



# Fram: Ten Years What we've Learned

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I am still learning.

- Michelangelo  
at age 87

[ADDACOVER.COM](http://ADDACOVER.COM)





# Fram's Supplier Plants



Appling County Pellets



Hazlehurst Wood Pellets



Telfair Forest Products

# Appling County Pellets, LLC



# Telfair Forest Products, LLC



# Varn Wood Products





# LJR Forest Products









# Roller Coaster Ride



# European Energy Policy Framework

Energy 2020 Strategy

- **20% emissions reduction**
- **20% efficiency improvement**
- **20% renewable energy**

Renewable Energy Targets

- **Separate targets for each member state**
- **Trajectory to 2020**

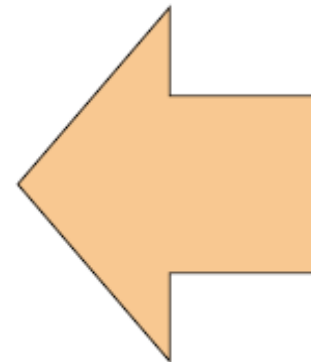
Contribution of biomass versus other renewable energy sources

Economics – PRIMES model scenarios

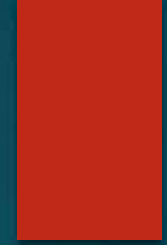
- **Cost-efficient scenarios for RES supply**

National Renewable Energy Action Plans

- **Targets by sector**
- **Measures to meet targets**



Horsey  
© 2004  
REACT  
MAGAZINE  
TRUCK MEDIA GROUP



# Man RE - Discovers Wood as a Source for Fuel





# Biomass: The Oldest New Fuel

- ∅ Sustainable
- ∅ Proven
- ∅ Reliable
- ∅ Accepted
- ∅ Quickly Deployable
- ∅ Least Cost Renewable Option
- ∅ Net ZERO Carbon Emissions



# What is Pellet Fuel?

- ❑ Pellet fuel is a renewable, clean-burning and cost stable heating alternative currently used throughout North America and Europe. It is a biomass product made of renewable residual's – generally recycled wood waste.




# Why Wood Pellets

 Sizing and Drying Wood Fiber

 Changing the Energy Density

 Improving the Transportability

# Grades of Wood Pellets

 There are two main types of wood pellets.

 Premium- Ash content is less than 1%

 Industrial- Ash content is 3% or less

# Raw Material Challenges

Scattered Supply  
Dry Storage  
Particle Size  
Drying Requirements  
Material blending of various species











# What are wood pellets used for?

- Wood Pellets are used for Industrial power plants, CHP (combined heat and power plant), and home heating



A large, billowing cloud of yellowish dust or sand against a clear blue sky. The dust is thick and voluminous, rising from the ground. The word "DUST" is overlaid in the center in a large, bold, black font.

**DUST**





# Brunswick Port Fire



# Logistics.....



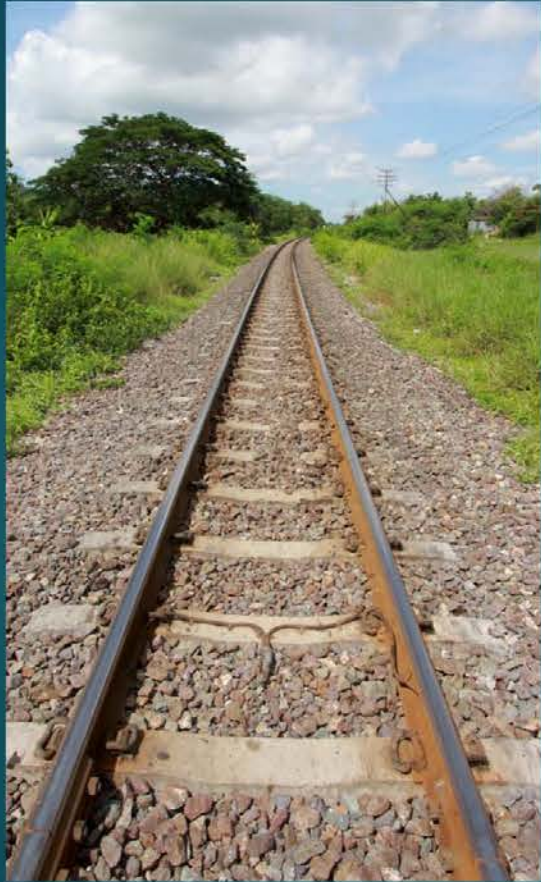
Plan for Challenges..... They will arise!

# LOGISTICS: Trucking



Richard Mohr Collection

# LOGISTICS: Rail



OPTIMIZATION





Gasoline	Self Serve
REGULAR UNLEADED	<b>A R M</b> $\frac{9}{10}$
PLUS UNLEADED	<b>L E G</b> $\frac{9}{10}$
SUPER UNLEADED	<b>B o t h</b> $\frac{9}{10}$



