

The Reality of the Uranium Market

TradeTech
uranium prices & analysis since 1968



Treva Klingbiel, President
MINExpo International 2012

TradeTech Website

About Us | Our Products | Uranium Prices | Media | Uranium Primer


Client Login →

News

December 1, 2011 - As the uranium industry continues to assess the implications of the Fukushima crisis in Japan, TradeTech...

March 2, 2012 - It's been nearly a year since the accident at Japan's Fukushima Daiichi nuclear station and the nuc...

March 23, 2012 - Following a relatively dynamic period last week, activity in the spot uranium market slowed this week. Only th...

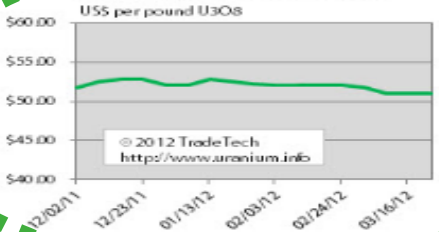


TradeTech -- specialists in nuclear fuel markets -- consulting and supply/demand analysis

We provide weekly reports referenced as settlements:
- Uranium (yellow)
- Uranium hexafluoride
- Uranium enrichment
- Uranium market

Uranium Spot Price Indicator

US\$ per pound U3O8



Date	Price (US\$ per pound U3O8)
12/02/11	~\$50.00
12/22/11	~\$50.00
01/13/12	~\$50.00
02/03/12	~\$50.00
02/24/12	~\$50.00
03/16/12	~\$50.00

© 2012 TradeTech
<http://www.uranium.info>

Nuclear Market Report

- Uranium prices
- Industry news
- Uranium market

Best known for uranium market price reporting (since August 1968)



TradeTech's Business Activities

Specializing in the front-end of the nuclear fuel cycle

- **Market Analysis and Daily, Weekly and Monthly Price indicators.**
- **TradeTech's Monthly Exchange Value is longest running prices series – in publication since 1968**
- **Quarterly Market Study : Projections of Supply/Demand/Price**
- **Specialized Consulting (e.g., procurement and contracting, competitor analysis)**

The leading independent source of uranium market information

The Four Realities Of The Uranium Market

- Fuel Cycle Dictates Buying Behavior
- Spot Market
- Long Term Market
- Market Fundamentals

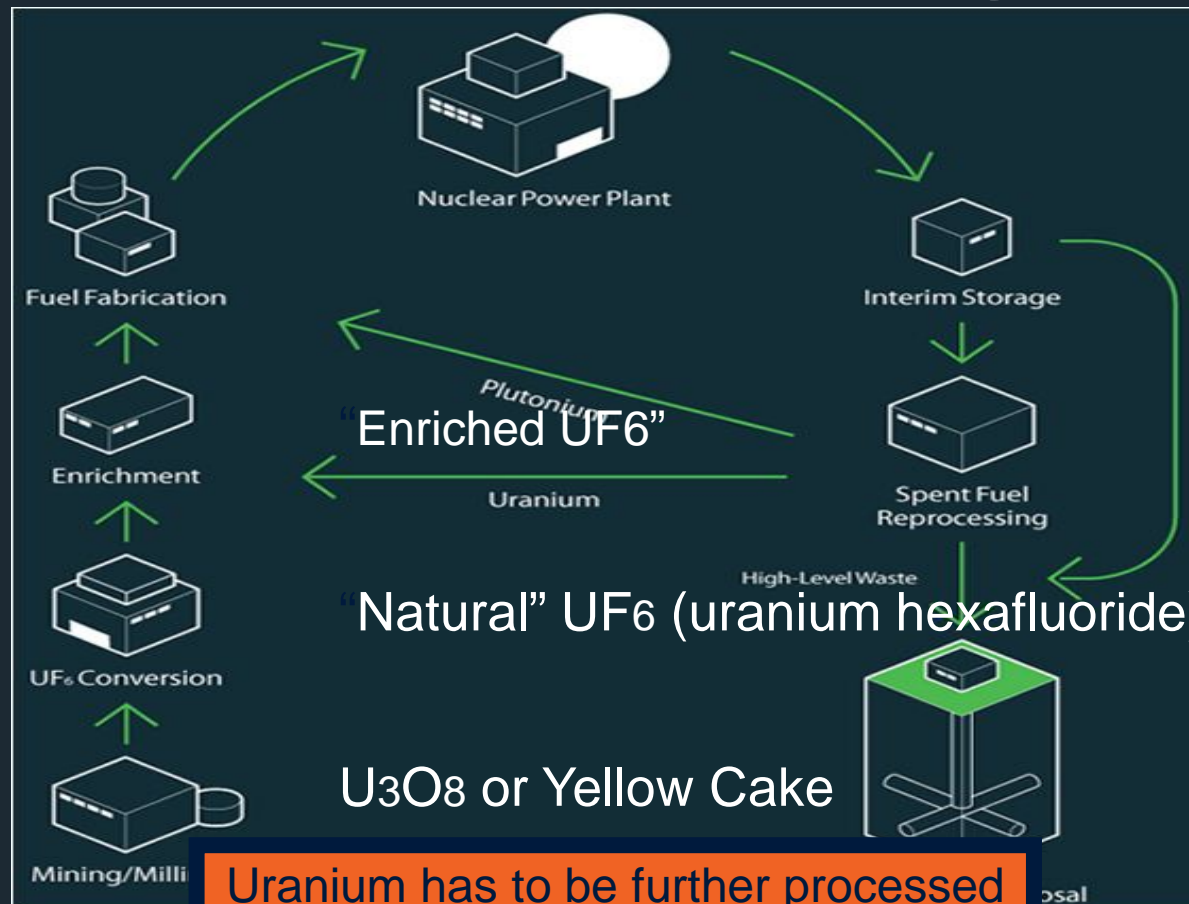


How Does the Uranium Market Work?

- Has been described as a very immature market, and is definitely a *boutique* market
- No open exchange like London Metals Exchange
- Market reporters, like TradeTech, publish price *indicators*



Uranium Processing



Uranium has to be further processed to become nuclear fuel.



Reality 1

The Nature of the Nuclear Fuel Cycle Dictates
That Utilities Procure Uranium Far in Advance of
Actual Loading into Reactor

TradeTech

uranium prices & analysis since 1968



Current Uranium Supply Sources and Markets

2011	Primary Supply = 75%	Secondary Supply = 25%
Spot Market = 15%	7%	8%
Long-Term Market = 85%	68%	17%



Reality 2

Spot Prices are not linked to Production Costs

The Dynamic Pricing Model

An econometric approach to spot price forecasting

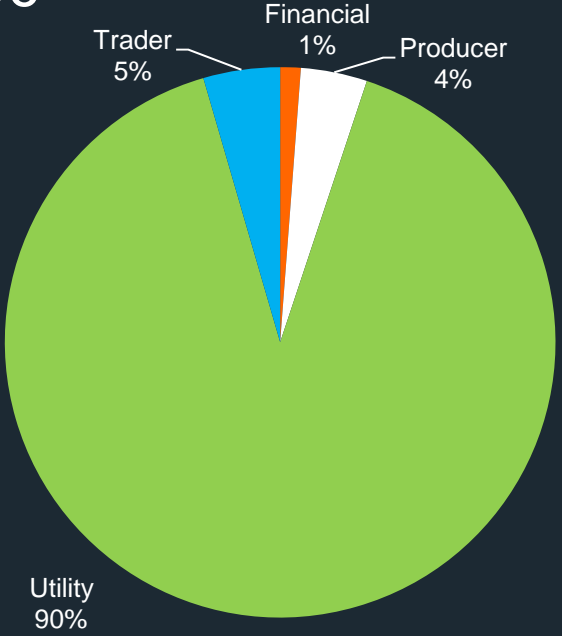
TradeTech

uranium prices & analysis since 1968

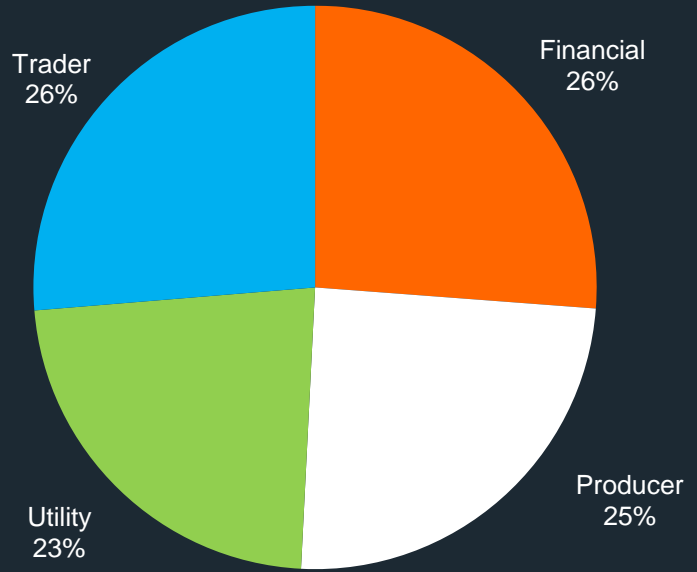


Changing Spot Market (Buyer Breakdown)

