

Developing Agricultural Commodity Markets
Through a Better Trading Platform

13th Annual Farmer Cooperatives Conference
Cooperatives: Looking Forward

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A Better Market Mechanism for Agricultural Commodities

Overview

Market design

Implementation – a case study

Results

The future

Market Design

Challenges

- **Challenges for all market participants**
 - Negotiations are time-consuming and costly
 - Parties wonder if they got the best deal
 - Limited ability to manage risk and uncertainty
 - Information and transaction costs are too high
- **Challenges for coops and its members**
 - Need price transparency and reliable price signals
 - Need credible information about current and future market conditions
 - Need to manage price and quantity volatility
 - Coops must continually demonstrate value to members

Market Design

Advantages of well-designed, structured bidding mechanisms

- Can be designed to best meet the needs of both buyers and sellers
- Ability to achieve various goals
- Fair, open, transparent, objective, non-discriminatory, quick process
- Minimizes information and transaction costs
- Effective price discovery mechanism and quantity allocation
- Maximizes participants' interest and participation
- Those who value the product the most will win, optimizing prices and revenue
- Win-win for both buyers and sellers
 - No regrets, no complaints
 - Can use resources better, administer contracts more efficiently, make better planning decisions
 - Value pie is made larger

Market Design

How do you design the market mechanism?

- Confirm the objectives
- Define the products, draft the contracts
 - Substitutes vs. complements
 - Common value vs. private value
- Identify the participants
 - Few vs. many, current vs. new entrants
 - Range of reasons for participating
- Then, determine the optimal market design to meet the needs
 - Forward auction – one seller, many buyers
 - Reverse auction – one buyer, many sellers
 - Multi-seller, multi-buyer exchange
- Develop the detailed auction rules
- Host Information Website and Bidding Website

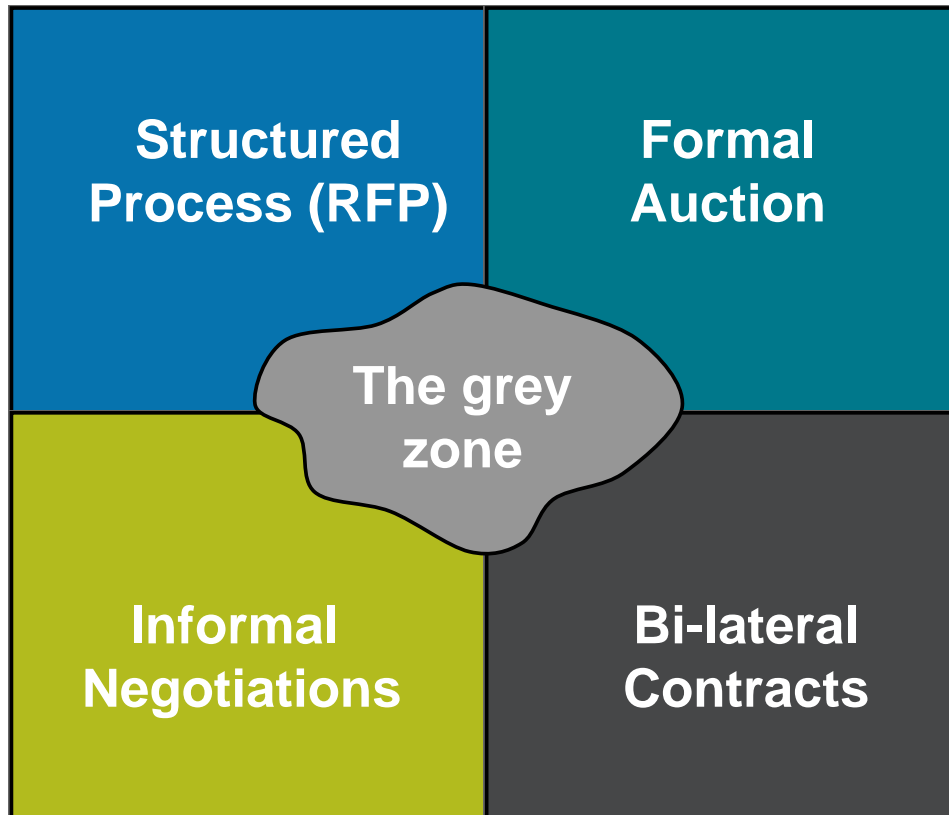
Market Design

Agricultural commodities -- auctions

Transparent



Opaque



Flexible



Standardized

Auctions provide significant process efficiency, price discovery, and risk management benefits

Well-constructed auctions will assign products to those who value the products the most

There is flexibility in auction design – must be tailored to meet the objectives of the buyers and sellers

Implementation

Case study: *globalDairyTrade*

Fonterra is leading dairy exporter, one of the world's largest dairy producers

gDT's vision: to be trusted by buyers and sellers to discover current market prices for the products being traded and will be accepted globally as a reference price for associated markets

gDT platform now recognized worldwide as establishing credible market prices used in the dairy industry

Dozens of products and contracts auctioned simultaneously

Monthly events starting in July 2008, twice-per-month starting September 2010

Market format is a simultaneous, multiple-round, ascending-price "clock auction"

- Bidding occurs round by round
- Price for each product announced before each round
- Bidders bid desired quantities at the announced prices
- After a round, if a product's demand > supply, then increase the product's price for next round
- Auction closes when demand = supply for each product
- Allows for price arbitrage (substitutes) and optimal bundles (complements)

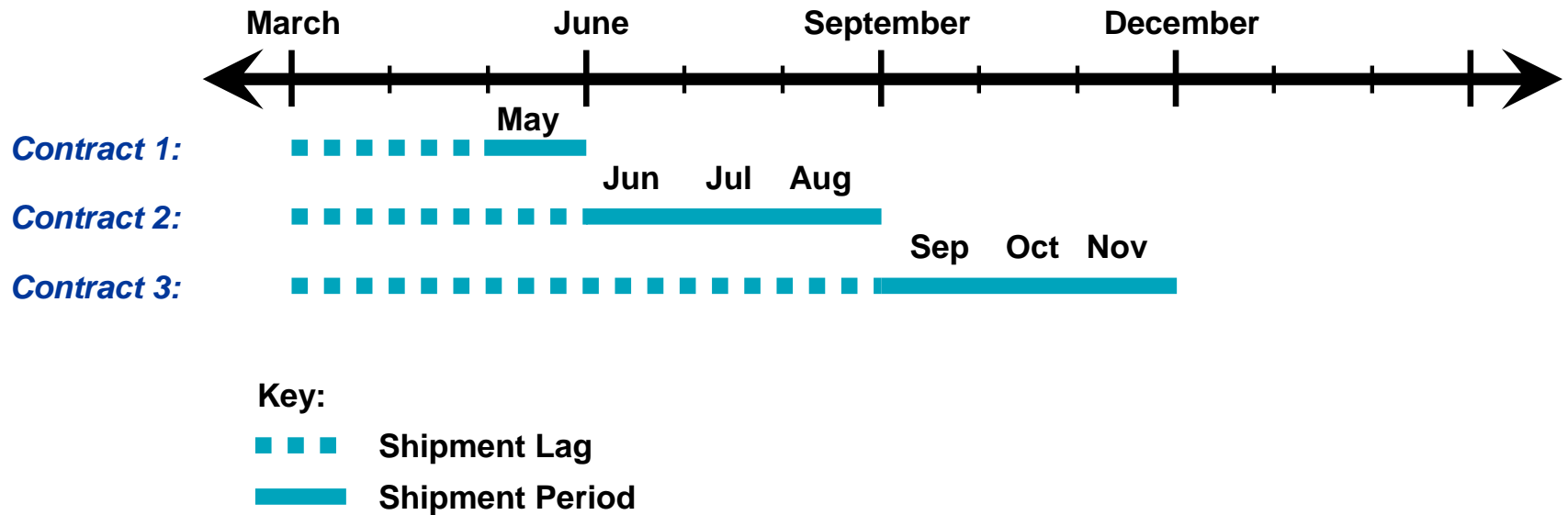
Implementation

Case study: *globalDairyTrade*

Customers can bid on any or all of the contract periods, and change their bids between periods and products as the prices change