Logistics = 40% of Delivered Cost

# Loading of Vessel





# Ocean Freight



☒ Pirate Owners

☒ No Discounts

☒ Smaller = More Expensive



2005 Cost/ton: \$13.50

2008 Cost/ton: \$88.50



# Global trade routes



# Marketing

## Industrial Market

 Driven by Govt. Subsidies


 Geographically Diverse

 Demanding

 Very Large Buyers

 Heavy Competition

 Varying Size

 Shipping Problems

# Marketing

 Residential Market

 Fickle Market

 Un-Predictable

 Seasonal

 Weather Sensitive

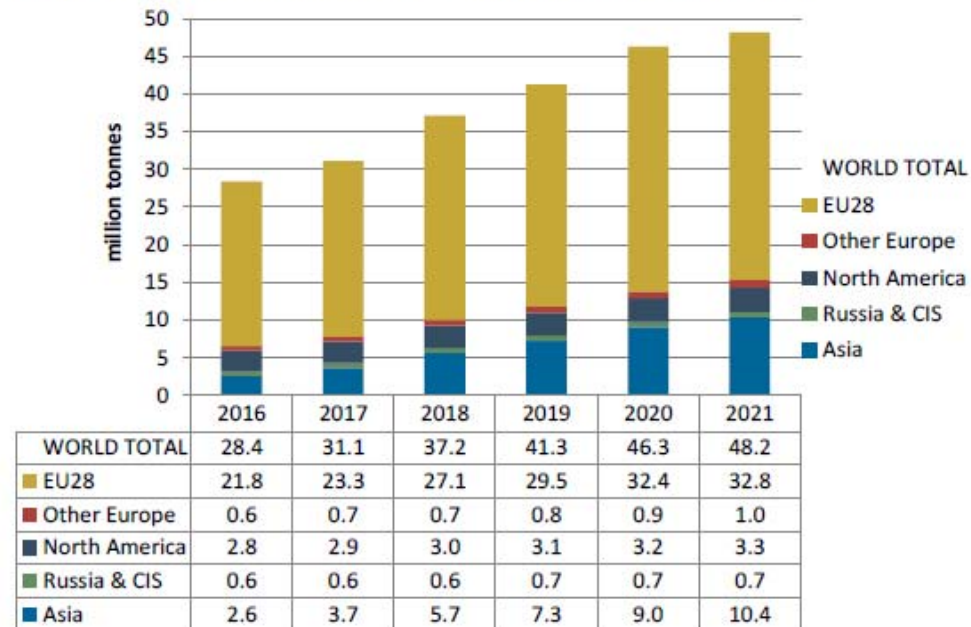