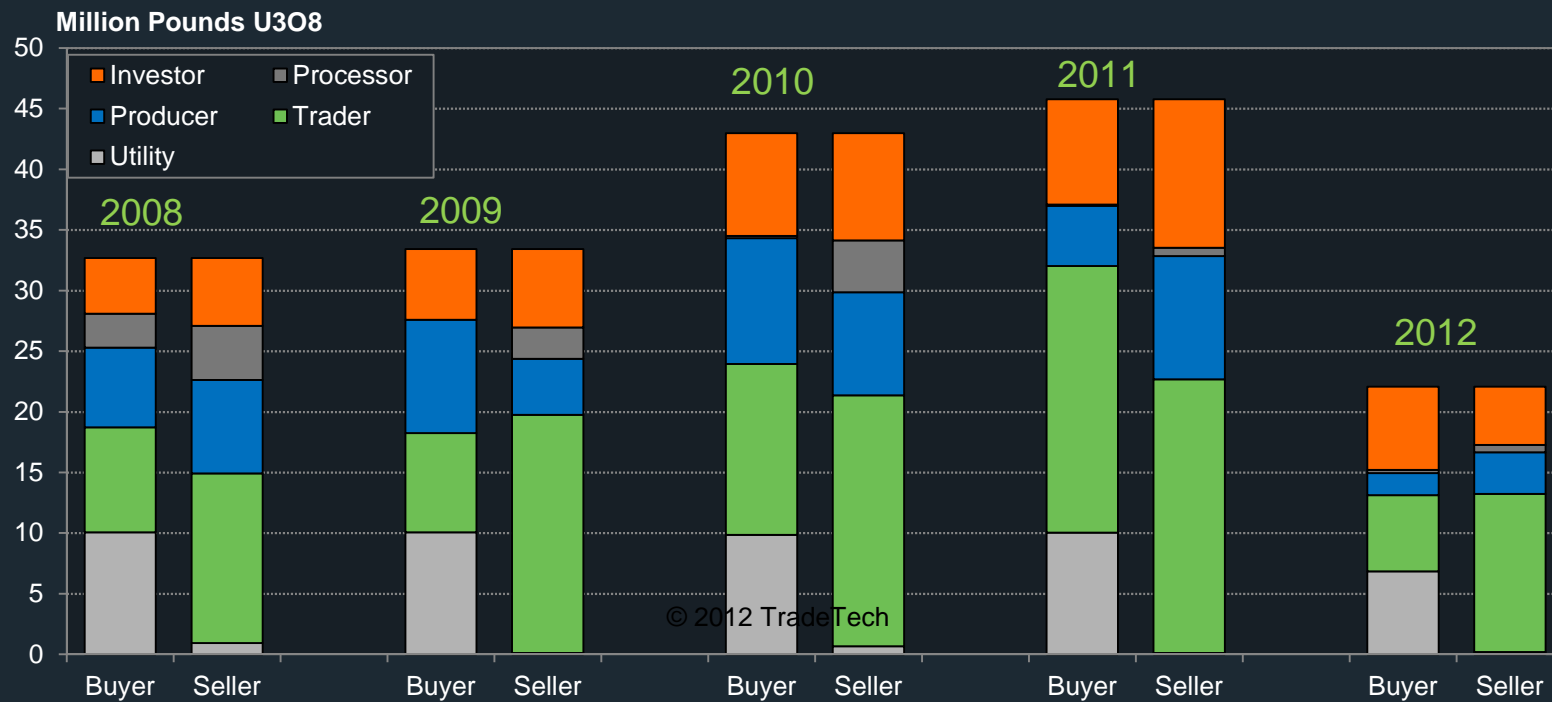
2000



Current



Spot Volume By Buyer/Seller Type



The Spot Market Characteristics

- More perception driven than 10 years ago.
- Some correlation to outside markets.
- Although still not efficient, increased liquidity has led to increased potential for volatility.
- Less driven by clearing price fundamentals.



The Dynamic Pricing Model

- Based on 3 variables that TradeTech has published since 1968.

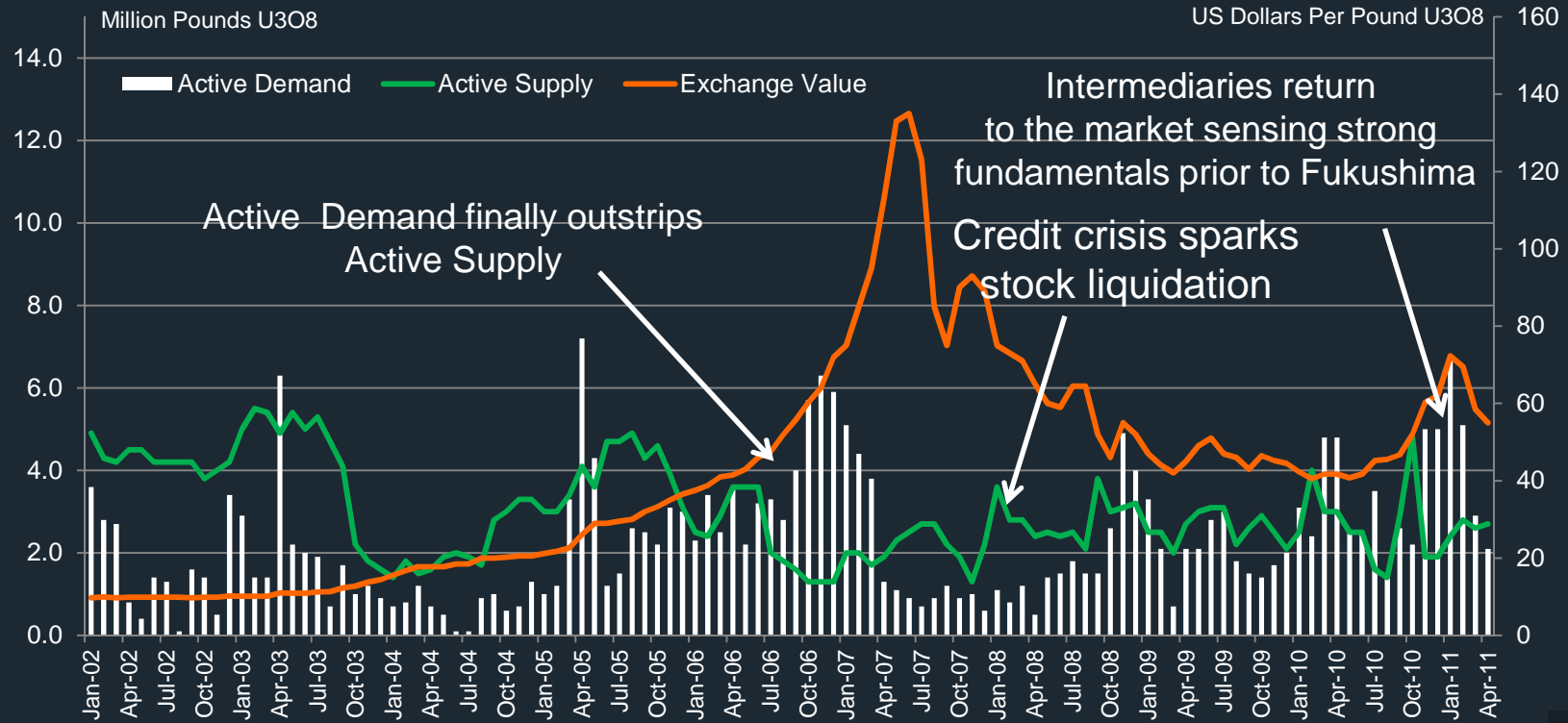
Active Demand, Active Supply and Spot Price.

- The historic correlation is defined by an algorithm.
- TradeTech utilizes its awareness of the market to forecast AS and AD over the forward 24 months, and future prices are calculated.

TradeTech's neutrality aids access to information.



