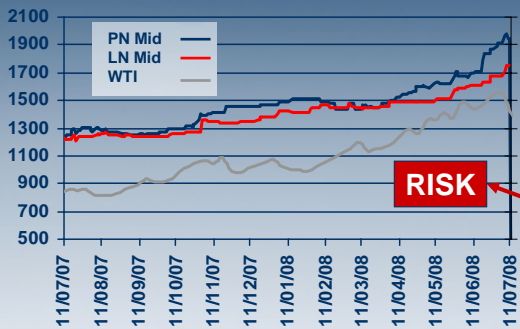
**Robert Sheldon**  
Business Manager - Plastics



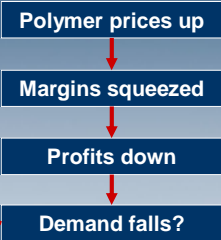
LONDON METAL EXCHANGE

## Volatility equals risk for the polymer industry

WTI vs LME PP North America & LL North America prices



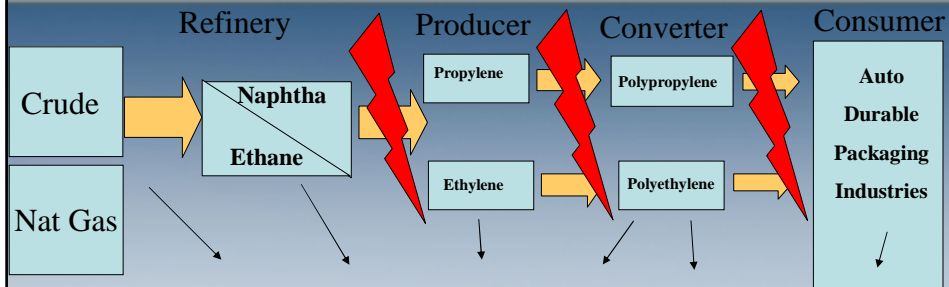
Source: LME and Reuters



London Metal Exchange



## Price Discovery Chain



<b>Price Frequency:</b>	<u>Intraday</u>	<u>Intraday</u>	<u>Weekly/ Monthly</u>	<u>Weekly/ Monthly</u>	<u>Intraday</u>	<u>Annually</u>
<b>Price Reference:</b>	IPE & NYMEX	OTC	ICIS, Platts, others	ICIS, Platts, others	LME	Catalogue, model year
<b>Prompt:</b>	Spot-7 yrs forward	Spot-7 yrs forward	Spot-30 days	Spot-30 days	Spot - 15 months forward	1 Year

London Metal Exchange



## Roles of an Exchange

- **Price Discovery**  
*(International & Regional Reference Prices)*
- **Price Risk Transfer**  
*(Hedging, Investing)*
- **Consumer/Producer of Last Resort**  
*(Warehousing Ensures Convergence; physically settled contracts)*

London Metal Exchange



LONDON METAL EXCHANGE

## Why LME for pricing?

- LME prices are transparent
- The LME is independent of the market; no vested interest or bias
- The LME does not rely on telephone polling of industry players
- Prices are derived from actual bids/offers and trades in open outcry trading
- Feedback from market participants confirms strong correlations with industry

London Metal Exchange



LONDON METAL EXCHANGE

## Why plastics futures?

Lock in profit margin?

Improve cashflow?

Stabilise profit?

Decrease risk?



LME  
PLASTICS  
FUTURES

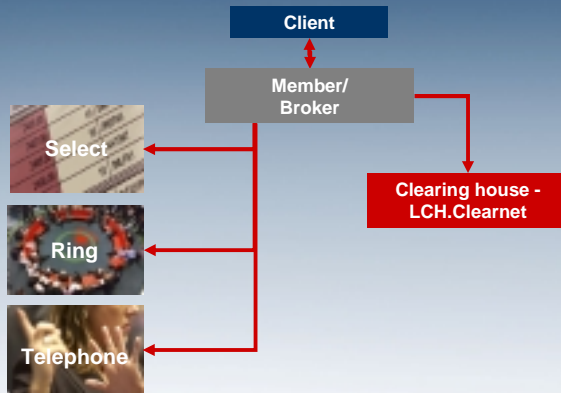
A futures contract is ...  
“an agreement today to buy or sell an agreed quantity of a specified asset at an agreed price for settlement on an agreed future date”