 Unforgiving

 Customer Service



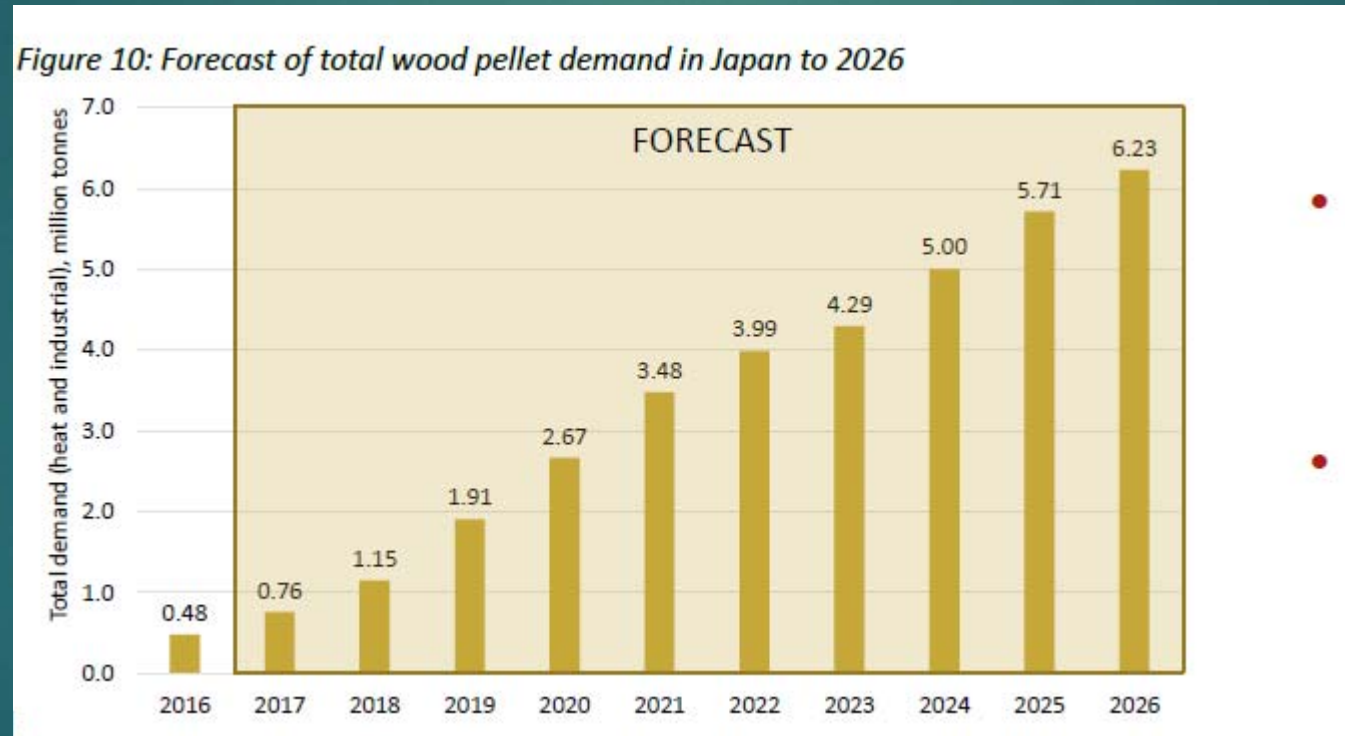
# Wood Pellet Consumption

Figure 5: Global pellet demand forecast (heat & industrial) to 2021



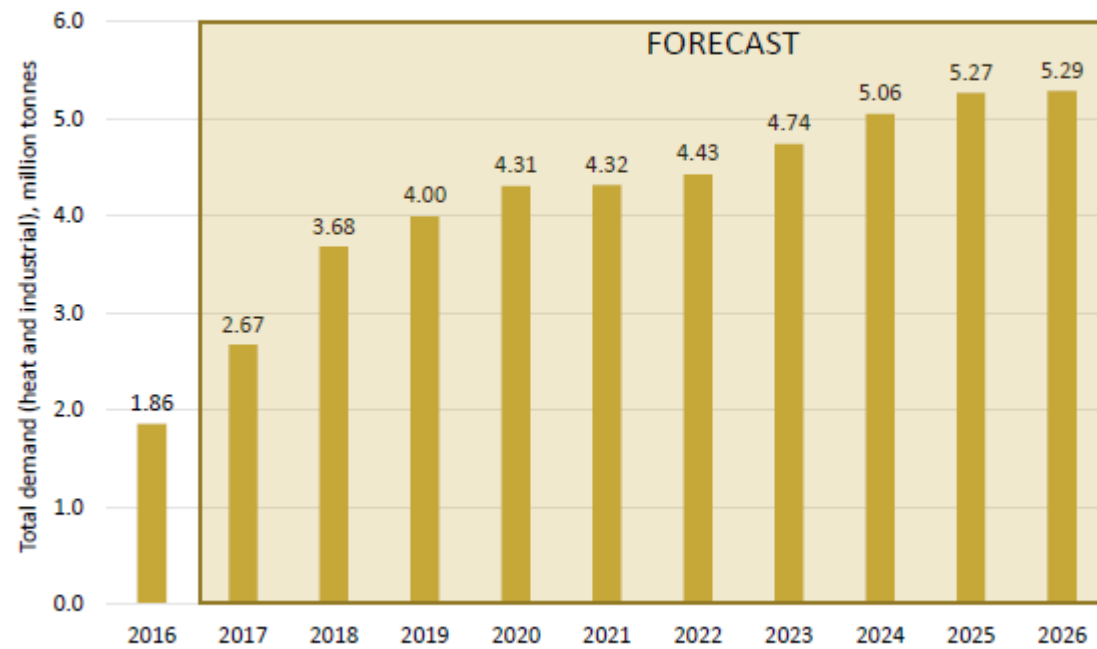
Source: Hawkins Wright

# Japanese Pellet Demand to 2026



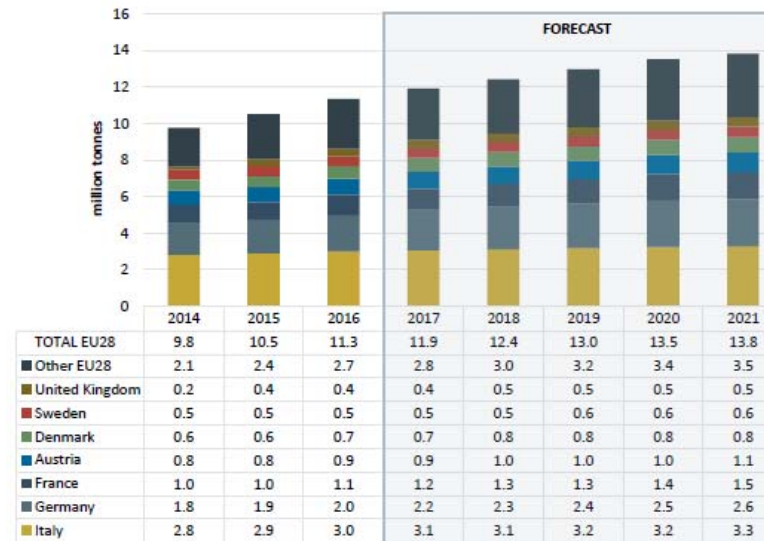
# South Korea Pellet Demand

Figure 11: Forecast of total wood pellet demand in South Korea to 2026



# EU Heating Demand Forecast 2021

Figure 9: EU heating demand forecast to 2021

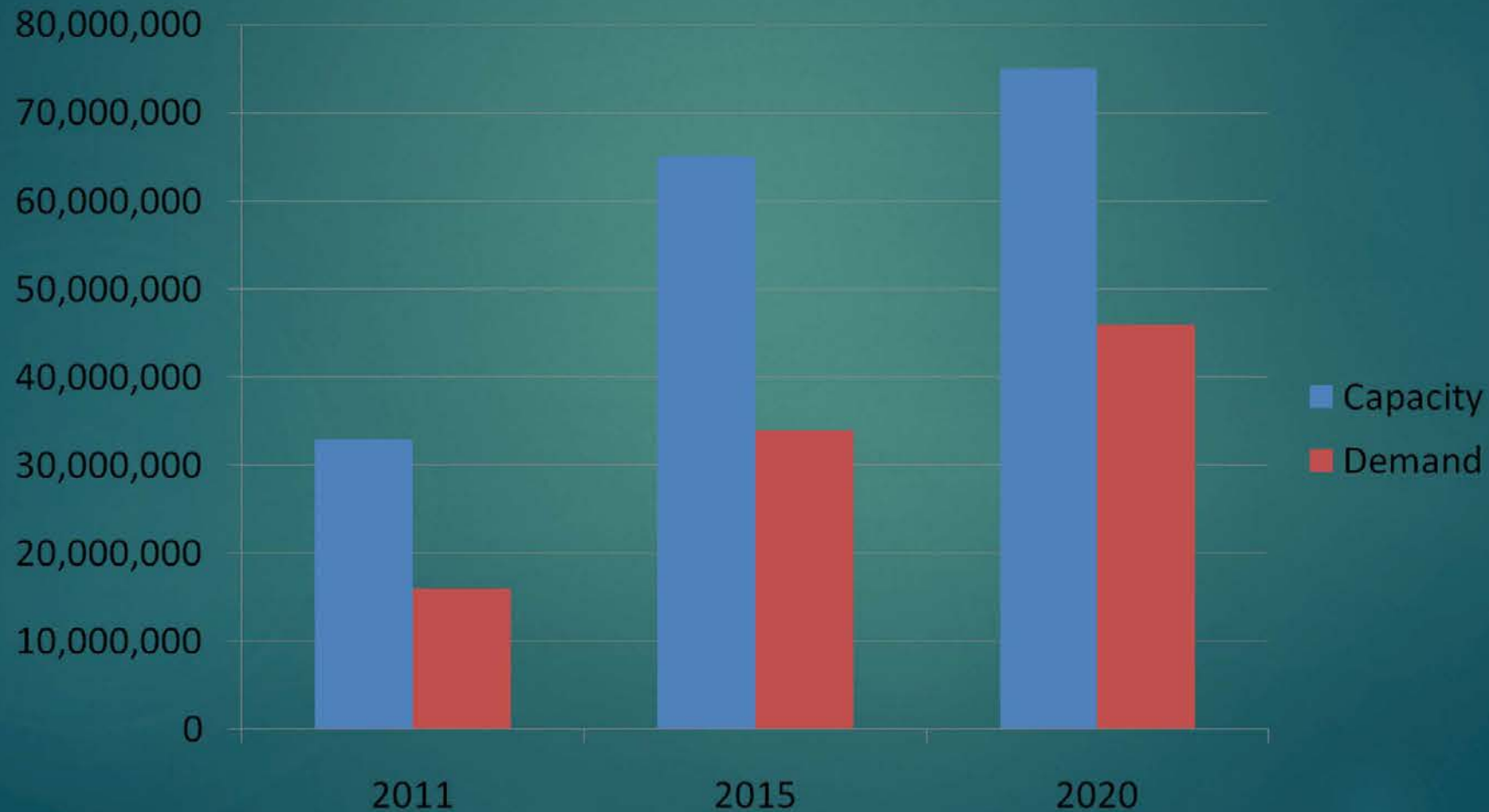


Source: Hawkins Wright

Note: Please be aware that there is particular uncertainty in the estimate of demand in Italy presented above. Although the figures published here are broadly in line with those disseminated by the Italian trade association AIEL, we have reason to believe that this figure may overestimate the actual level of consumption in Italy. We will be initiating a review of the Italian market over the next quarter and may revise downwards the demand estimate if better data become available.