The Historic AS/AD/ Price Relationship

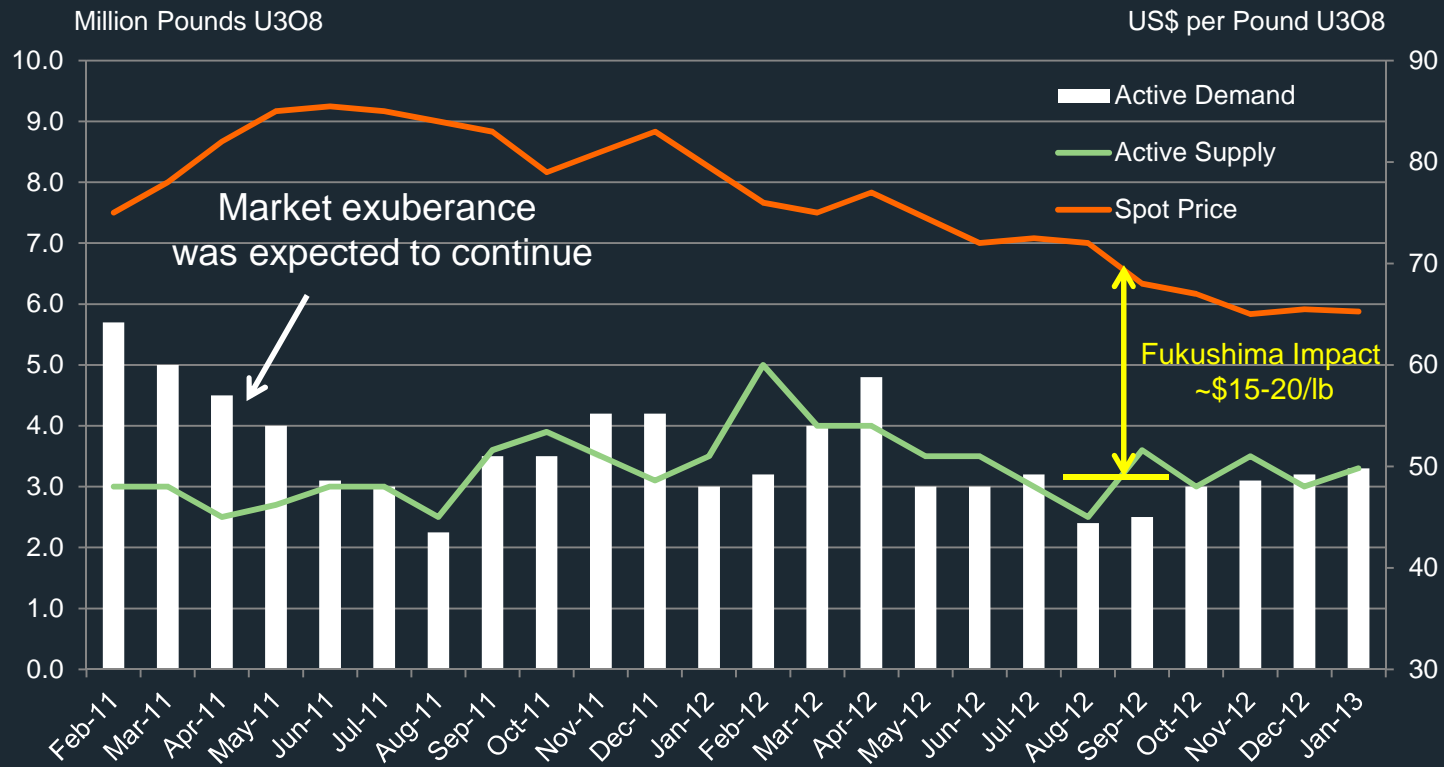


DPM Characteristics

- 2 years of historic data is used to forecast 2 years forward.
- The model is continually optimised to generate the closest possible correlation. For example:
 - i) It calculates the relative sensitivity to changes in demand versus changes in supply.
 - ii) A quadratic function exists to provide a multiplier effect to reflect market exuberance when price movement is marked.
 - iii) Price resistance levels are also built in.



Historic Spot Price Projection (DPM Q1 2011)



Reality 3

Projected Production is NOT Available for sale

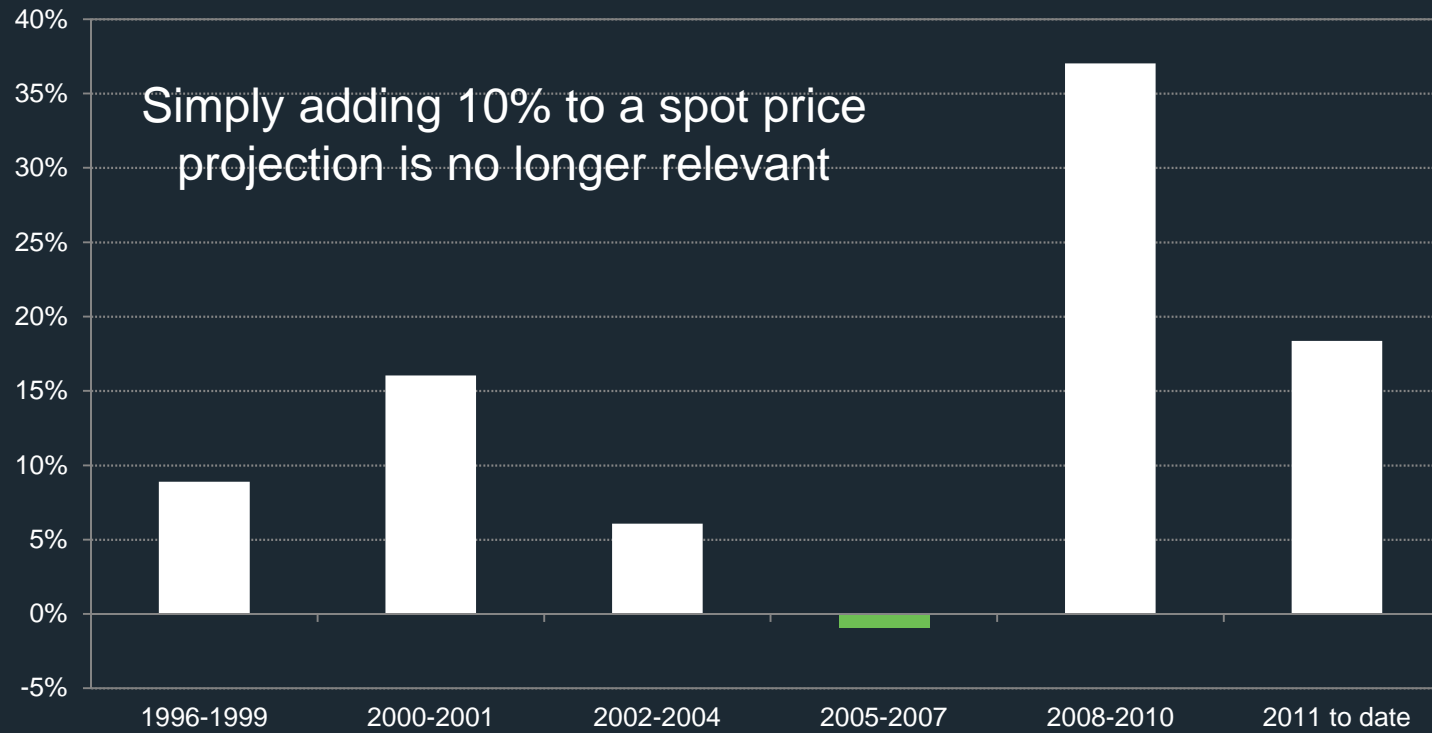
The Forward Availability Model

Forecasting Long Term Prices through to 2025

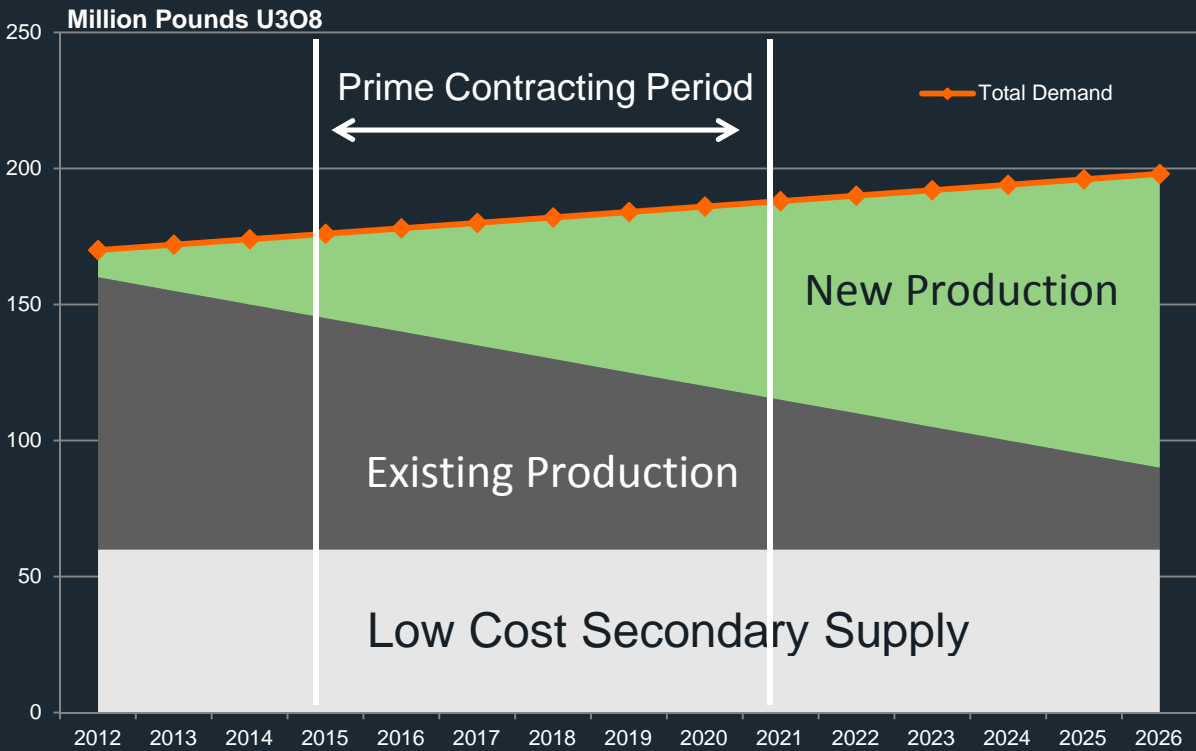
TradeTech
uranium prices & analysis since 1968