London Metal Exchange



LONDON METAL EXCHANGE

## Trading on the LME – client perspective



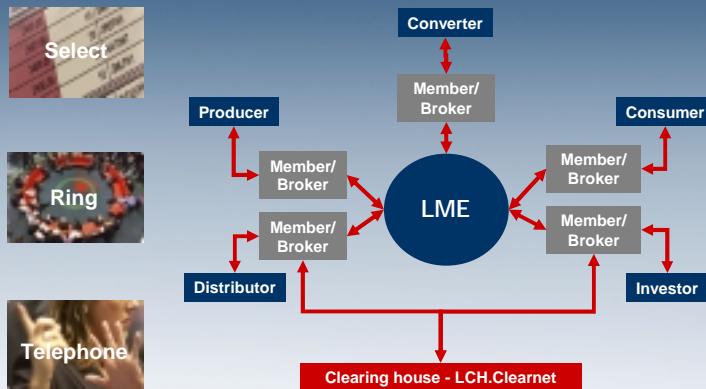
- 3 trading platforms – open outcry (ring), electronic (Select) and telephone
- Clients transact through the LME member / broker
- Independent clearing house
- Margining – initial and variation

London Metal Exchange



LONDON METAL EXCHANGE

## Trading on the LME – the bigger picture

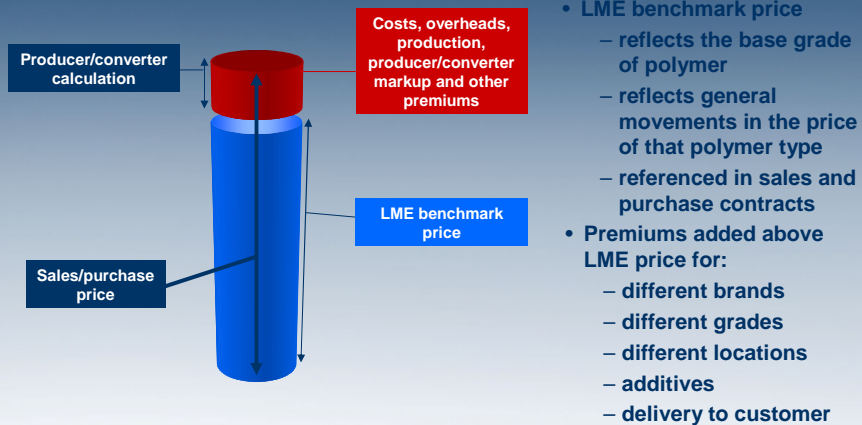


London Metal Exchange



LONDON METAL EXCHANGE

## LME pricing structure



London Metal Exchange



LONDON METAL EXCHANGE

## Hedging vs Investing

- A hedger has a plastics price exposure inherent in its producing, consuming, processing, or trading business and buys or sells plastics futures contracts with the goal of reducing or eliminating price risk
- An investor starts w/o price exposure, buys or sells plastics futures contracts with the purpose of taking on plastics price risk.

London Metal Exchange



LONDON METAL EXCHANGE

## Key Hedging Concept

- **Net buy price** =  
Price paid to supplier + (-) Hedge Losses  
(Gains)
- **Net sale price** =  
Price on sale to customer - (+) Hedge Losses  
(Gains)

London Metal Exchange



LONDON METAL EXCHANGE

## “Price Fixing Buy” Hedge – Meeting the Budget

Resin converter wants to lock in budgeted cost for a period

- **Situation:**
  - Company fixes a standard cost for resin contained in packaging material (del. Dec.'08) at a level that reflects acceptable profit margin on goods sold
  - Company wants to lock in budgeted price now for Dec. resin requirements
- **Risk of not hedging:** Company misses budget and margins suffer
- **Market Structure:** *Cash = 1600/t, Dec. '08 futures = 1600/t*
- **Strategy:**
  - buy Dec. PP futures now
  - liquidate (sell back) Dec. when phys resin bought/priced in