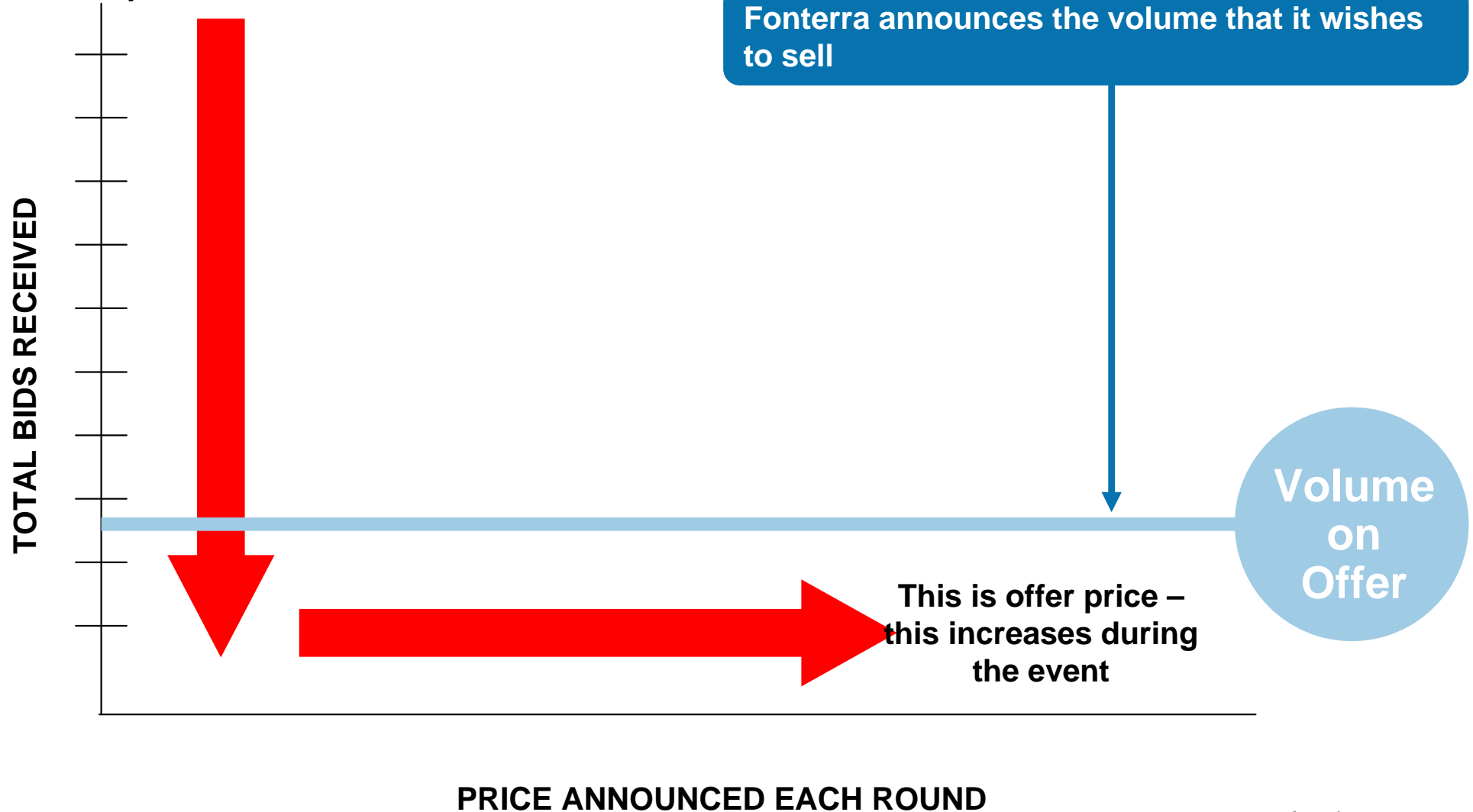
Example:

March Trading Session

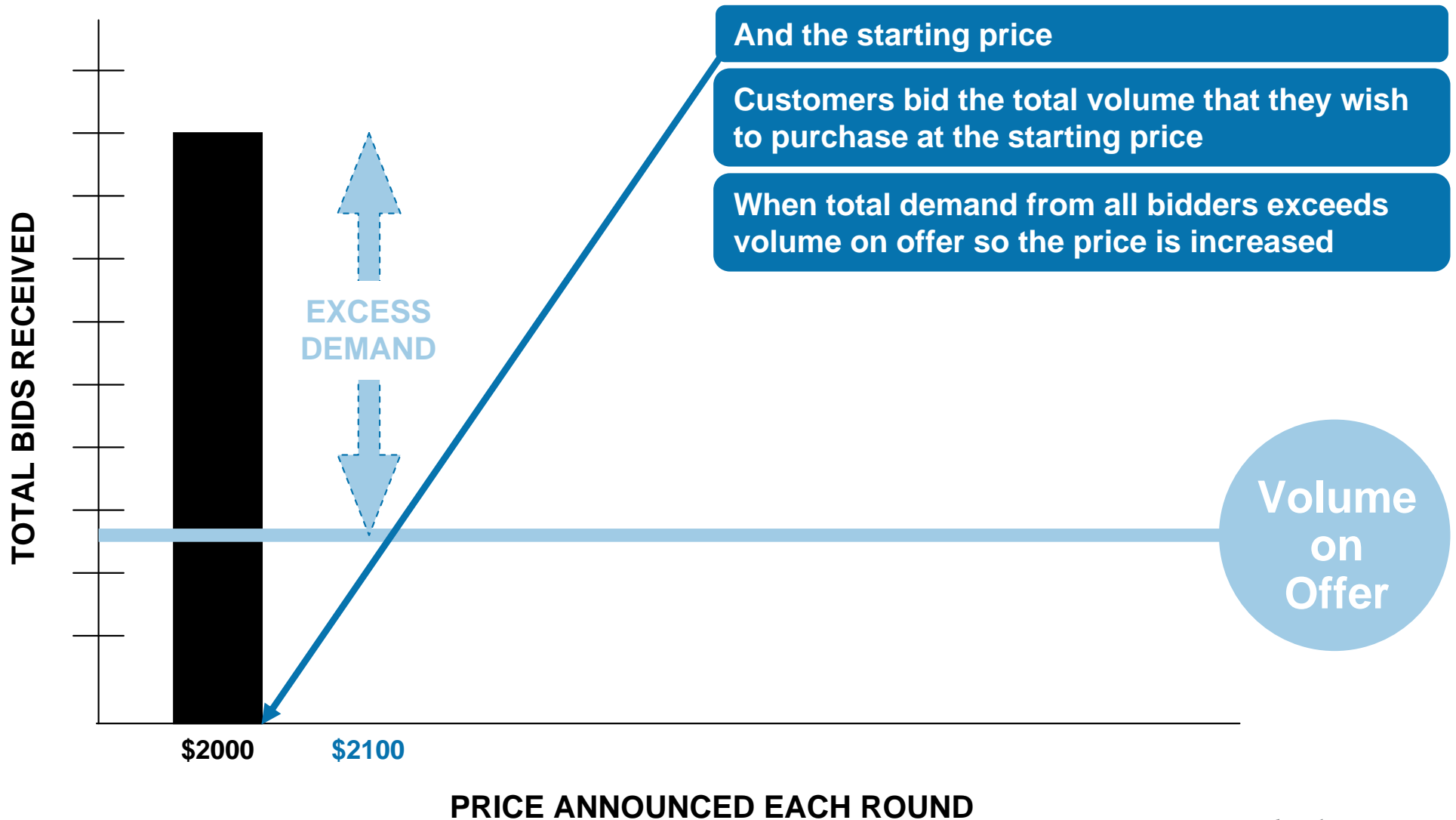


How does *globalDairyTrade* work?

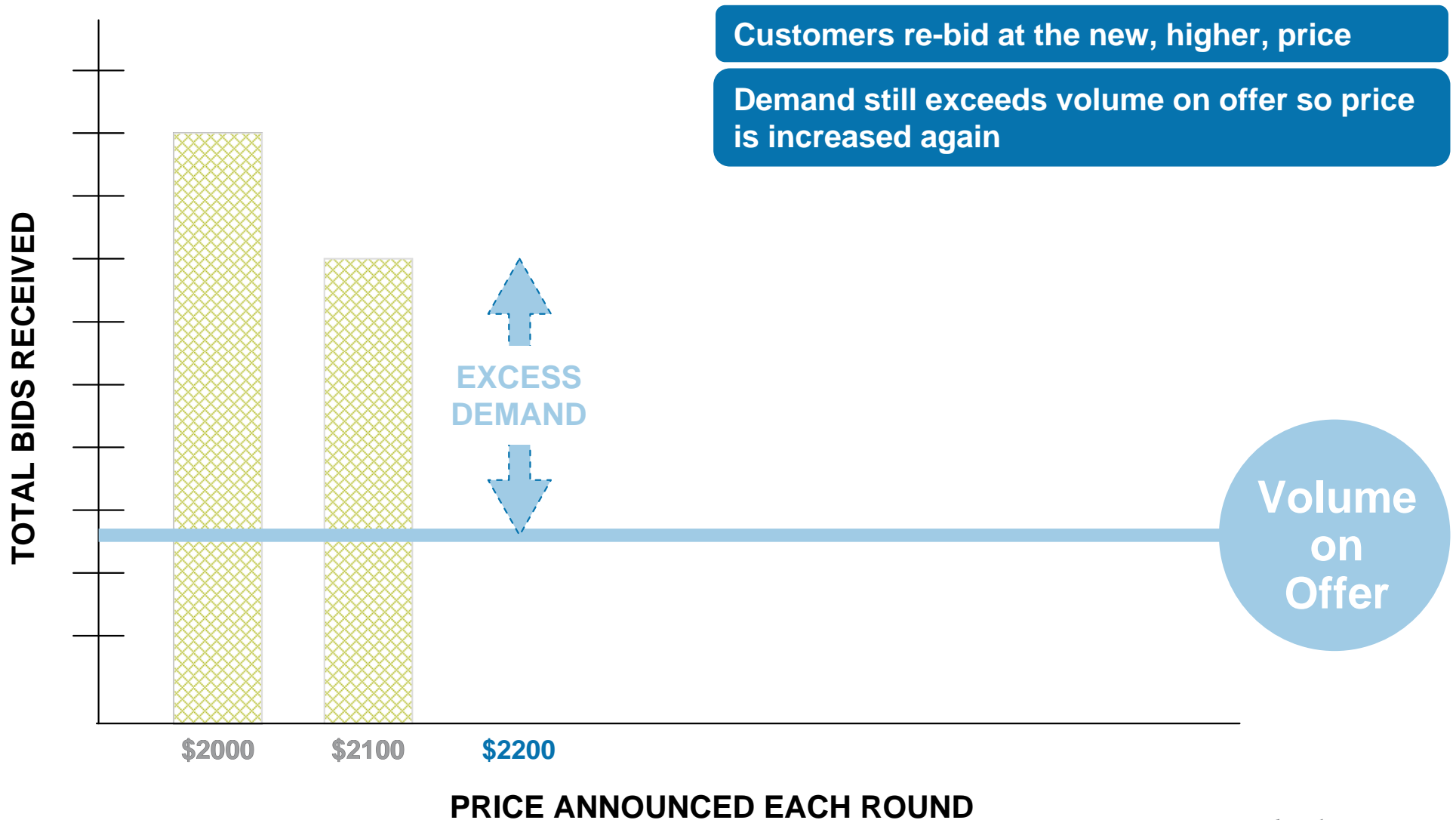
This is the volume of bids received – this decreases as price increases



How does *globalDairyTrade* work?