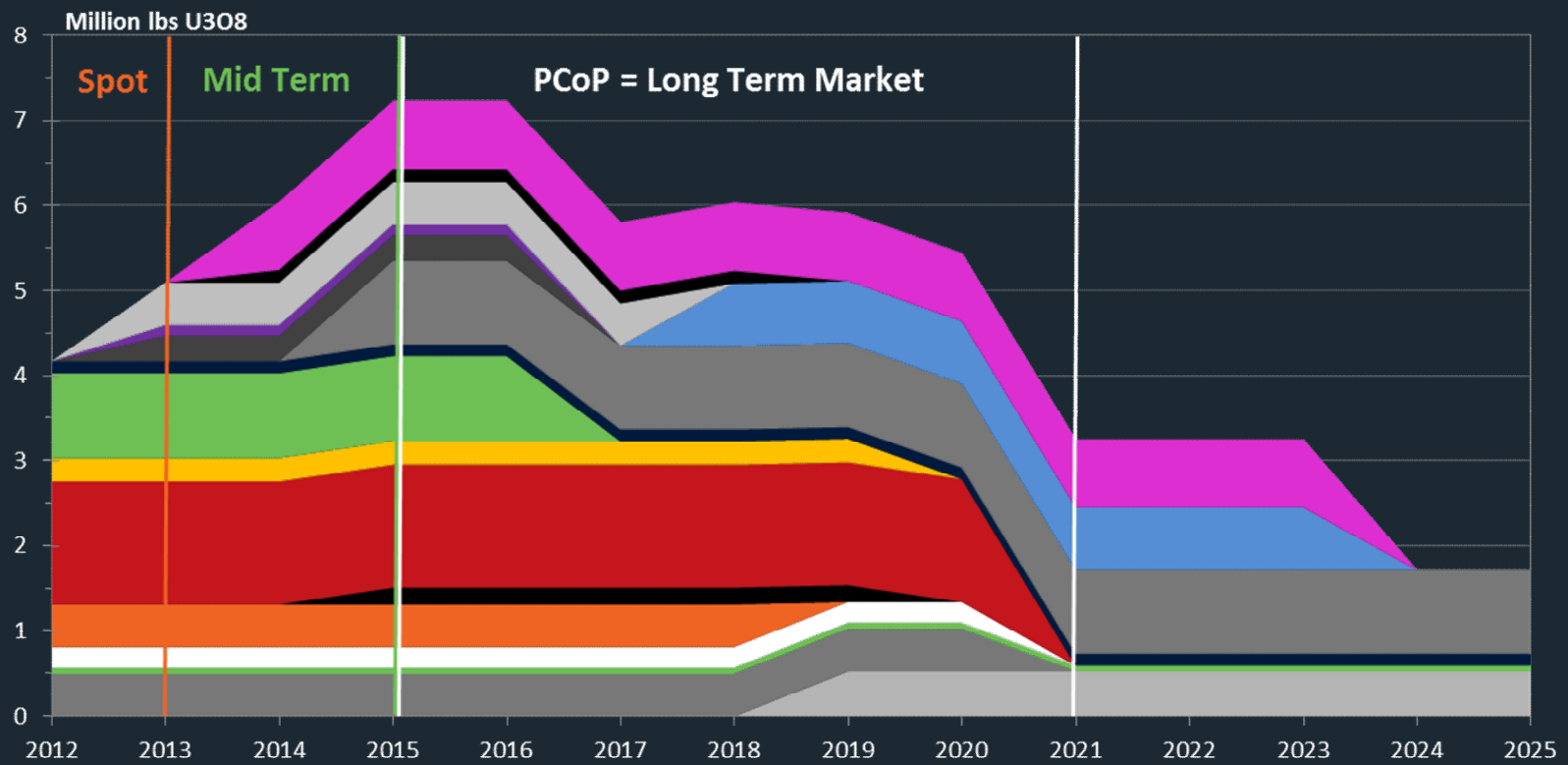
Long Term Price Premium



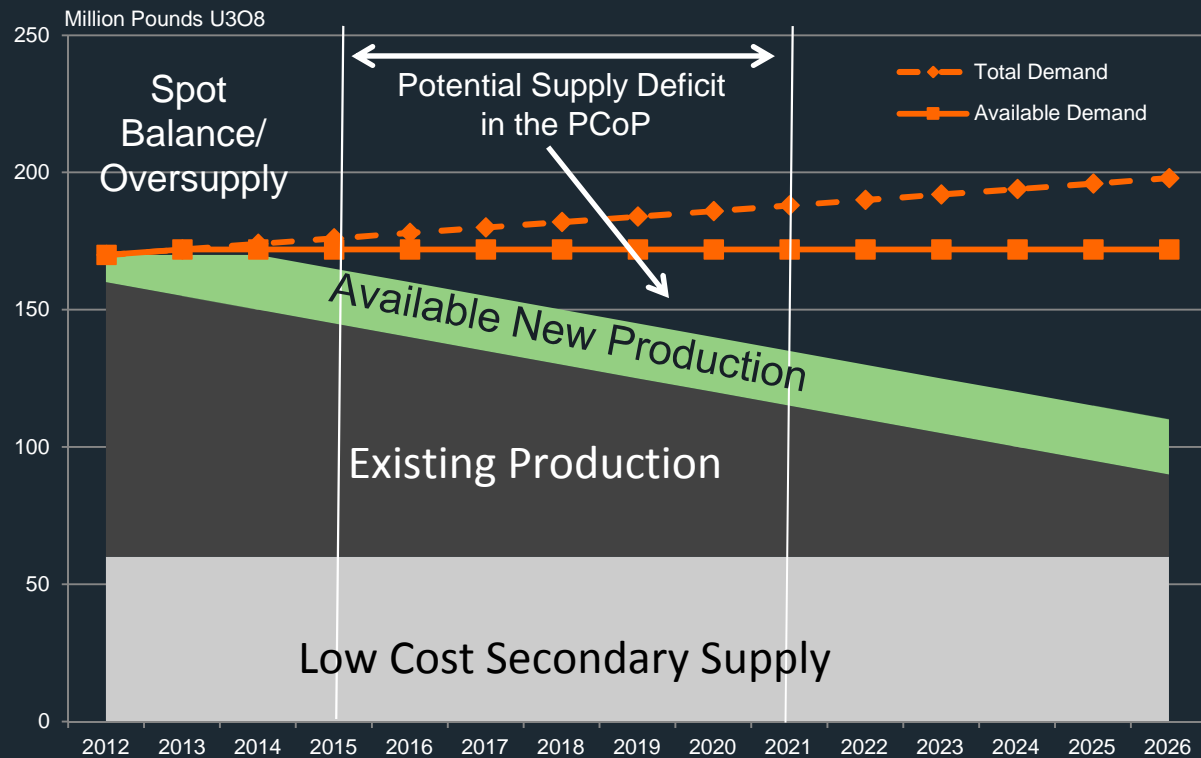
The Classic Supply and Demand Balance



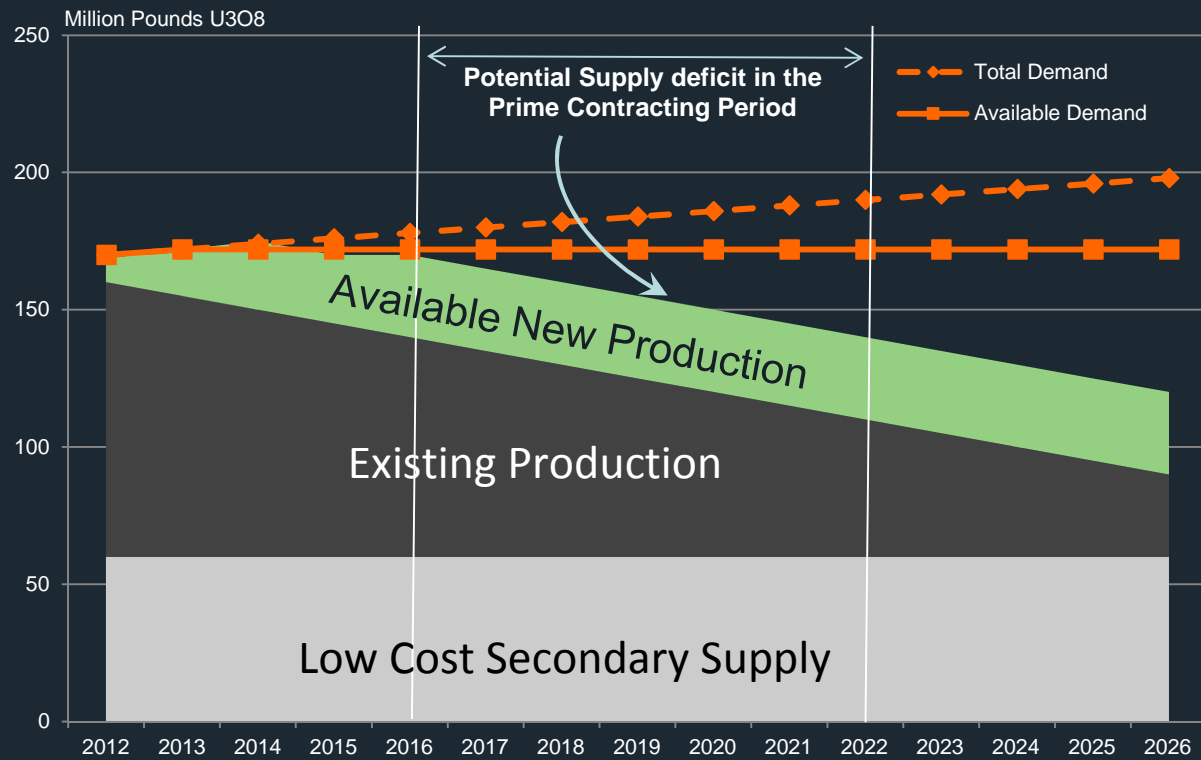
Prime Contracting Period (PCoP)



