

Pellet Market Stories

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| RISI |



Pellet Market Stories

- Policy changes and uncertainty in Europe
- Low oil prices
- Exchange rates (strong dollar)
- Weather
 - Warmest winter ever
 - ... but freezing in the Northeast (>60% of N. American pellet market)
- Korean market explosion and slowdown

Global Pellet TourTM



UK Policy Update

- Climate Change Levy (tax) exemption for renewable energy removed
 - Drax estimates this will cost them £30 million in 2015 and £60 million in 2016
 - Stock dropped > 25% on day of announcement
- Drax still evaluating options for 4th unit conversion based on new grandfathering rules
- RWE Lynemouth conversion under investigation by European Commission whether the CfD awarded violates EC state-aid guidelines

Dutch Sustainability

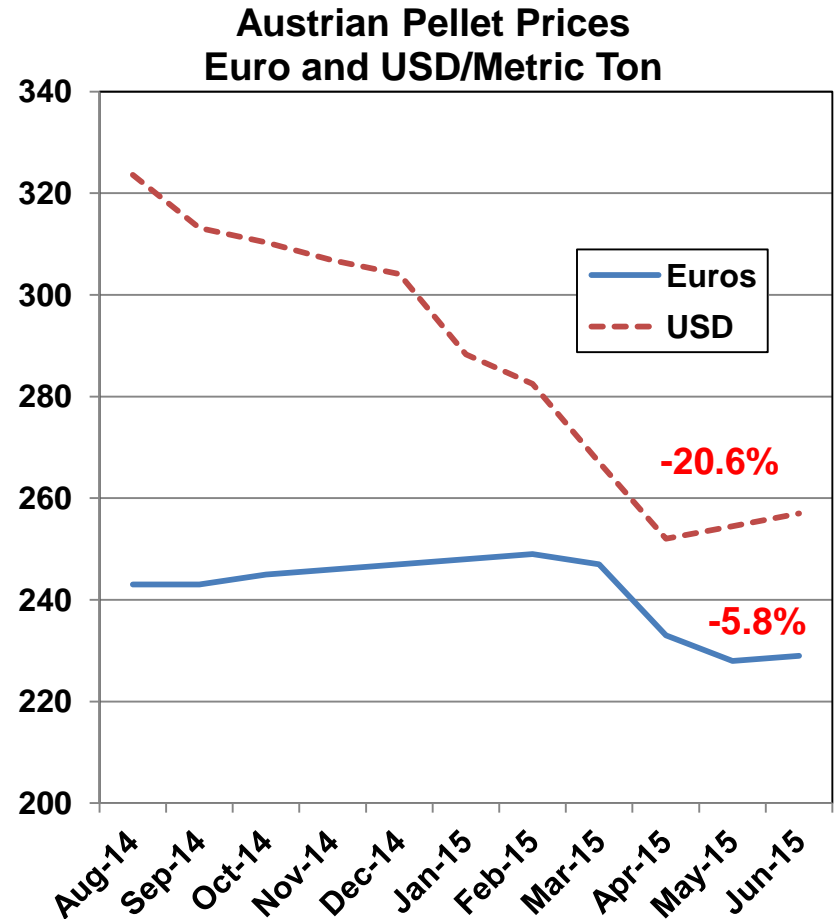
- *Finally* the Netherlands has issued official guidelines for sustainability in order for biomass to qualify under its SDE+ subsidy scheme
- “Short” rotation forest (<40yrs)
 - If plantation was established prior to 2008 – OK
 - If plantation was established after 2008 on natural or mixed forest – Not OK
 - If plantation was established after 2008 on ag or grass land – Depends
- “Long” rotation forest (>40 yrs)
 - Wood for pellet production must account for less than 50% by *volume* (excluding thinnings)
- Timberland certification
 - Required for “forest management units” over 1000 hectares
 - Decreases to 500 hectares by 2022
 - All must be certified by 2026
- *Most* residuals exempt

Other European Industrial Markets

- Denmark
 - Large CHP district heating systems
 - Demand increasing even faster than anticipated
 - Announcement of Avedore Unit 1 conversion
- Belgium
 - Smoother sailing this year after policy issues regarding higher and better use for raw material in 2014
 - All pellets will continue to come from overseas
- France
 - Zilkha RE Selma Plant “the advanced waterproof pellets it produces are to provide one-sixth of the heating in the city of Paris this winter”