London Metal Exchange



## Converter “Price Fixing Buy” Hedge

	<u>LME PP falls:</u> <u>\$1200/mt</u>	<u>LME PP rises:</u> <u>\$2000/mt</u>
Dec. '08. Resin Buy (2)	1200	2000
Dec. LME PP Buy (1)	1600	1600
Dec. LME PP Sale (2)	1200	2000
<i>Futures P/L</i>	<i>-400</i>	<i>+400</i>
<b>Net Buy Price</b>	<b>1600</b>	<b>1600</b>

London Metal Exchange



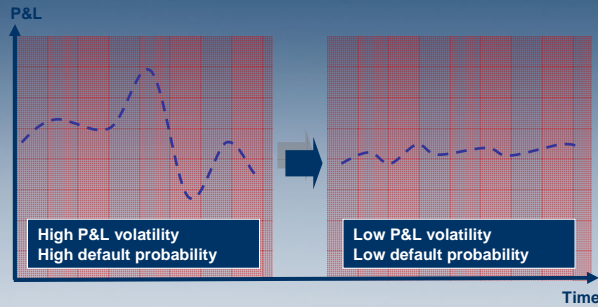
## Converter “Price Fixing Buy” Hedge



London Metal Exchange



## Why LME for hedging?



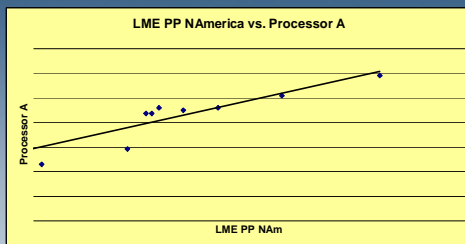
- Can improve your business with a robust hedging programme:
  - Reduced P&L volatility
  - Predicted cash flow
  - Improved credit rating
  - Reduced cost of borrowing
  - Forecasted cash flow and future P&L

Rating BBB → A  
 Borrowing cost ↓  
 Cost-income ratio ↓

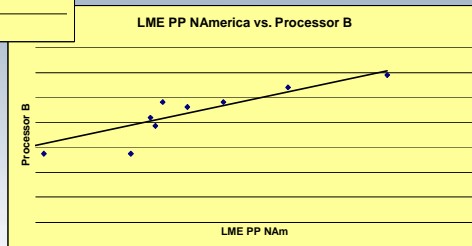
London Metal Exchange



## LME prices correlate well with actual prices



Correlation: 92%  
 R<sup>2</sup>: 0.85



Correlation: 91%  
 R<sup>2</sup>: 0.83

London Metal Exchange



LONDON METAL EXCHANGE

## LME roundup

- **Credible performance: \$9.5 trillion in turnover (2007)**
- **Recognised globally**
- **Transparent prices**
- **Independent of the market**
- **Reliable proven model: established innovation in hedging**
- **Regulated by the FSA**
- **Performance of contracts guaranteed by clearing house**

London Metal Exchange



LONDON METAL EXCHANGE

## 2008 LME training programme

### Courses offered

- Introduction to the LME
- Introduction to Hedging with Futures
- Introduction to Hedging with Options
- LME Options Pricing
- LME Options Trading Strategies
- Basics of the Price Risk Management Process
- Introduction to Metals Pricing and Risk Management
- Trading at the LME
- Understanding LME Data
- LME Regulation and Compliance
- Introduction to Physical Trading and Warehousing
- Risk Management for Metal Concentrates
- Introduction to the LME and Regulation

**Locations: London, Australia, Singapore, Barcelona, New York, Dubai, Montreal, Chicago, Mumbai, Tokyo**

**For more information visit**  
<http://www.lme.com/education.asp>,  
contact the LME on +44(0)207 264 5555 or email  
[lme.education@lme.com](mailto:lme.education@lme.com)



**Learn more about hedging here!**  
[www.lmeplastics.com/learning/Index.aspx](http://www.lmeplastics.com/learning/Index.aspx)

London Metal Exchange