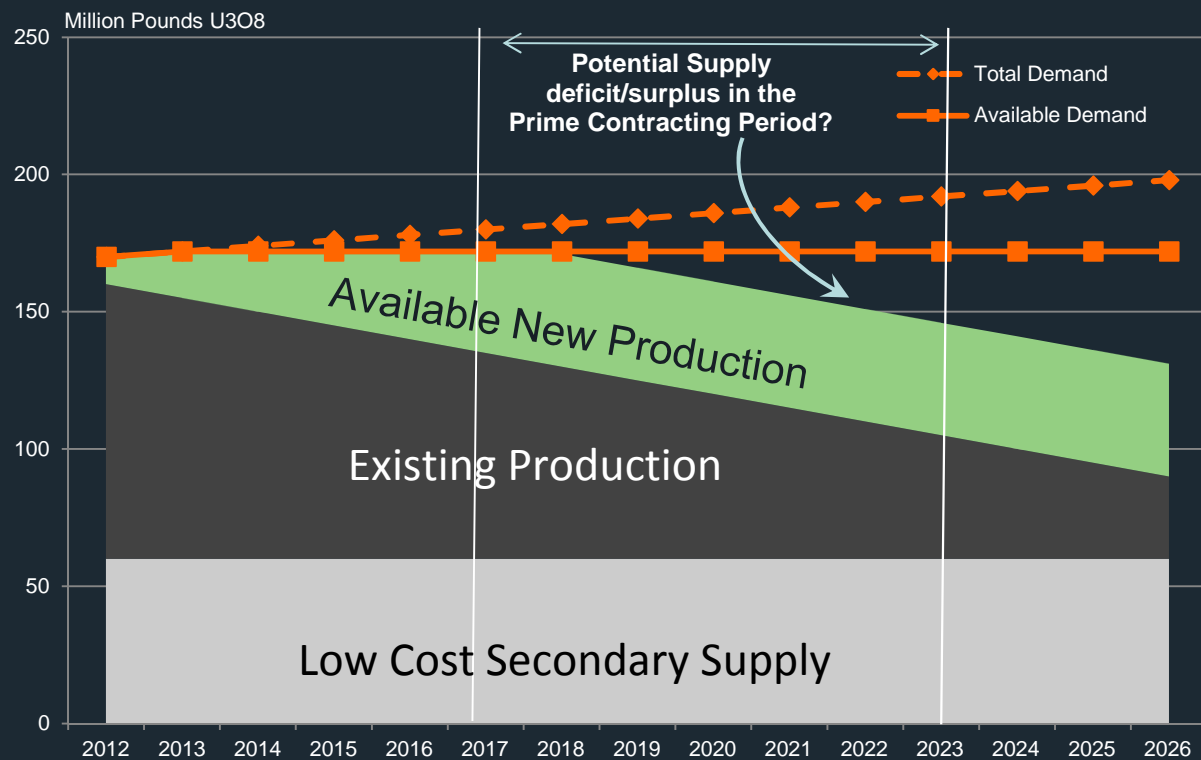
The Reality – Year 1 FAM Profile (Illustration)



The Reality – Year 2 FAM Profile (Illustration)



The Reality – Year 3 FAM Profile (Illustration)



FAM Characteristics

- The Long Term Price is largely defined by S&D in the Prime Contracting Period (PCoP) - defined as a six year period beginning 3 years forward (T+3 to T+9).
- TradeTech uses its awareness of contracting activity to track supply availability.
- A Forward Availability (FAM) Profile is generated for each year being forecast.
- Surplus/deficit is run against the TradeTech production cost curve to generate a long term price forecast through to 2025.