# Global Market

Ⓜ Demand = 65% of Global Capacity





# Global Market Factors

 Tilbury fire: February 2012

 Avedore Fire: August 2012

 Delayed UK ROC Release

 Released August

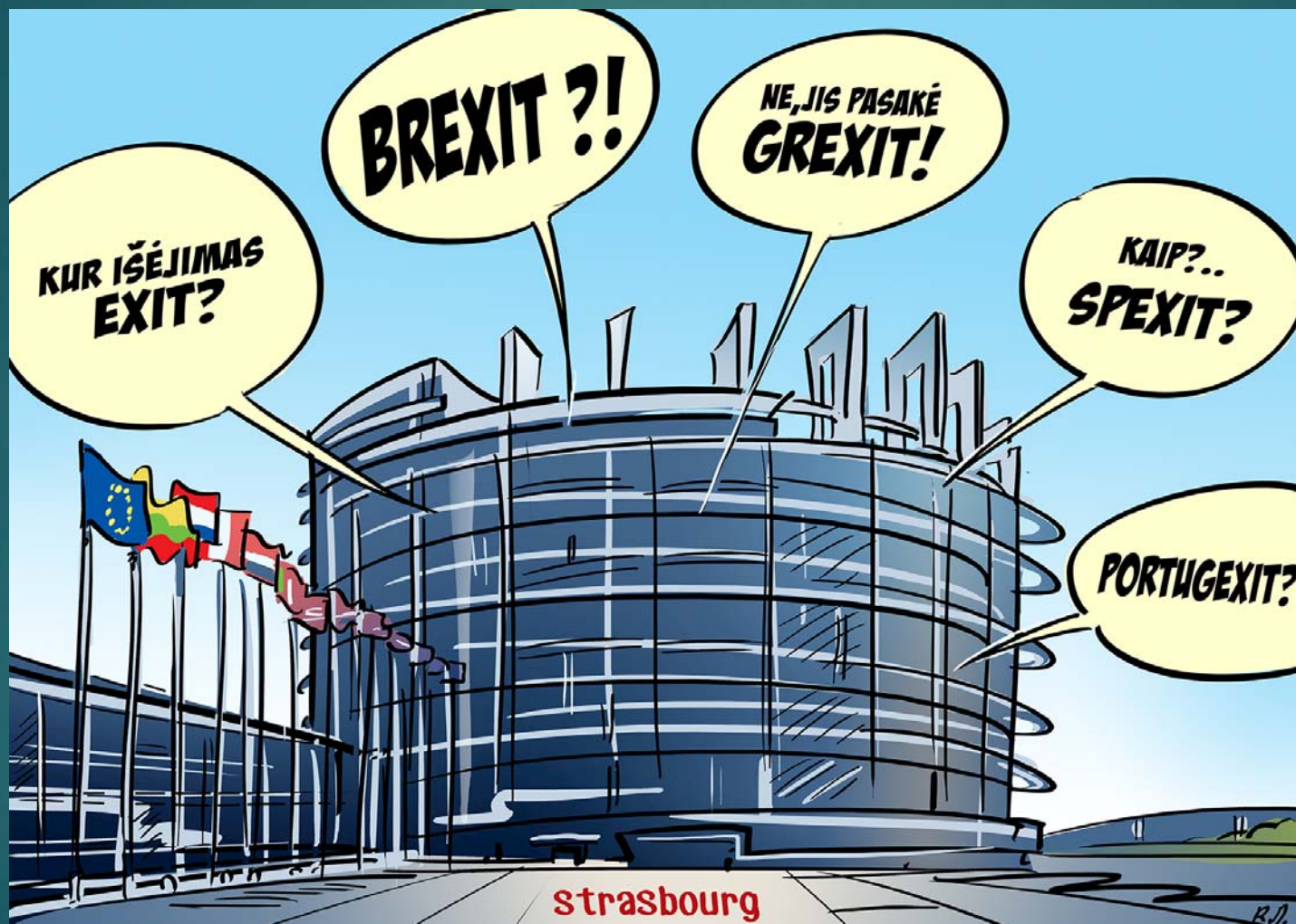
 Sustainability Consultation: September 2012

 Uncertainty surrounding sustainability

# Tilbury Fire- First Market Tremor



# Brexit





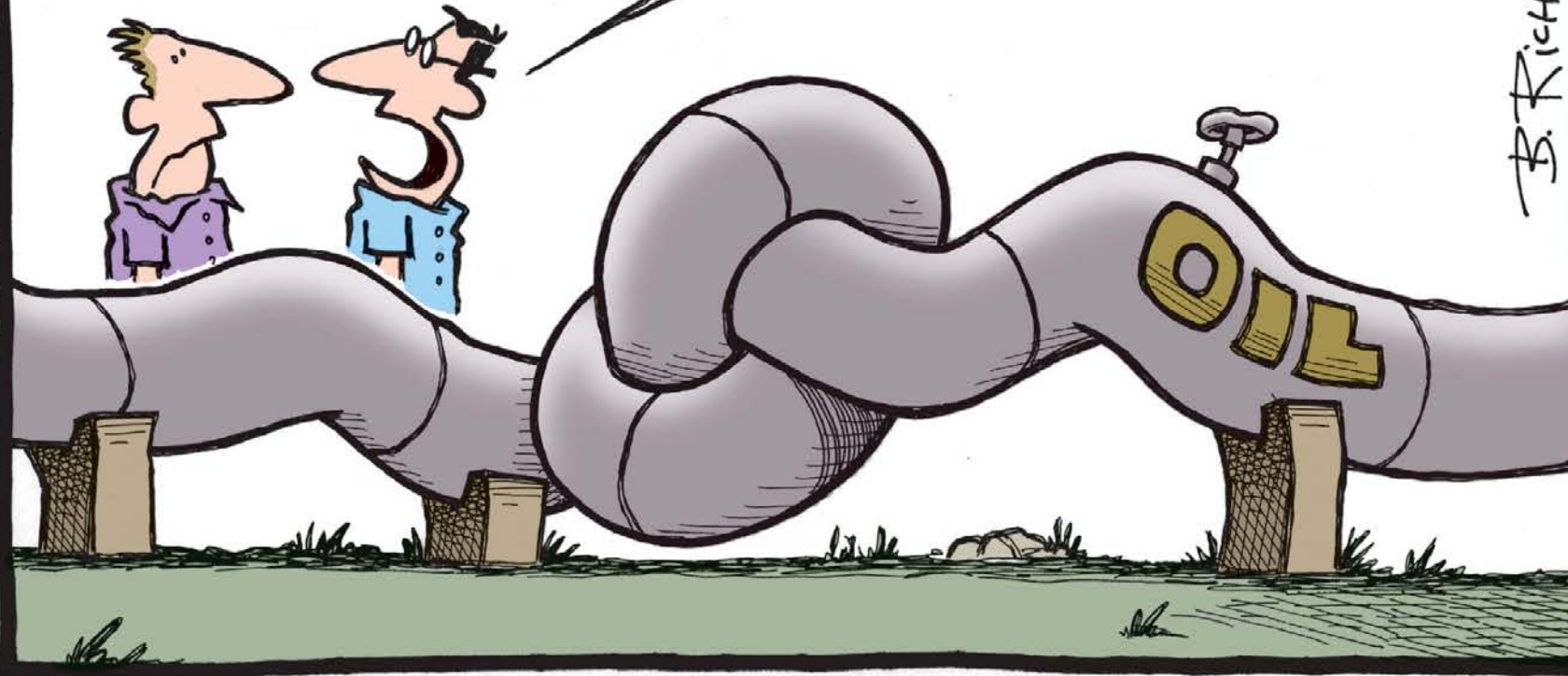
# Sustainability- How we are pushed to cut forest