European Heating Markets

- Warm winters
 - Two extremely warm winters in a row – lower demand
 - Anomaly or future?
- Global oil prices down
 - Less incentive for consumers to switch
 - Gas and oil prices more closely related in Europe
- Exchange rates
 - Make it nearly impossible for US producers to sell into Europe
 - Helps European producers by removing some additional NA suppliers



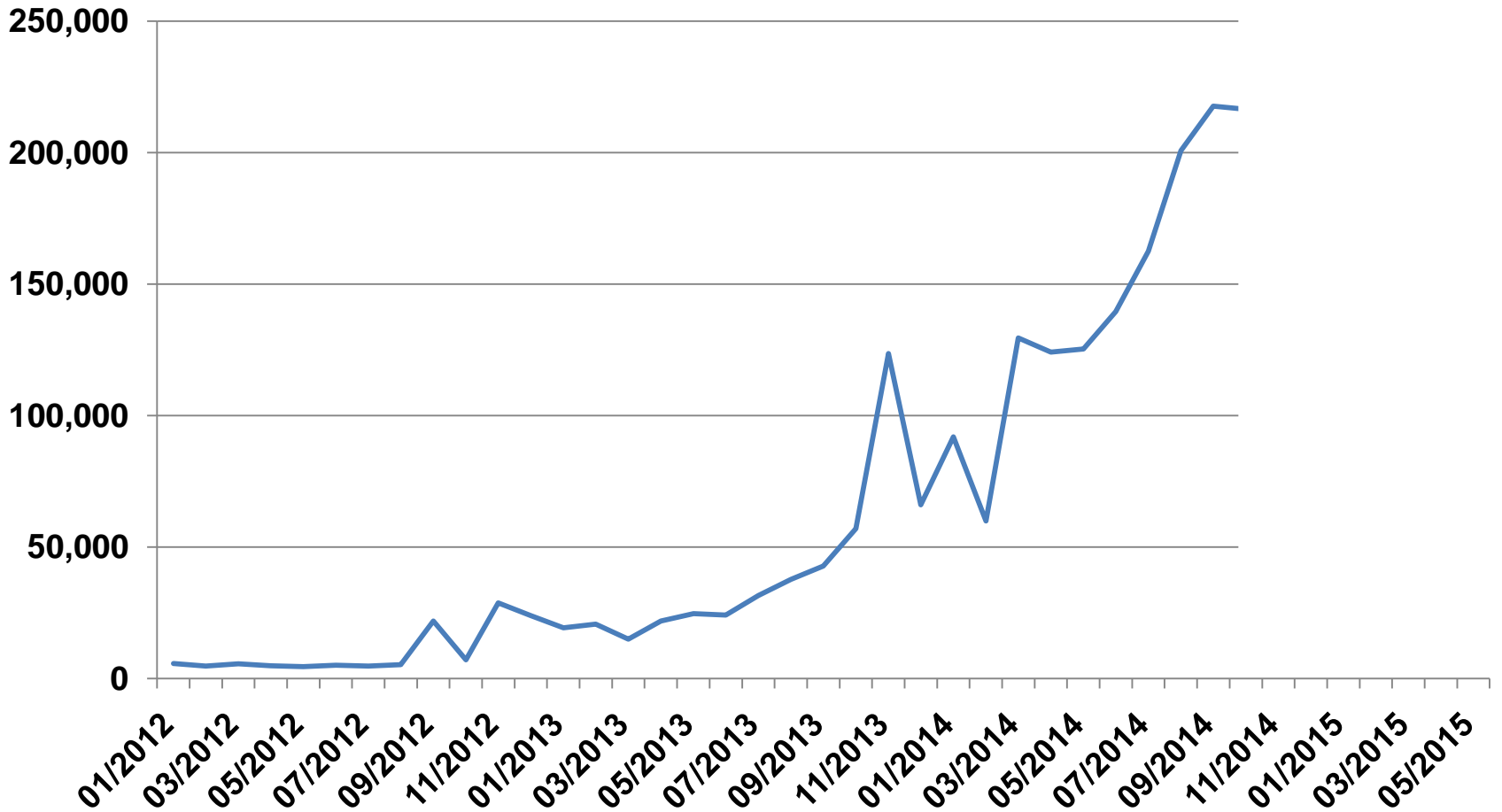
Korea in 4 Charts!

No Words!