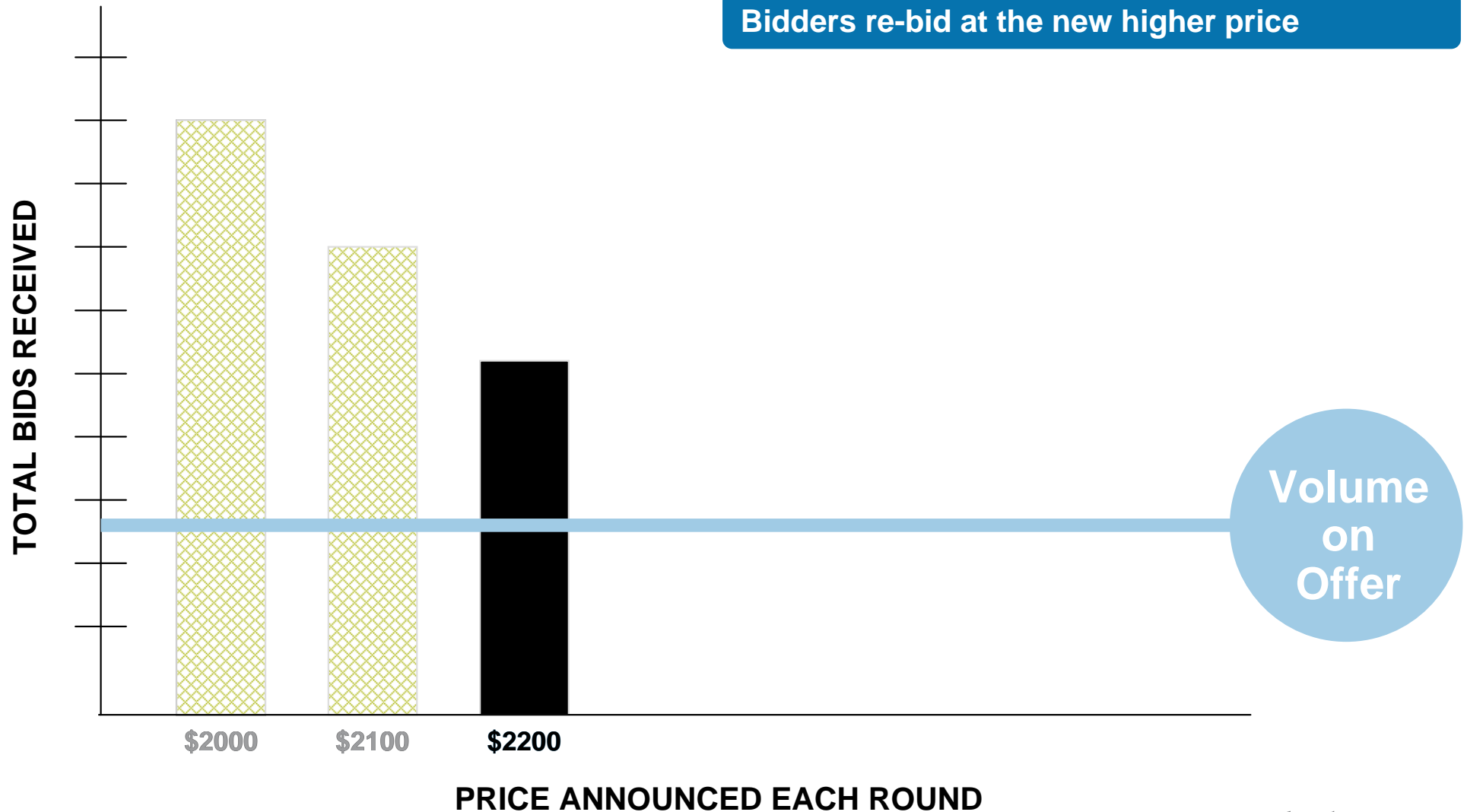


How does *globalDairyTrade* work?



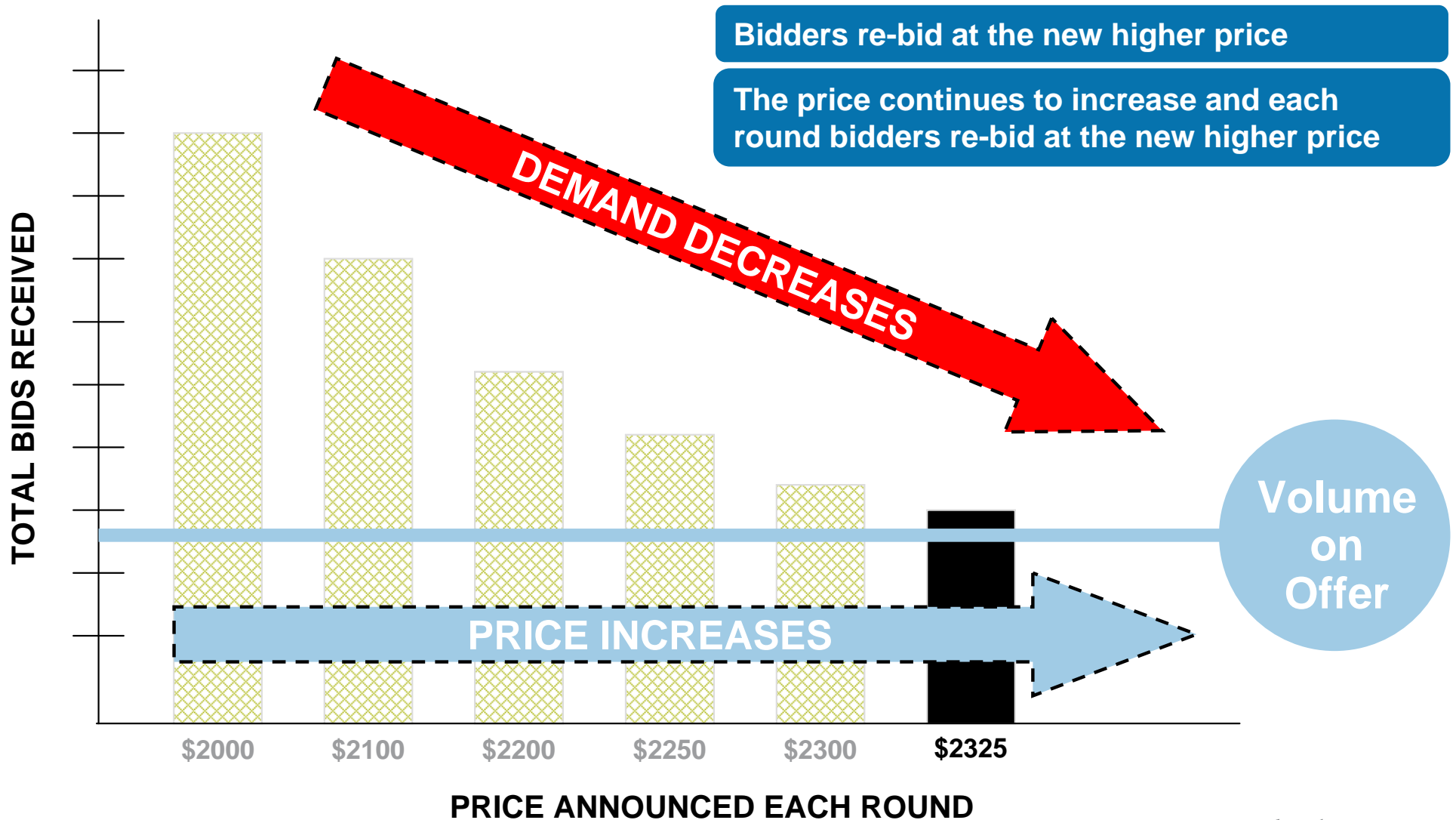
How does *globalDairyTrade* work?