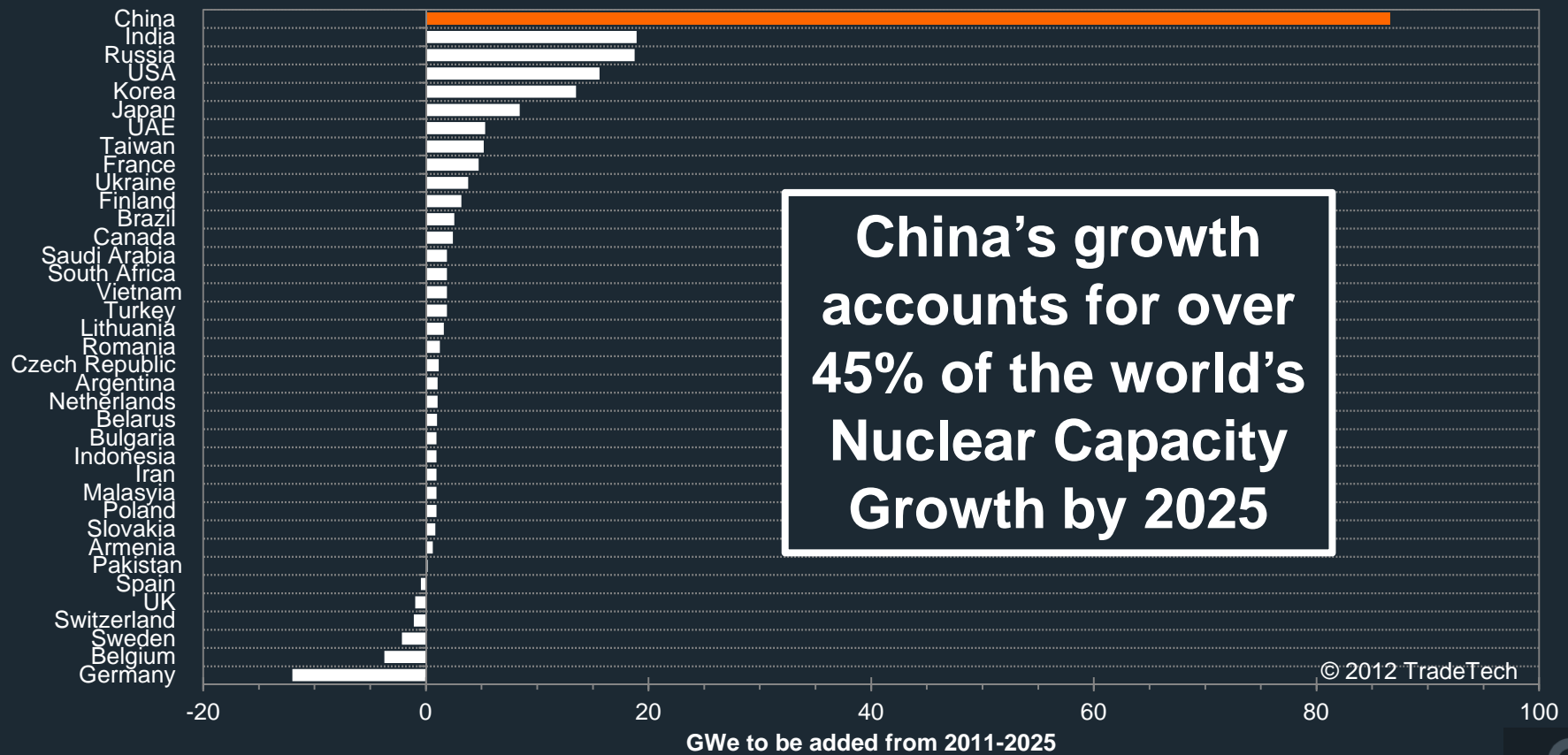
Reality 4

Good Market Fundamentals

TradeTech
uranium prices & analysis since 1968



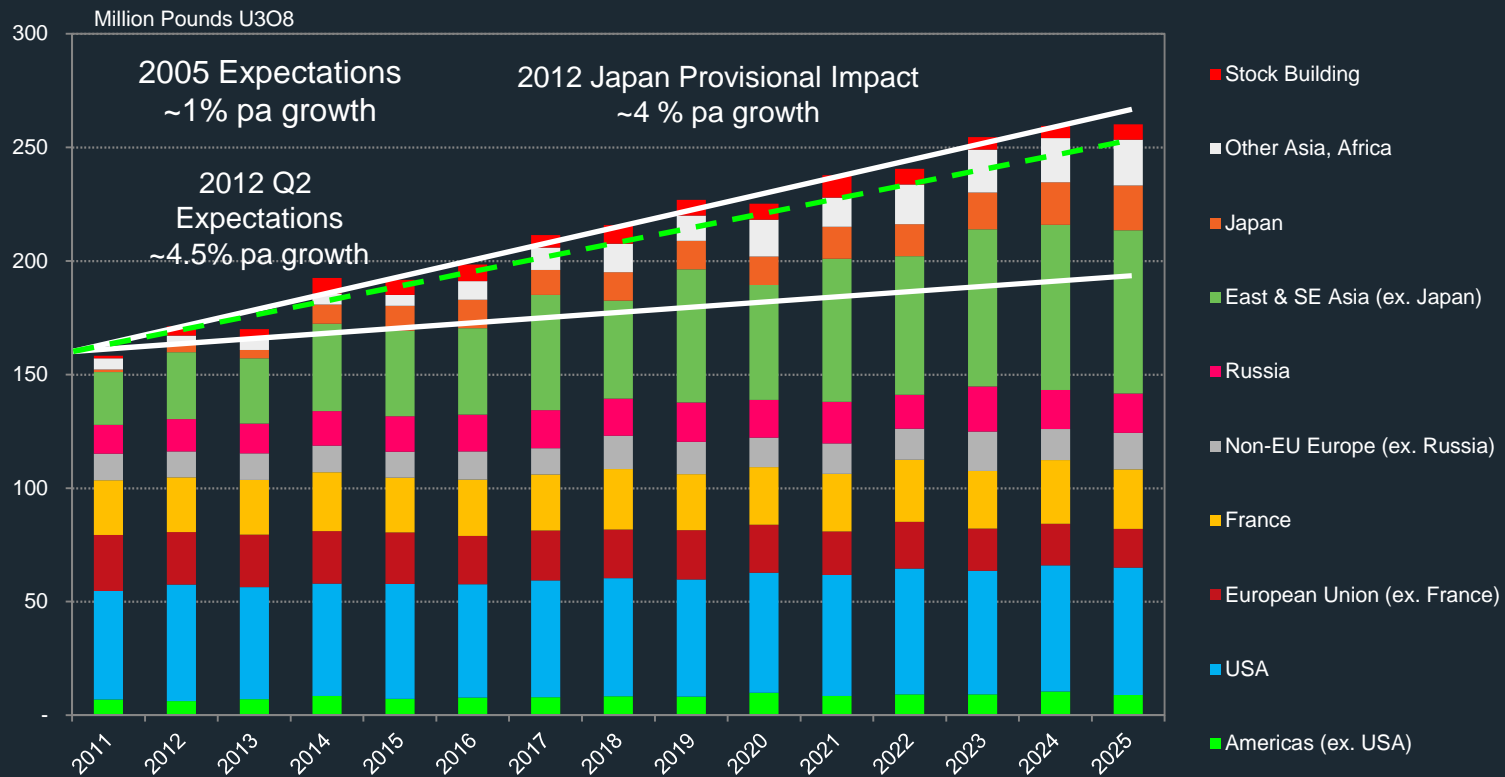
Nuclear Capacity Growth



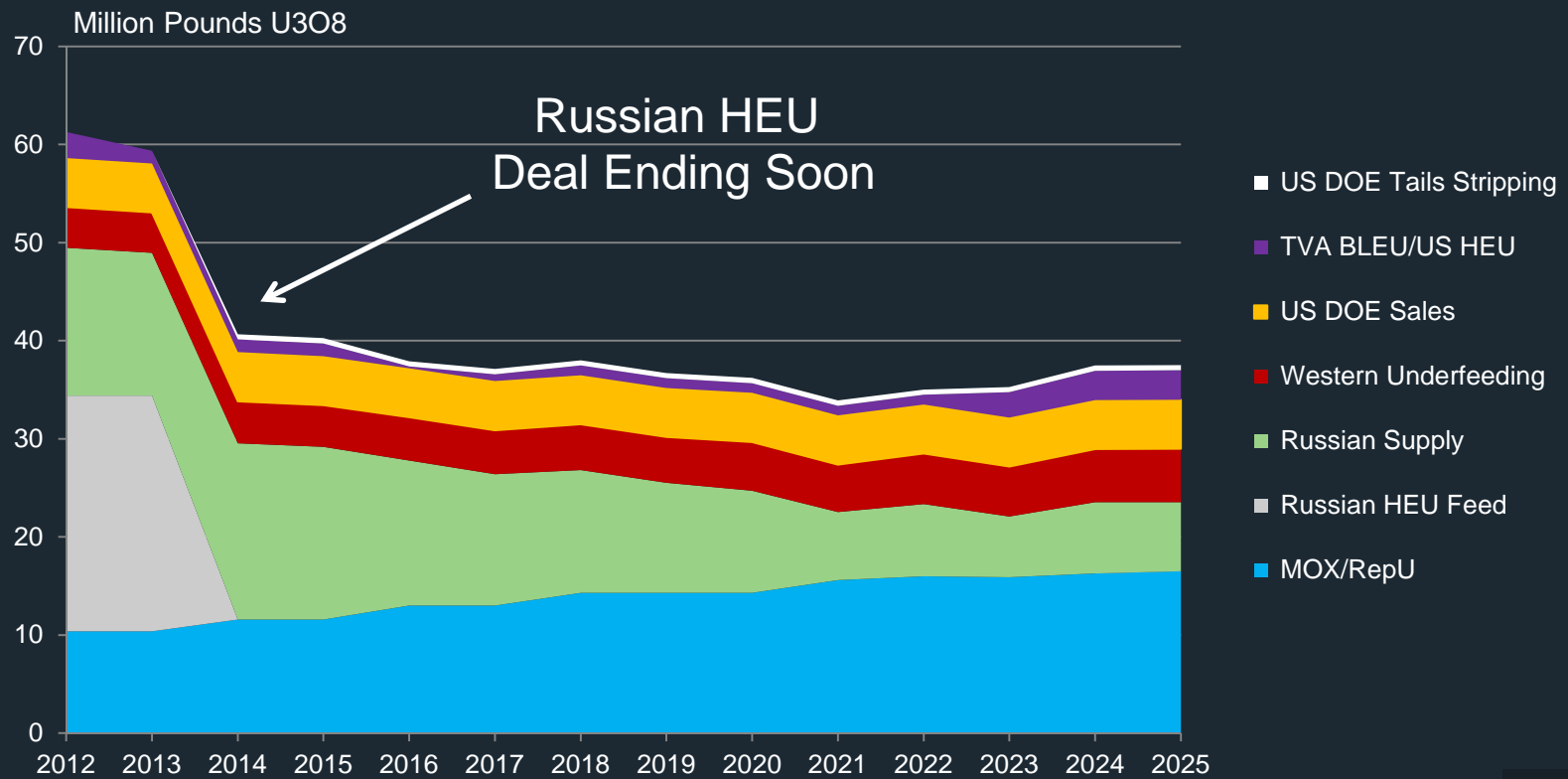
China's growth accounts for over 45% of the world's Nuclear Capacity Growth by 2025



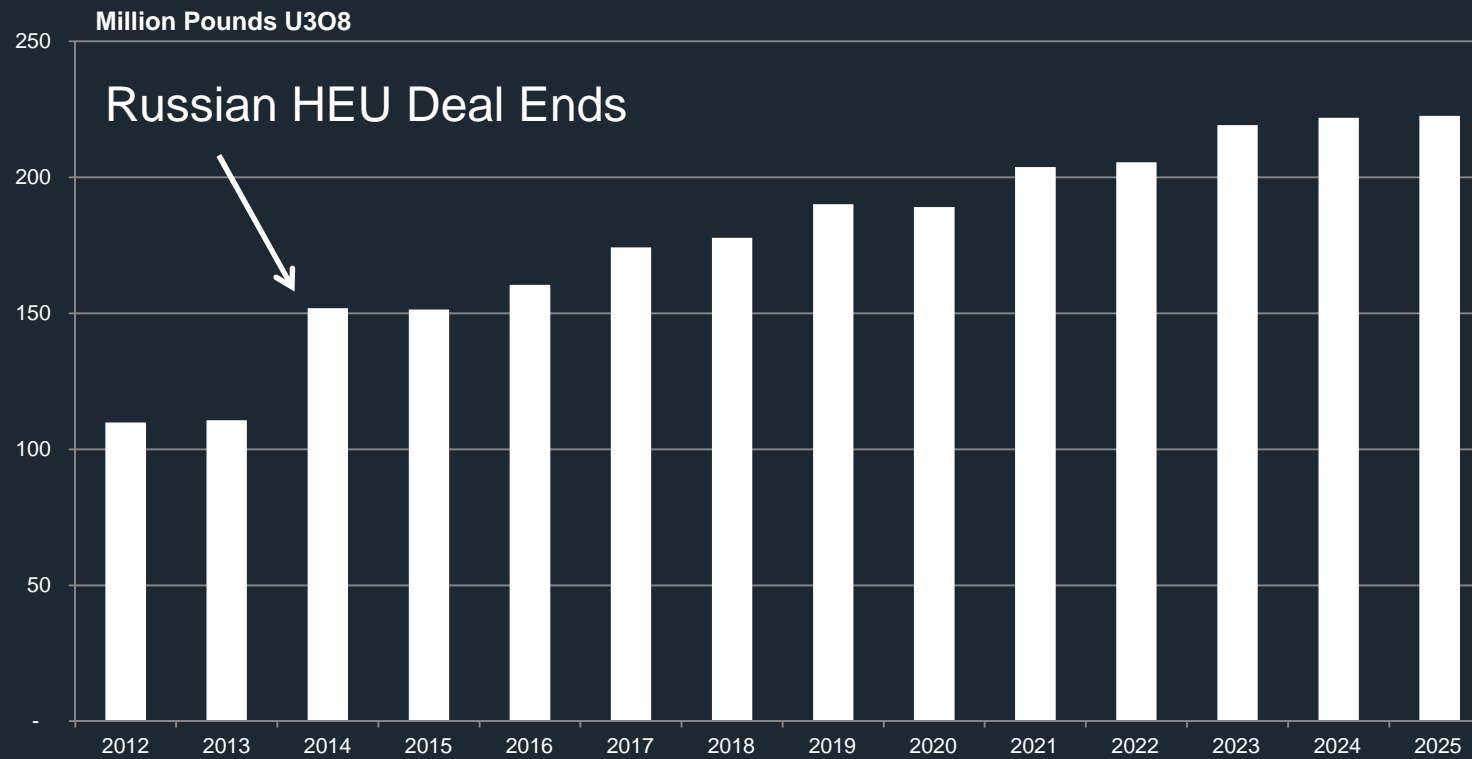
Global Uranium Requirements (Q2 Projections)