...aka how an economist likes to look at things

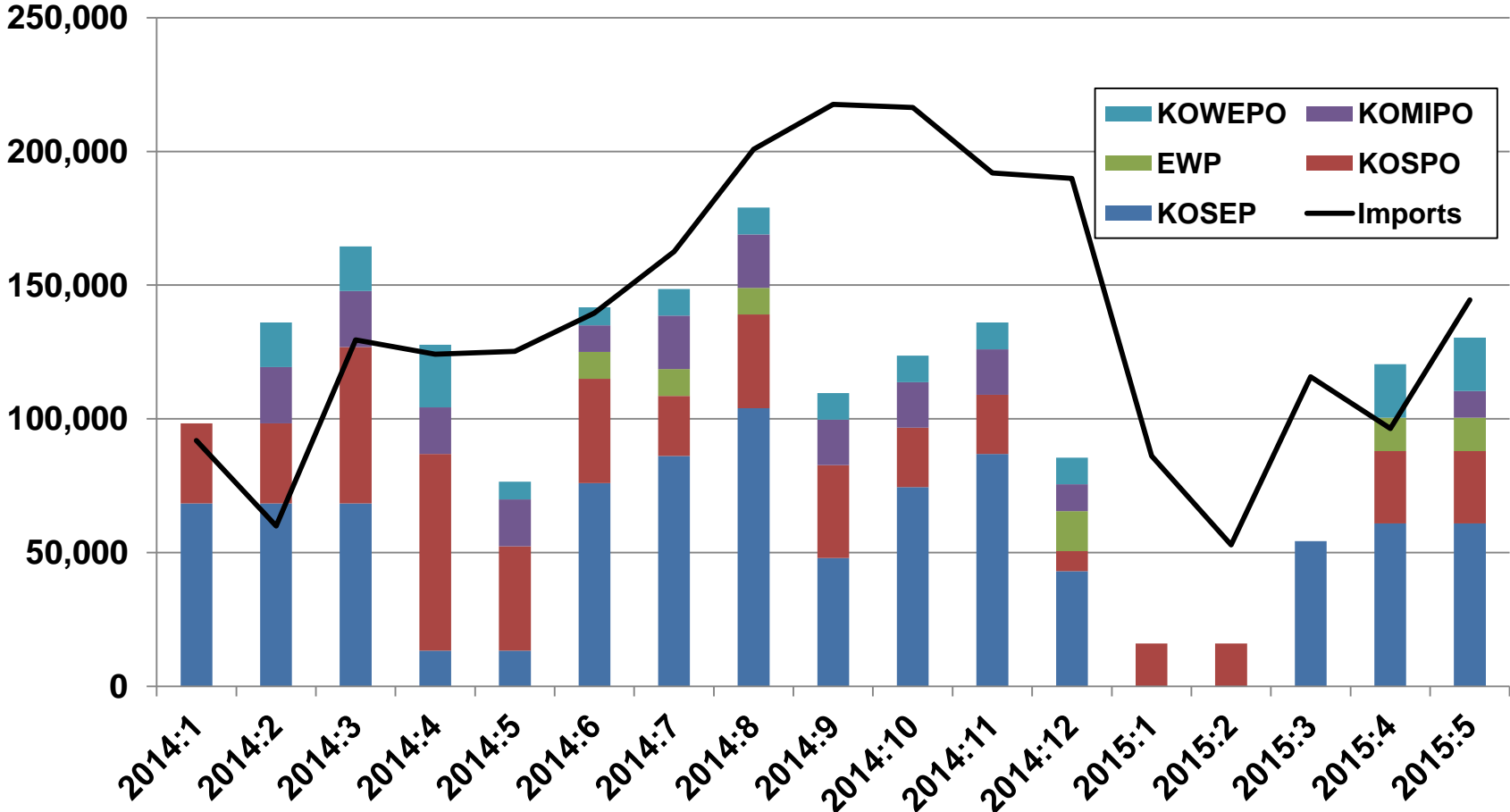
Korean Monthly Wood Pellet Imports

Metric Tons

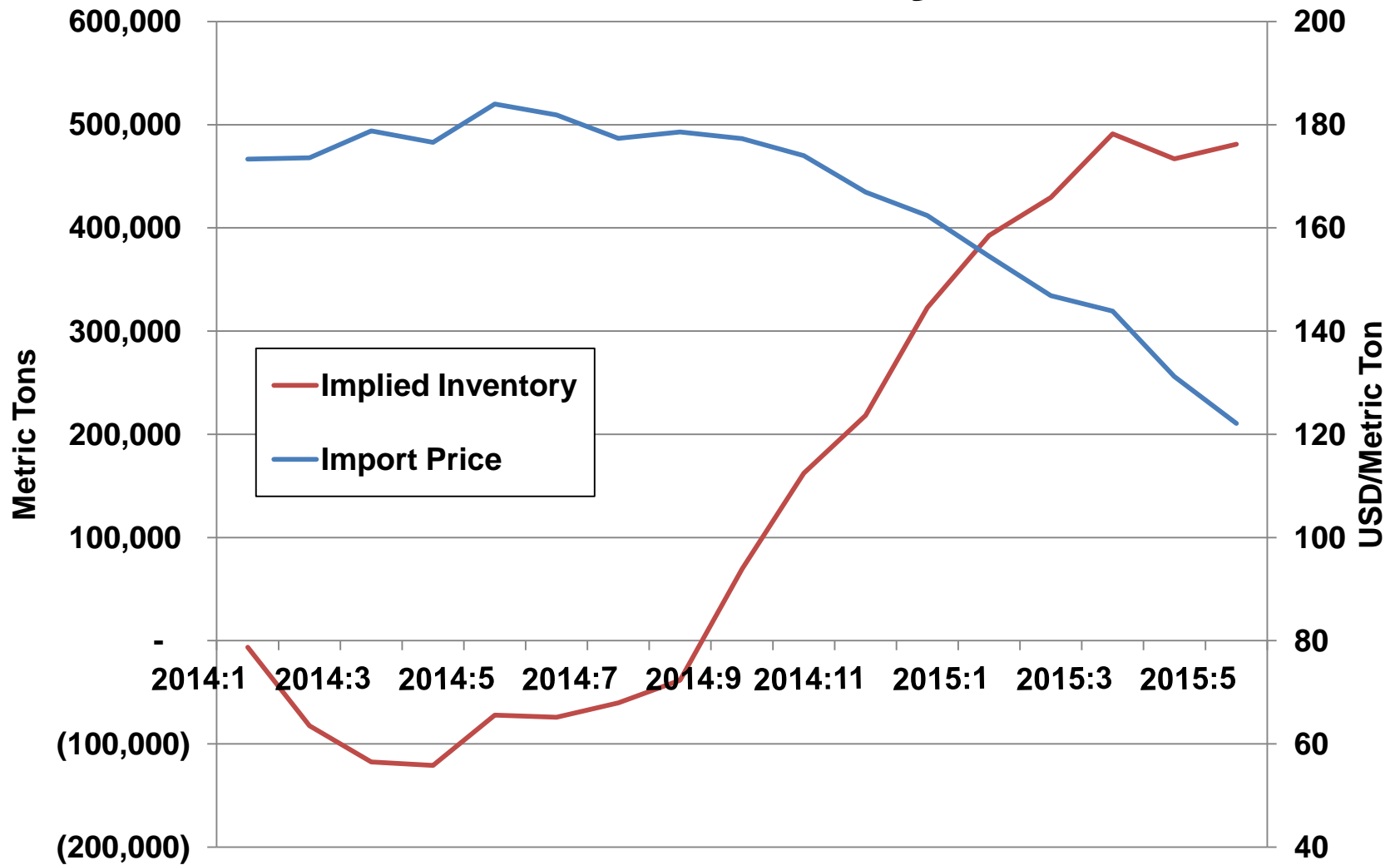


Korean Pellet Demand by Company and Total Imports

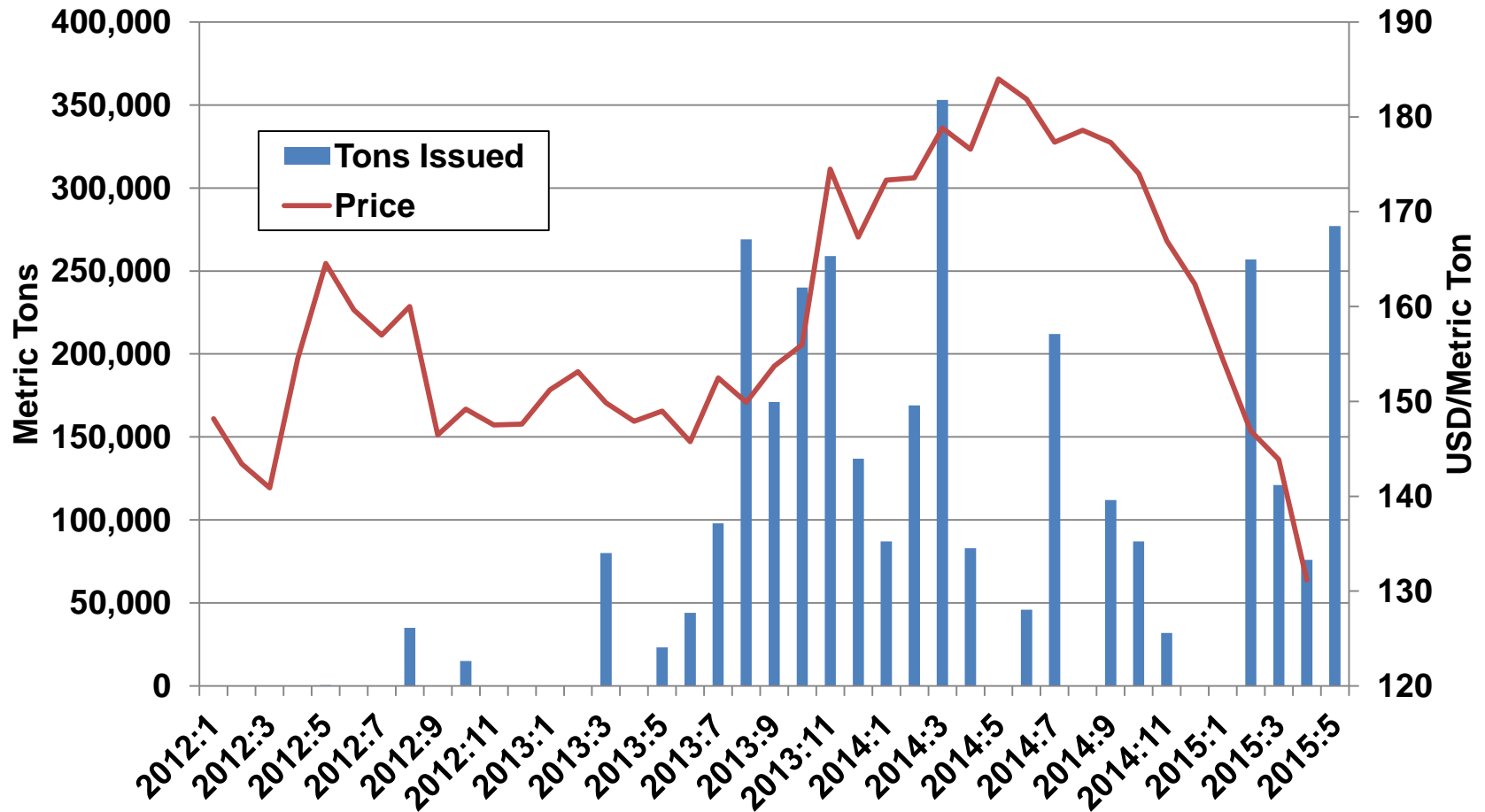
Metric Tons



Korean Pellet Inventory and Price



Korean Pellet Import Price and Tender Issuances



Japan

- Feed-in-tariff program
 - ¥24/kWh for other woody materials, including imported chips and pellets
 - 20 year term
- Several mid-sized plants, difficult to differentiate which will use wood pellets, many coming on line 2015-2016
- Some that we believe will use wood pellets:
 - Summit Energy Corporation (Sumitomo) – Handa Biomass Power