## Steep Rise Of The Dollar

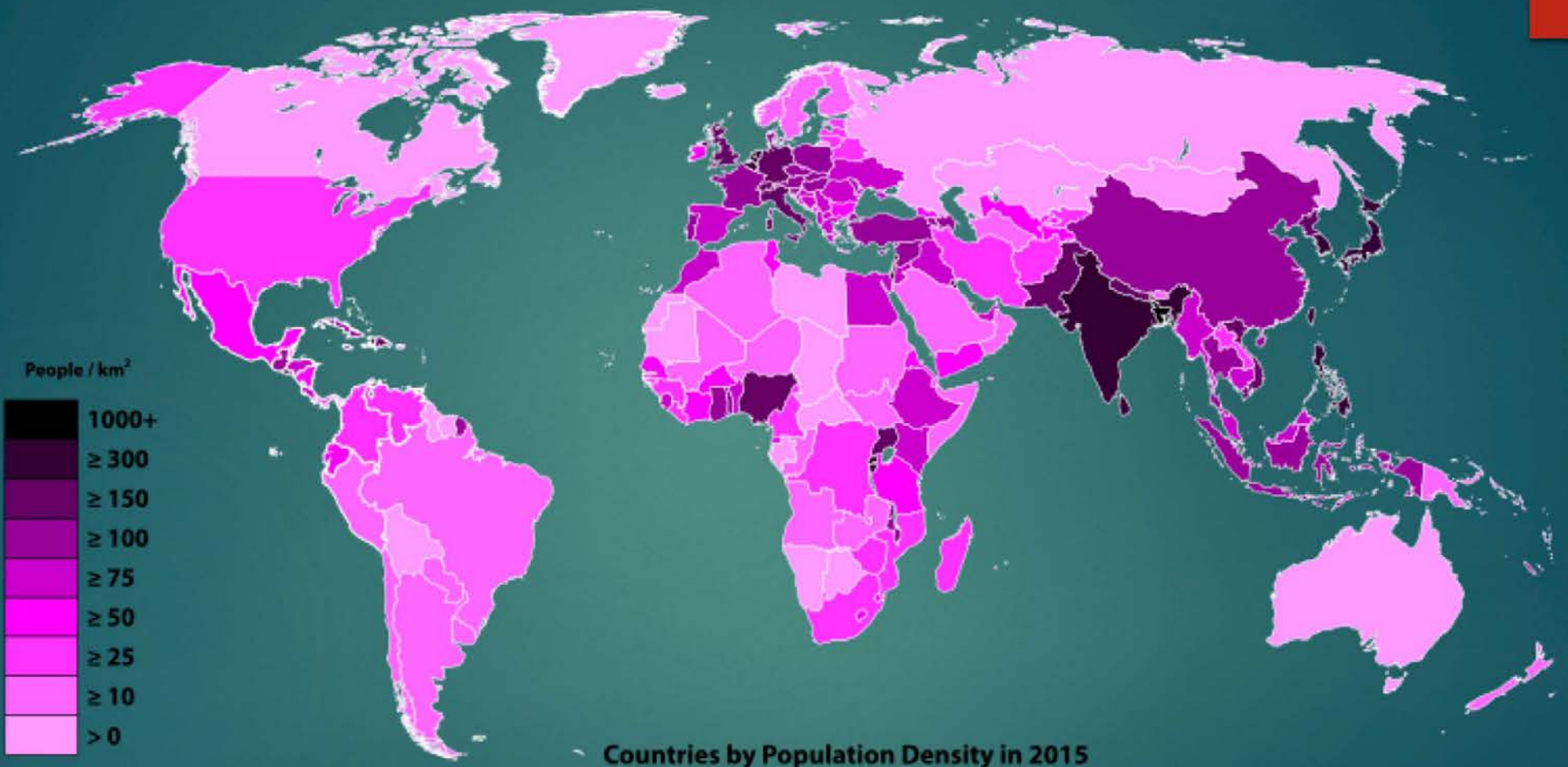


IT HAPPENS  
WHEN THERE  
ARE SUDDEN  
MOVES OF  
THE DOLLAR.



B. Rich — HEDGEYE







What is to come in the  
future?

Russian Prime Minister  
Vladimir Putin exerting  
his control over EU gas  
supply.