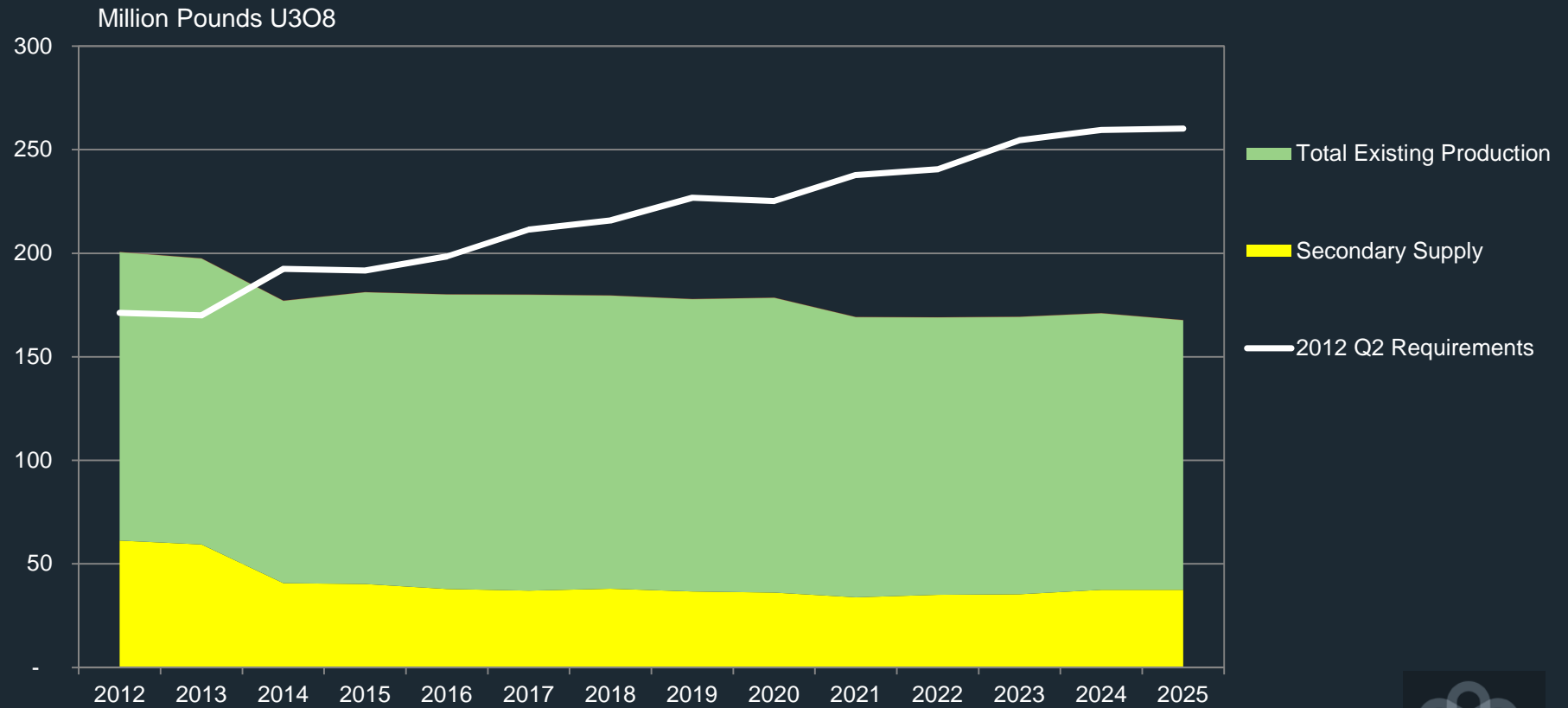
Secondary Supply (Q2 2012 Projections)



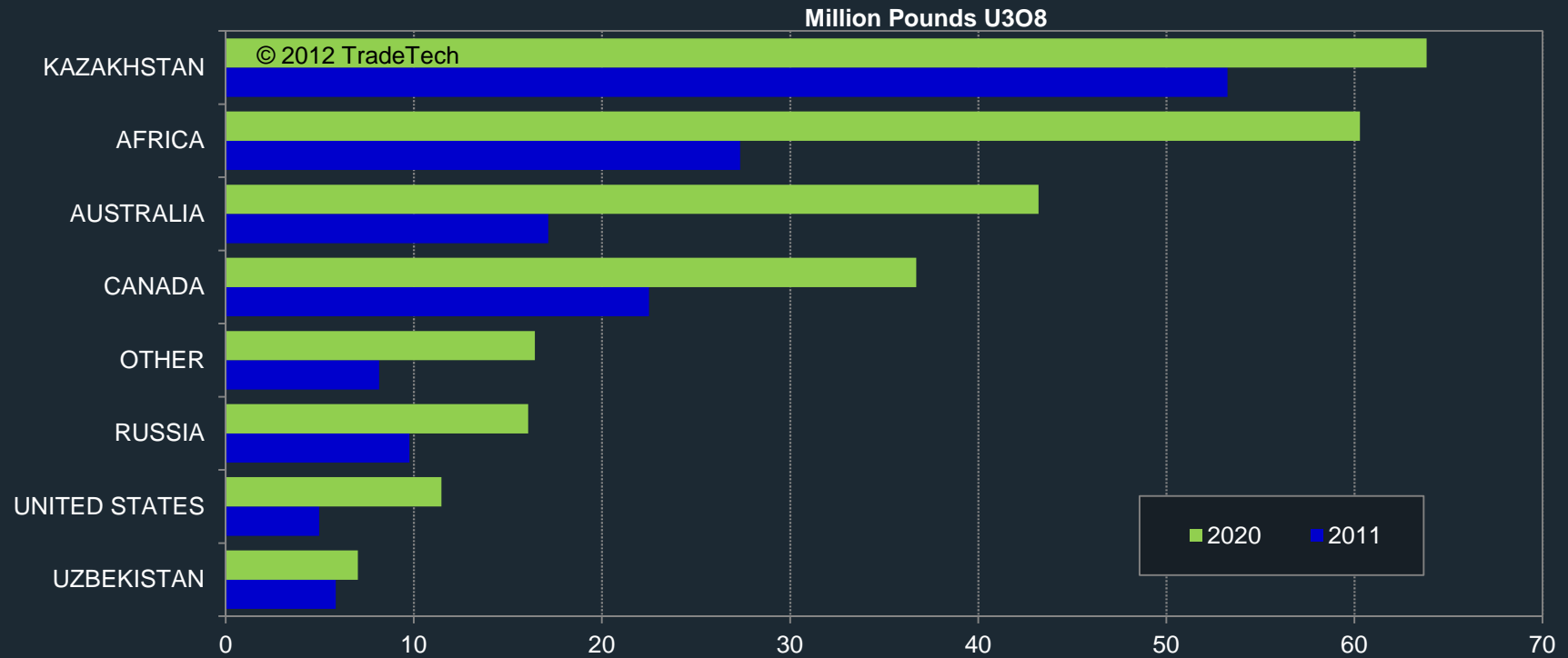
Call On Mine Production (Q2 Requirements less Secondary Supply)



Supply & Demand (Inc. Existing Supply Only)