Bidders re-bid at the new higher price

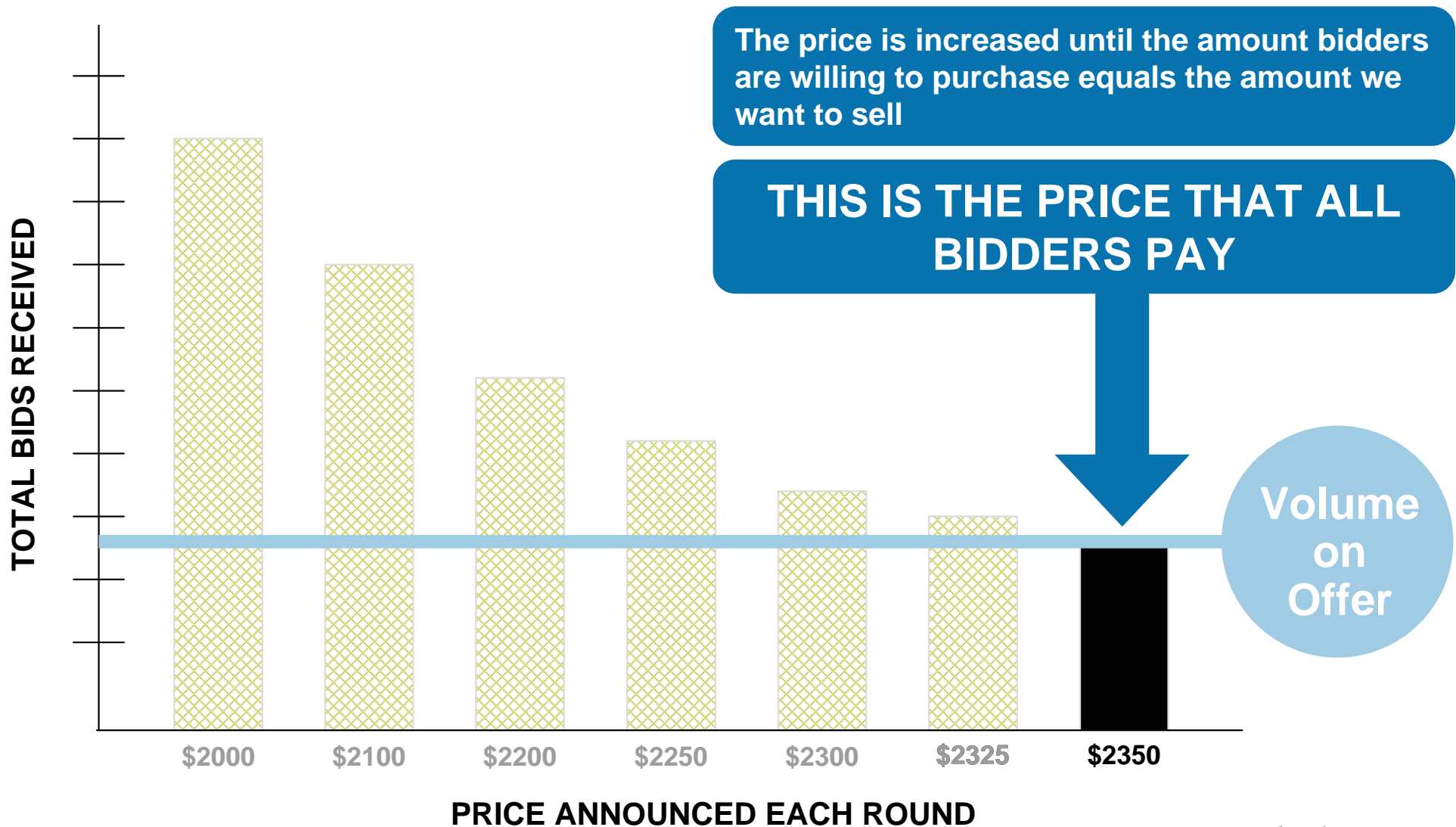


Volume on Offer

How does *globalDairyTrade* work?



How does *globalDairyTrade* work?



How does *global*/DairyTrade work?

Latest Results - Summary

Trading Event 32 was held on Tuesday 16 November 2010

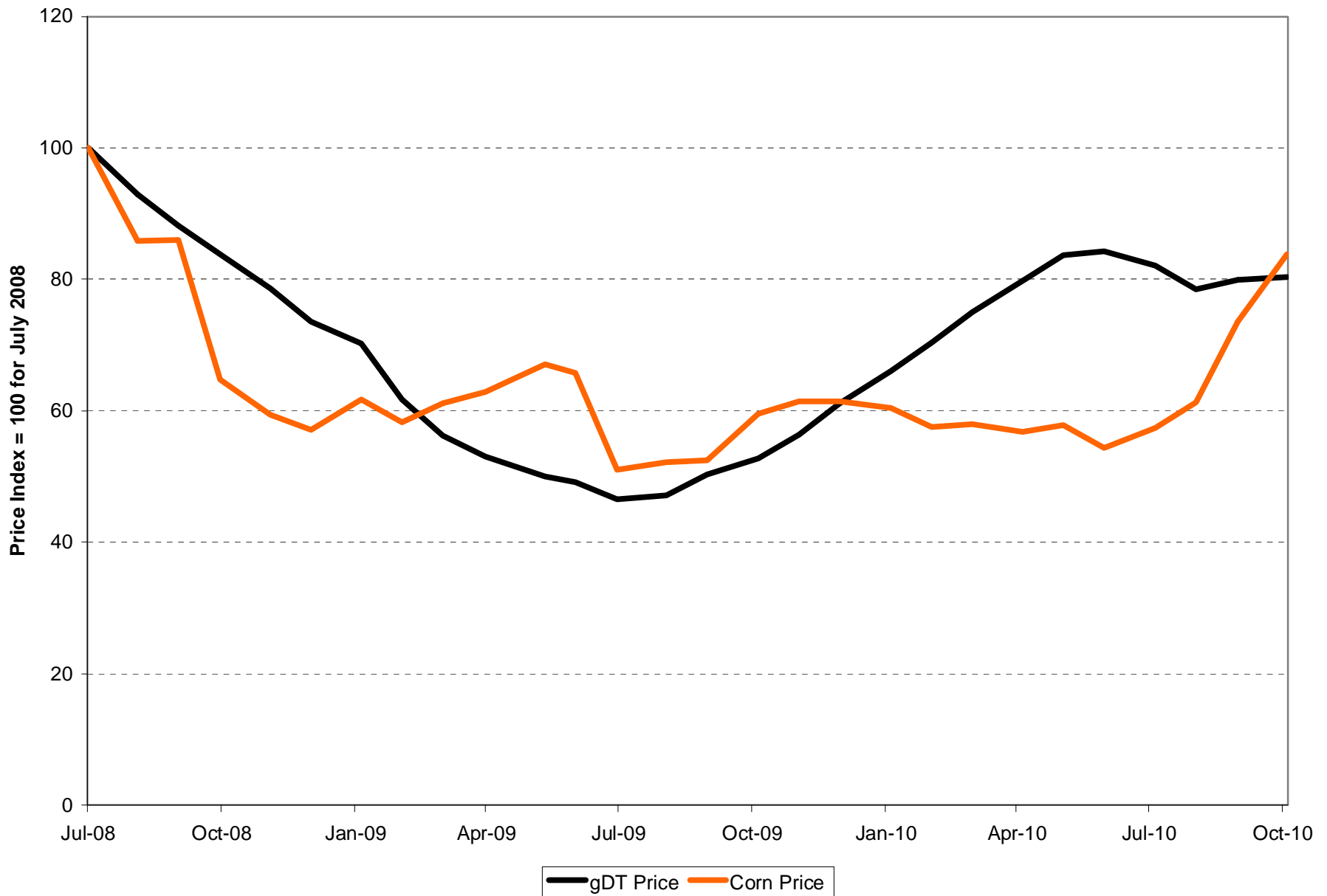
Summary of Results

Number of Qualified Bidders	307
Number of Participating Bidders	96
Number of Winning Bidders	69
Number of bidding rounds	9
Duration of trading event (hours:mins)	1:56
Average winning price (USD/MT, FAS)	\$3,522
Change in gDT-TWI™ price from previous Event	-0.1%