 - Showa Shell – Kanagawa
- Plus side is these companies can and are willing to negotiate long term agreements

North American Heating Markets

- Good year for domestic producers
- Attention has shifted elsewhere allowing demand to catch up with supply
- Prices very strong
 - Cold in the Northeast
- Low oil prices didn't have much of an impact on current year pricing
 - Evidence that consumers who already have pellet stoves use them regardless of competitive fuel prices

The glass is half...

- '09-13 tough years and industrial development shifted attention away from domestic markets
 - Allowed demand to “catch up”
 - Most investment has been in existing mills, M&A, moving assets
 - After gaining some momentum, do producers over-shoot demand again?
- The fact that oil prices didn't negatively impact pellet demand this year isn't just a good thing
 - Personal experience - Winter 2015 retail prices in Boston:
 - Pellets: \$280/ton = 17.07/mmbtu
 - Oil \$1.99/gal = 14.42/mmbtu
 - What does this do to 2015 appliance shipments?
- Exchange rates and uncertainty in Europe
 - Removal of “buffer” market
 - Do NA industrial producers start looking to heating markets for diversification?

Thank you for your attention!

For more information:



North American Bioenergy 5-Year Forecast

RISI Special Study: Global Pellet Demand Outlook

www.risi.com/globalpelletdemand

Global Supply Study
coming this year too!

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