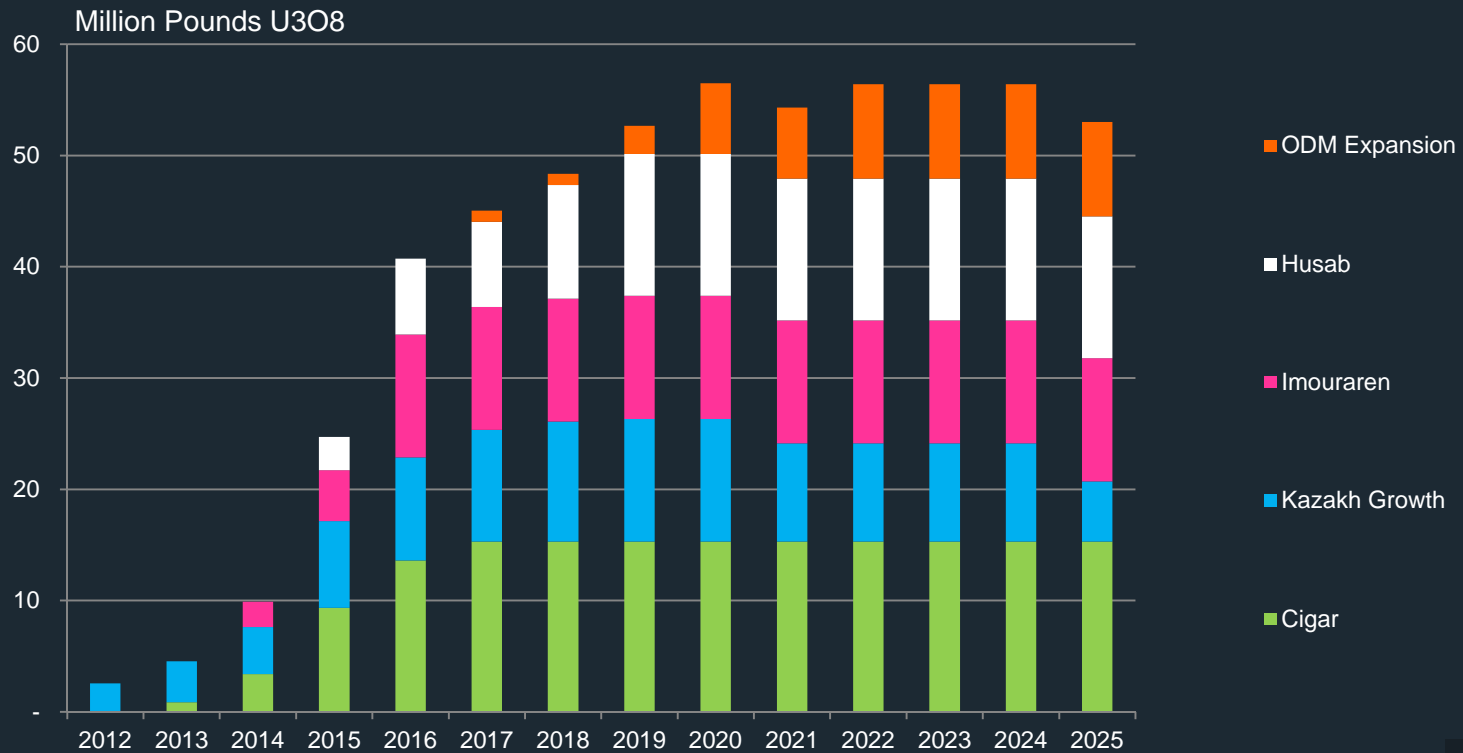


Current and Projected Uranium by Country

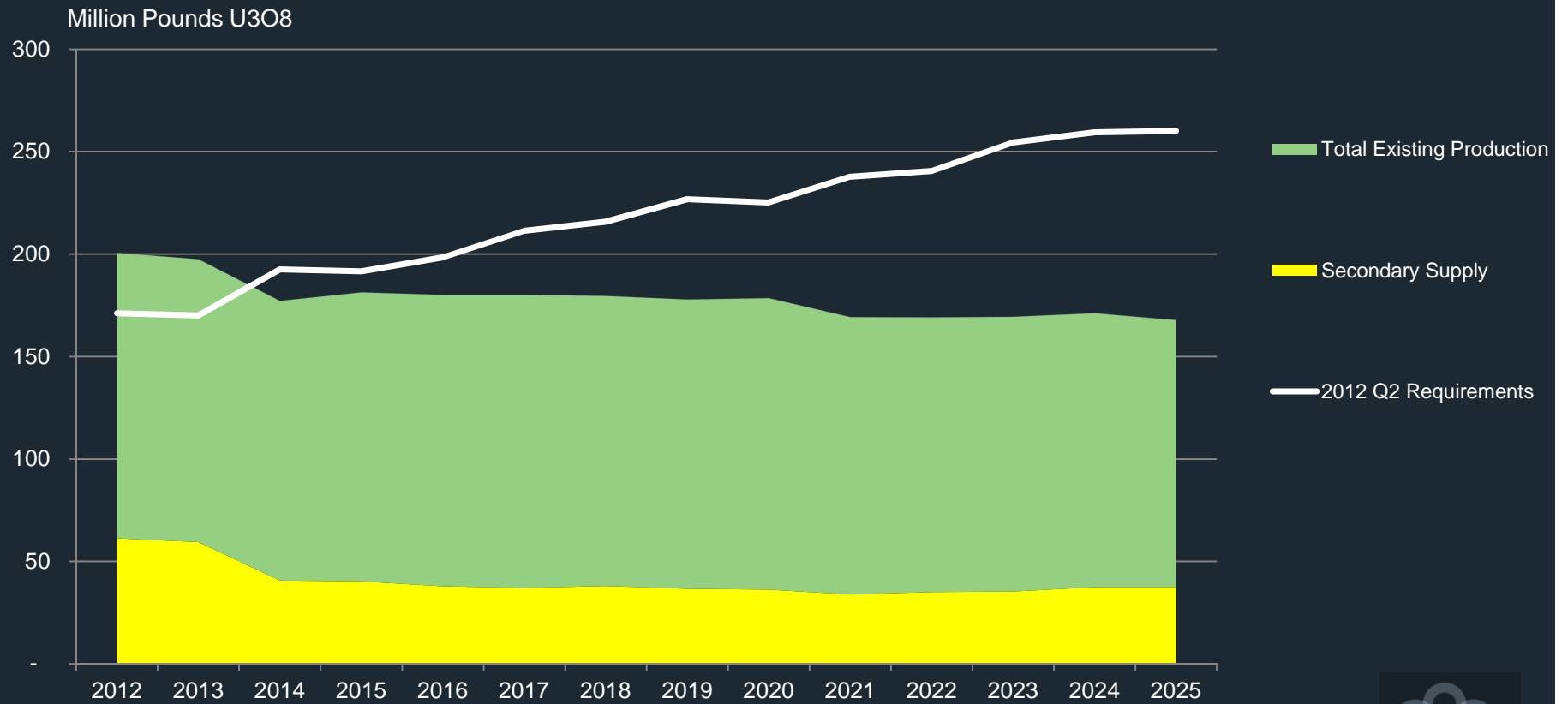


Five Pivotal Projects

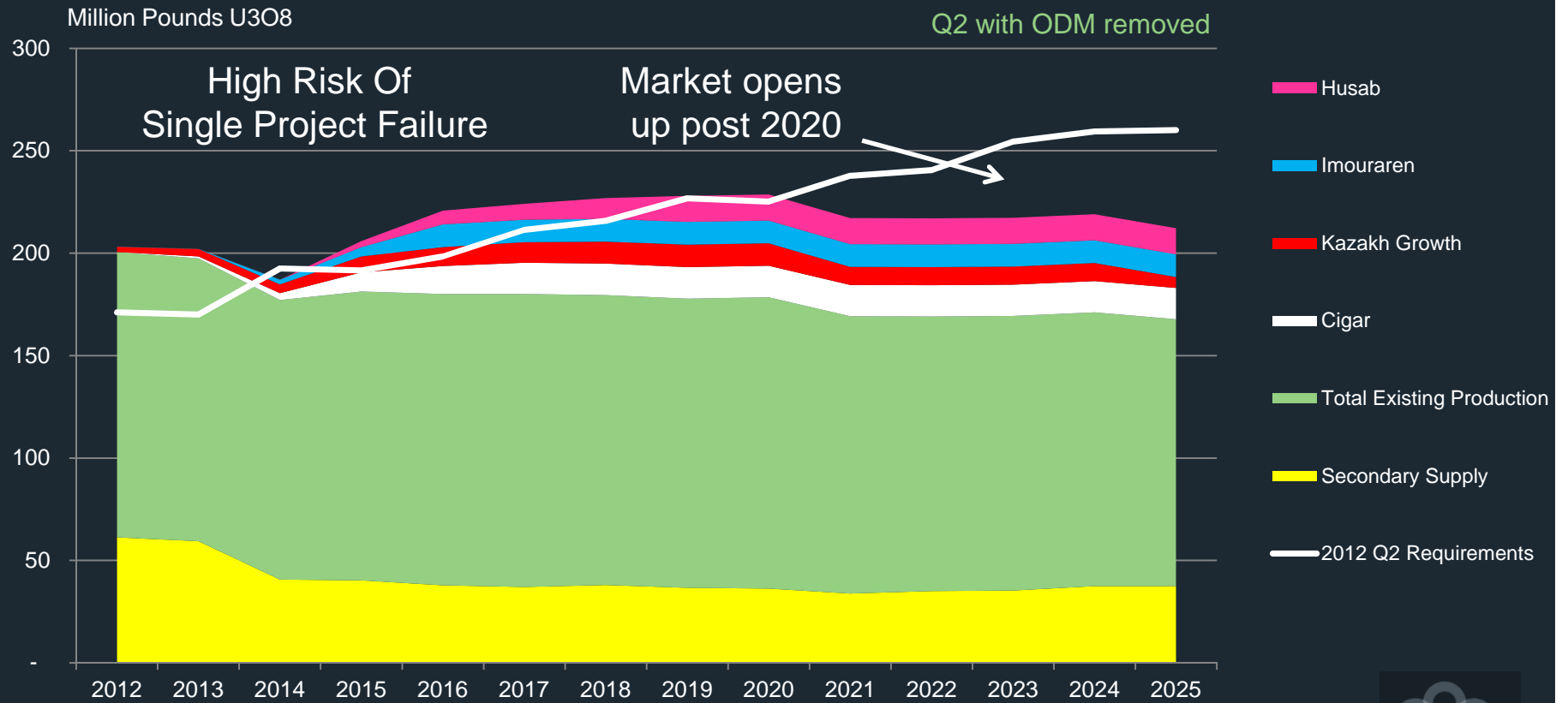
(defined as large and low cost or with strategic value to the stakeholders)



Supply & Demand (Inc. Existing Supply Only)



Supply & Demand (Inc. Existing Supply & Pivotal Only)



Conclusions 1:

- **Reality 1:** The structure of the market is changing due to the participation of investors and the financial community.
- **Reality 2:** Spot Price will not necessarily reflect production cost/clearing cost fundamentals.
- **Reality 3:** Long Term Prices more clearly linked to production costs AND production is not currently marketable.

They can be linked, both by arbitrage between the markets and psychologically.

- TradeTech has developed 2 separate models to reflect the reality of the Spot and Long Term markets.



Conclusions 2:

Reality 4 : Firm Market Fundamentals...

- Nuclear power growth look robust.
- Reducing Secondary Supply supports COMP.
- Pivotal Projects have high importance, but will not be enough.
- Potential for a price rise by 2025 to \$80 per pound U308.

Market developments and forecasts revised quarterly



Treva Klingbiel
President
treva.klingbiel@tradetech.com

TradeTech
7887 E. Belleview Avenue, Suite 888
Englewood, Colorado, USA
Direct Phone +1 (303) 573-3520
www.uranium.info

TradeTech
uranium prices & analysis since 1968