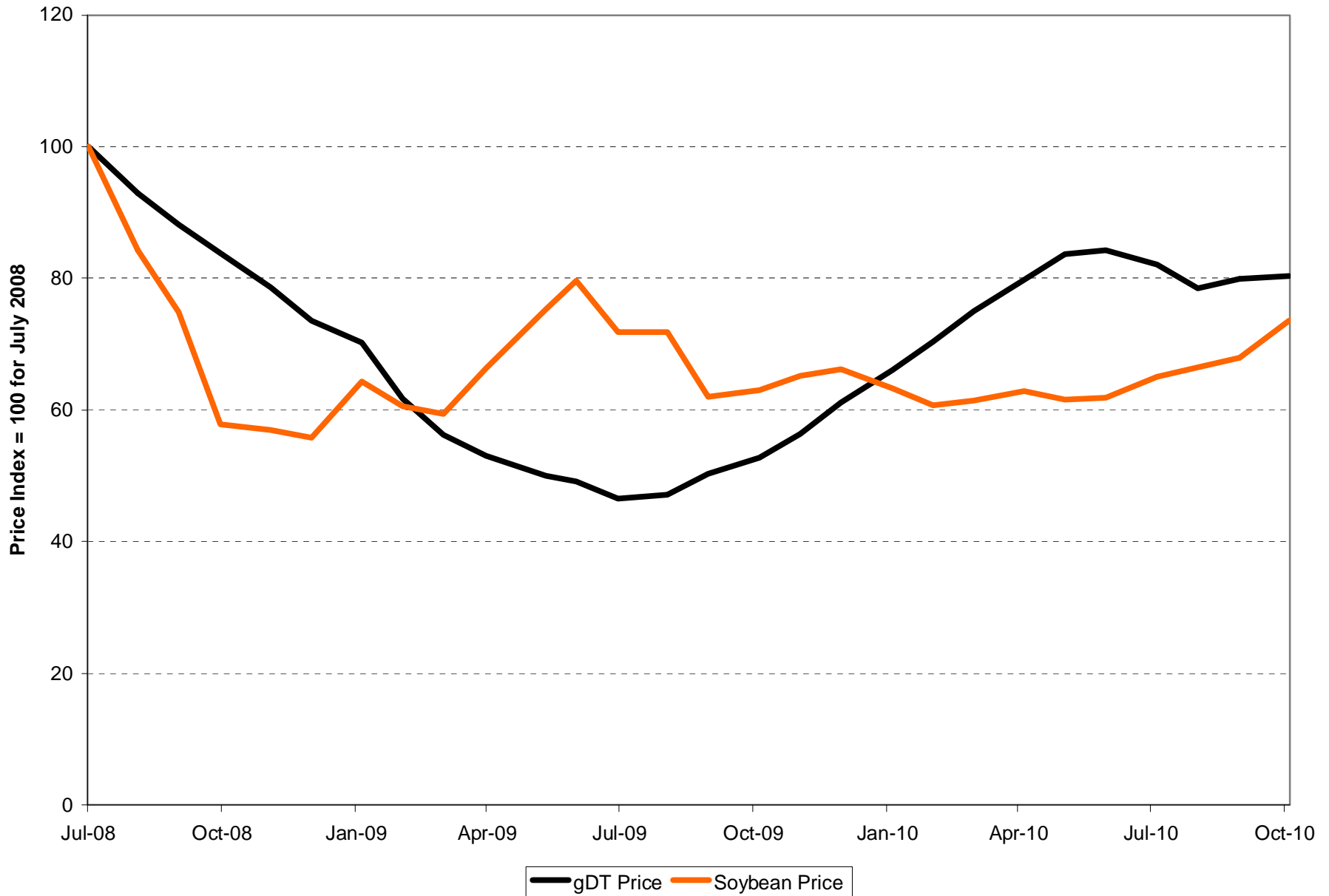
Price Changes from Previous Event

Changes in price indices	Contract 1 (Jan11)	Contract 2 (Feb11-Apr11)	Contract 3 (May11-Jul11)	All Contracts
Anhydrous Milk Fat (AMF)	-1.9%	-1.6%	-2.2%	-1.8%
Butter Milk Powder (BMP)	7.4%	-1.6%	n.a.	3.6%
Skim Milk Powder (SMP)	0.7%	4.2%	-0.6%	1.9%
Whole Milk Powder (WMP)	-1.7%	-2.1%	3.2%	-1.4%
All products (trade-weighted)	-0.8%	0.3%	1.1%	-0.1%

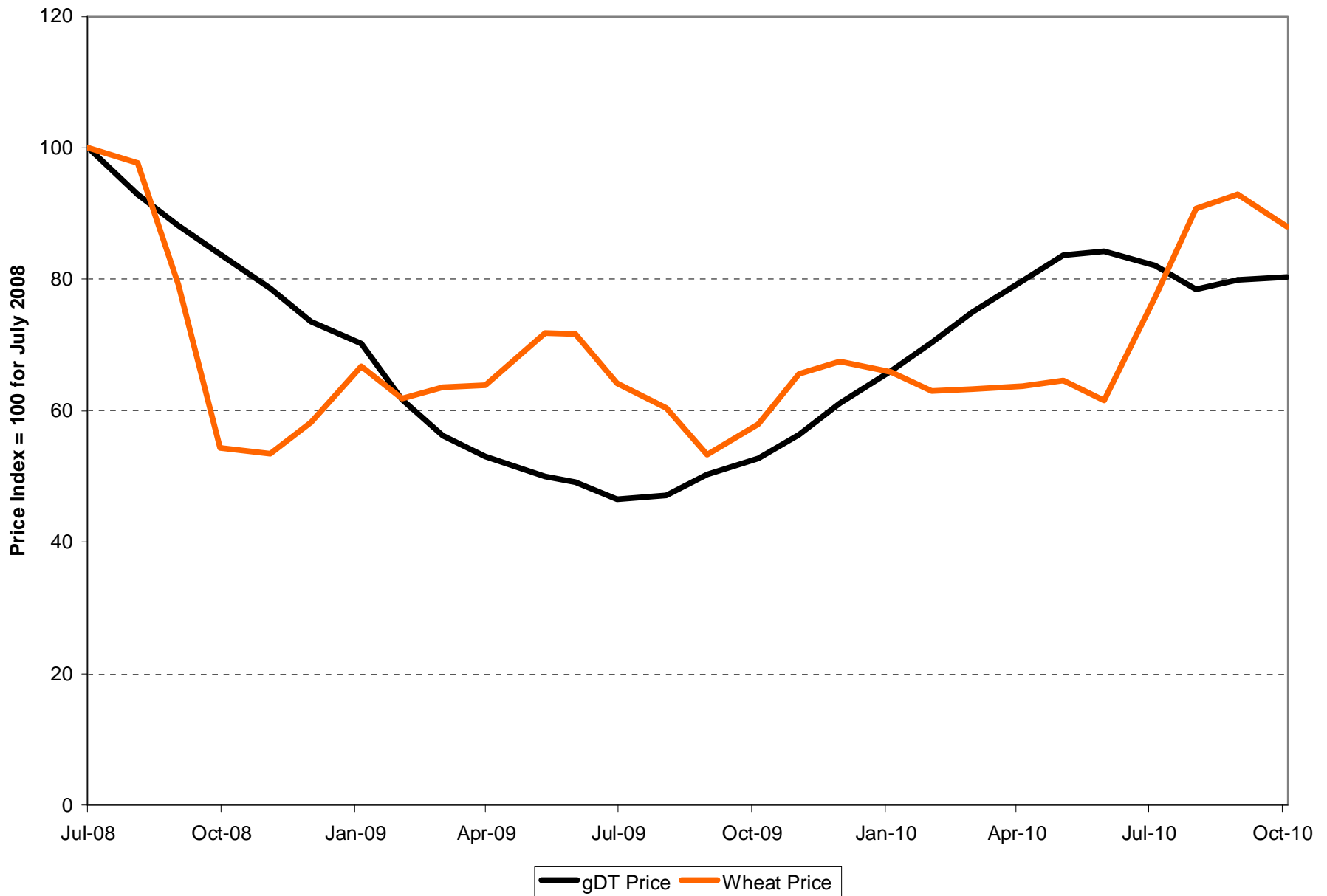
Results: gDT Prices Compared to Corn Prices