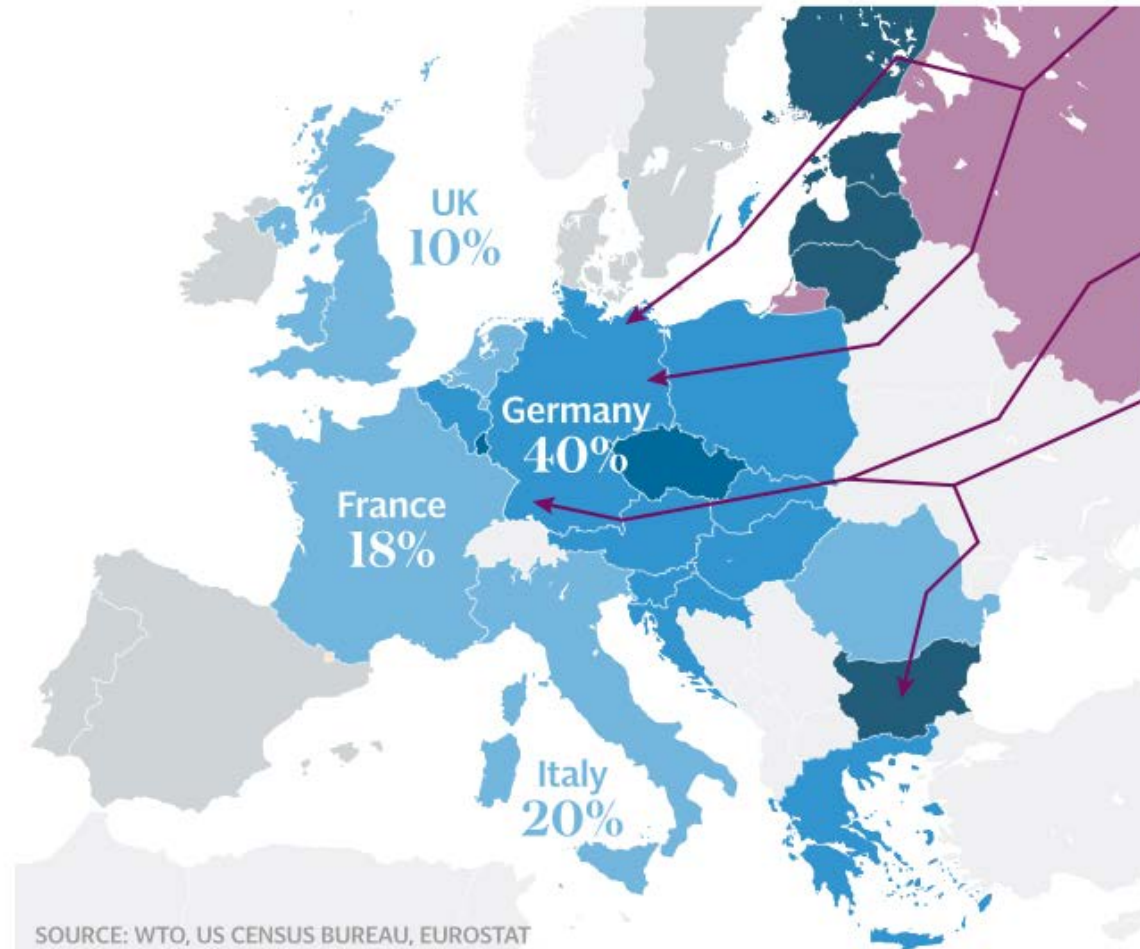
## Europe's Russian gas dependency

Percentage of gas which is supplied by Russia

0% 0-33 33-66 66-100 100



Non-EU countries Gas pipelines



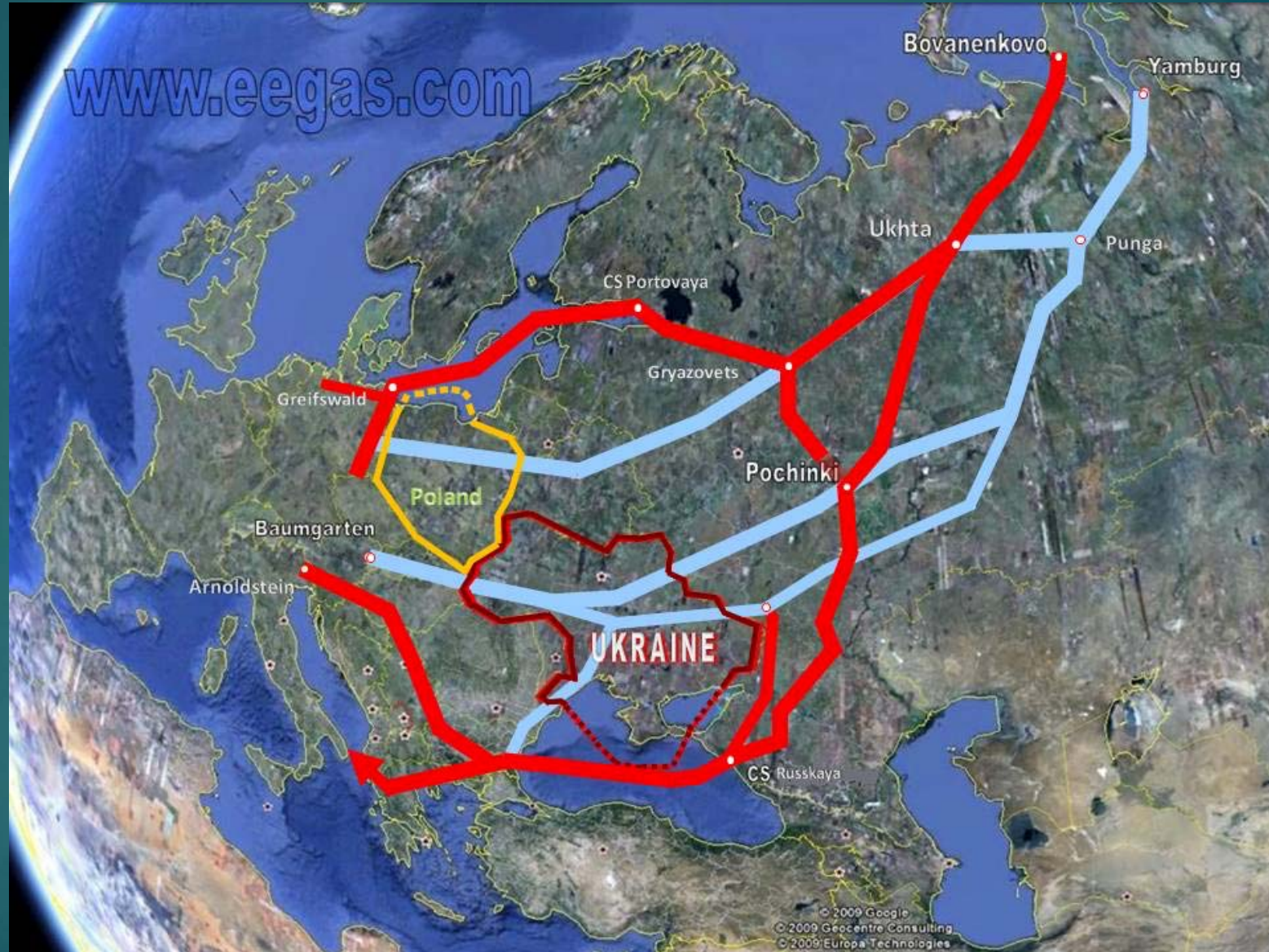