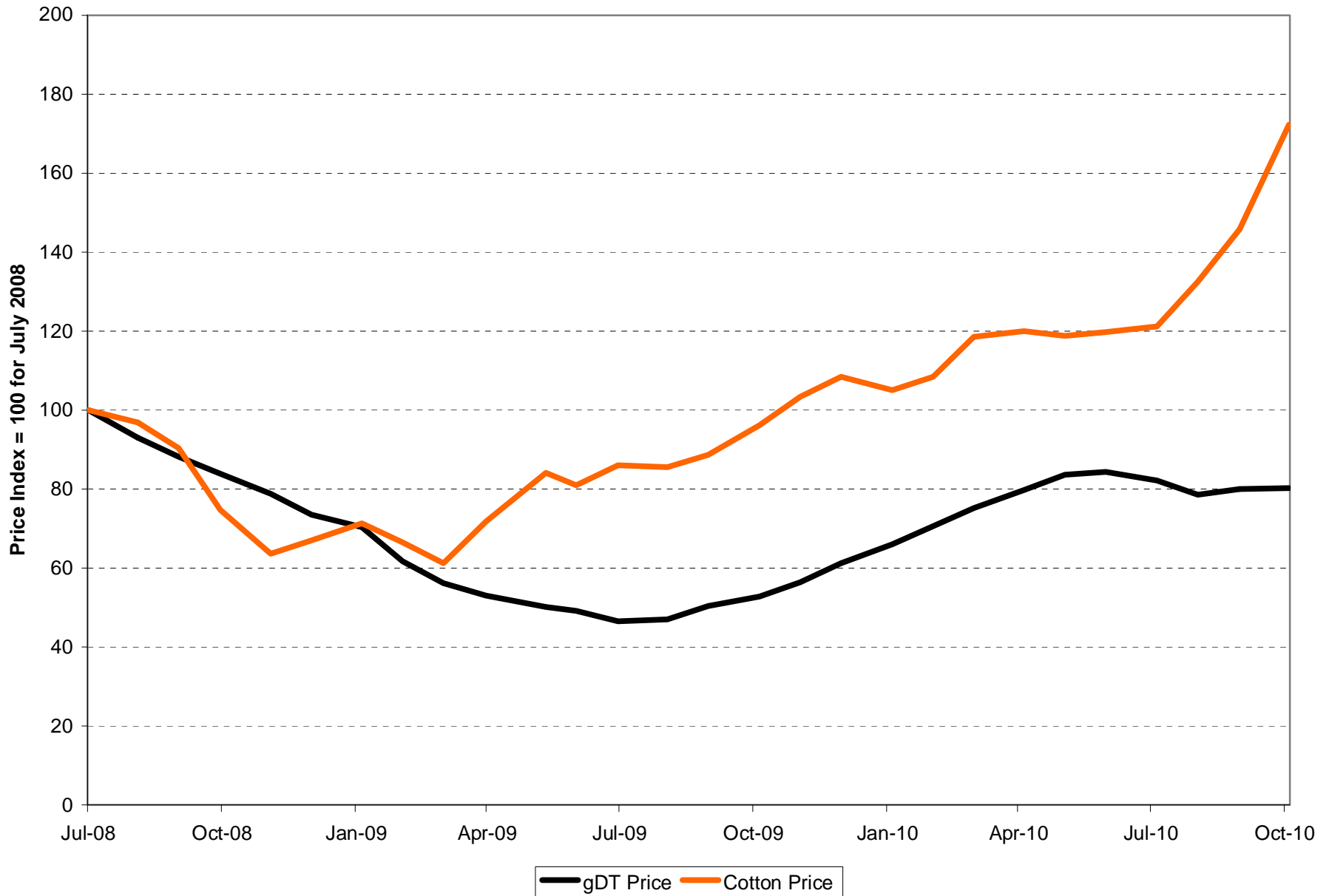
Results: gDT Prices Compared to Soybean Prices