SOURCE: WTO, US CENSUS BUREAU, EUROSTAT



# Gas Pipelines



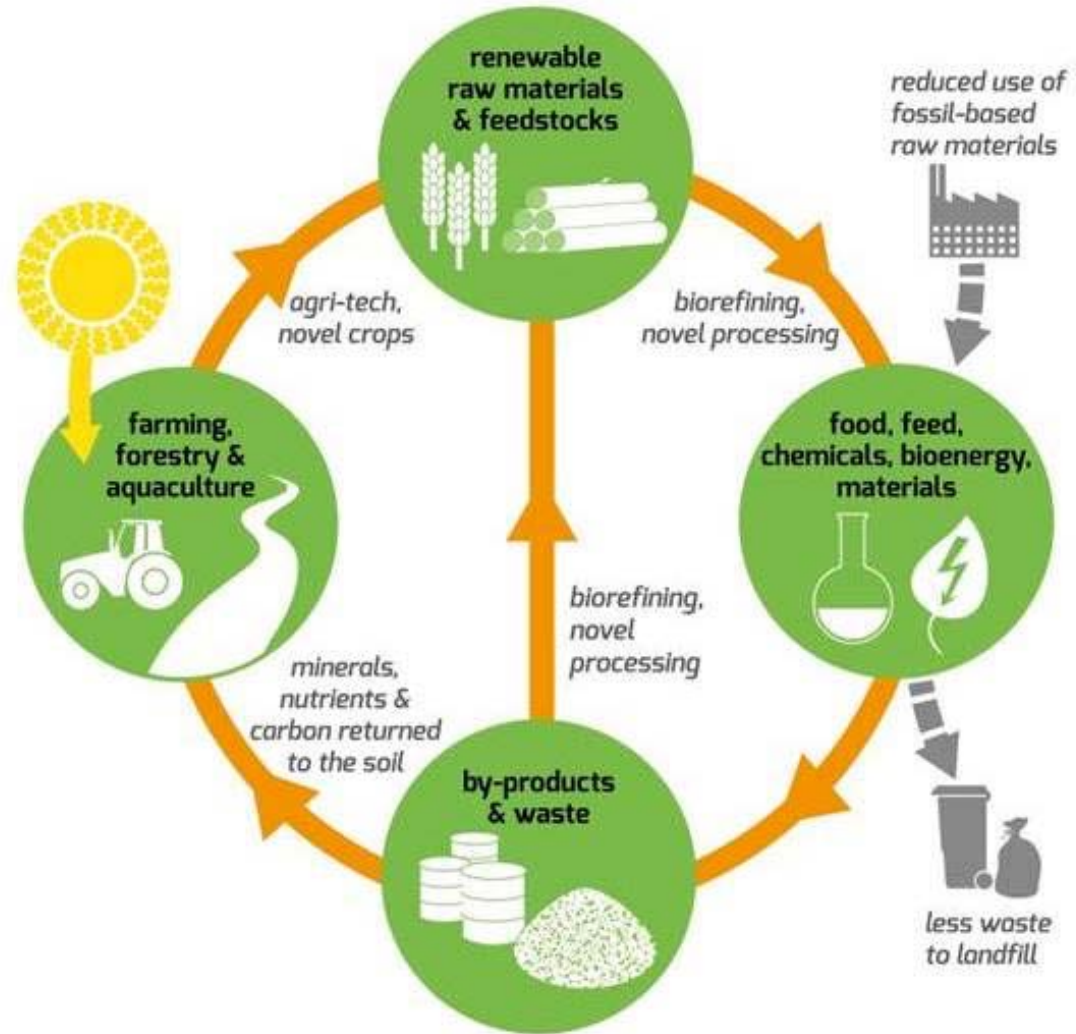
[www.eegas.com](http://www.eegas.com)



# Silk Road



# Bioeconomy



THANK  
YOU



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