Results: gDT Prices Compared to Wheat Prices



Results: gDT Prices Compared to Cotton Prices



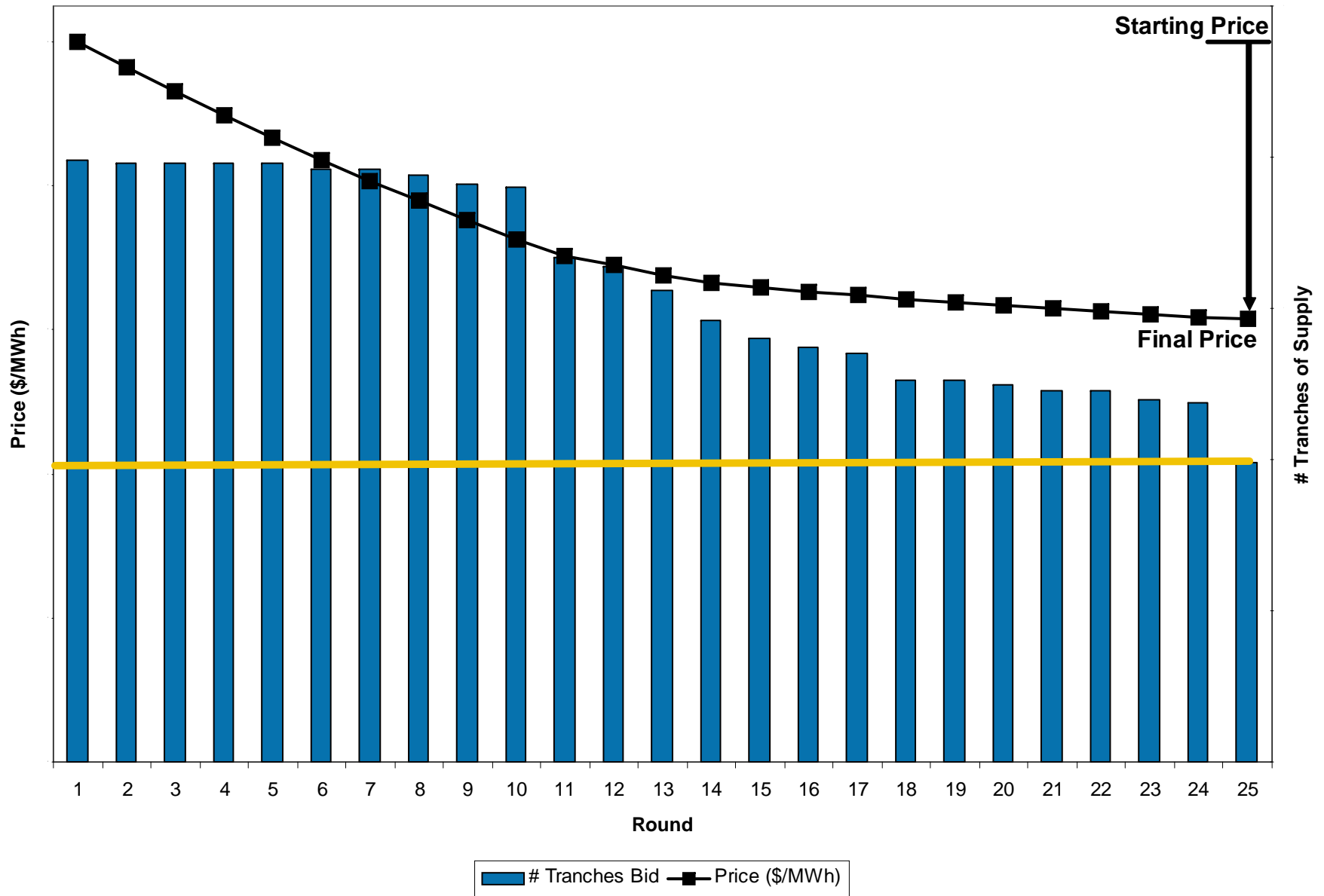
Results: gDT Provides Transparency and Credibility

- Over 300 qualified customers from 56 countries
 - 100-140 bidders active in round 1 of each trading event
 - About 65% of the bidders win product
- 32 trading events (July 2008 through November 2010)
 - Over US\$ 2.5 billion transacted
 - 700,000 MT (1.5 million pounds) transacted
- More products and volume have been added to the platform
 - Skim milk powder, whole milk powder, anhydrous milk fat, butter milk powder
 - Forecast is to transact 578,000 MT (1.3 million pounds) over next 12 months
- About 25% of Fonterra's domestic production is on gDT
 - There is scope to add value as the co-op members require
- Provides reliable, credible prices and market information, benefitting coop members and the marketplace
- Followed closely by the rest of the market and by financial institutions

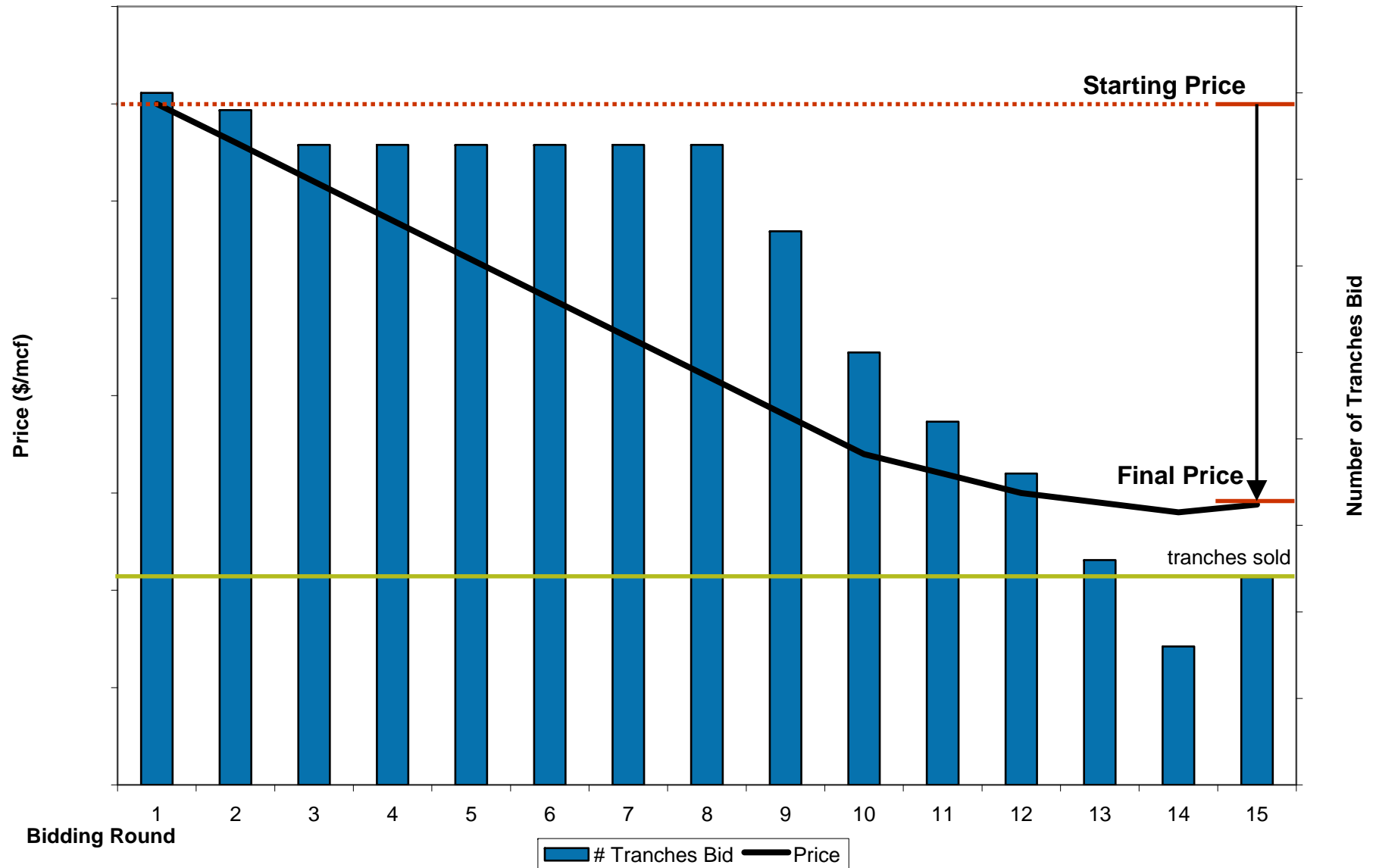
The Future

- gDT: possibility of additional sellers joining the platform – thus becoming a multi-seller, multi-buyer platform
- Similar trading platform – CranberryAuction – has been developed for Ocean Spray for cranberry concentrate
- Can be designed and tailored to meet the needs of both buyers and sellers in a variety of markets
- Allow more potential buyers and sellers to participate in the market
- Complementary with other transactions – need not replace all other transactions
- This is not just theory – there now is extensive experience in a variety of industries – electricity, natural gas, chemicals, telecommunications, etc.

Example: Electricity Procurement Auction



Example: Natural Gas Procurement Auction



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