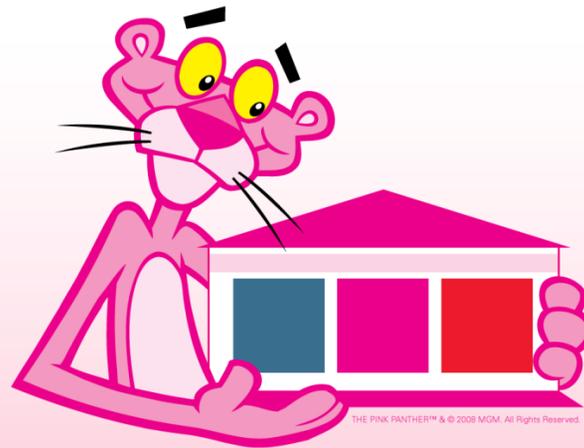




# Carrier Alternative Fuel Program





# How We Began Our Journey

- **T. Boone Pickens Plan Involvement**
- **That Led to Discussions with Transportation Providers Beginning in 2010**
- **In 2011 We Structured Contracts for Two Operations to be Served by Natural Gas Powered Equipment on Raw Material Shipments**
- **The Actual Movement of Material Began in Early 2012 on 9L Equipment**
- **We Have Expanded to Several Lanes and Will Use NG to Cover Over 4 MM Miles in 2013**



# What We Have Learned

## 1. Growth depends on 4 key elements

- Production by Cummins of 12 L Engines
- Fueling Station Infrastructure
- Carrier willingness to purchase equipment and get ROI
- Shipper network appropriate for natural gas equipment

## 2. FSC programs are many ranging from discounts off of diesel to fuel pass through

## 3. The Challenge that Conversion to Natural Gas is more attractive to carriers seeking new business than the incumbents

## 4. The cost of natural gas is 20% of the price at the pump, the majority of the cost is in delivery, margin and taxes. 68% of Diesel price at the pump is raw material





# Our Natural Gas Powered Transportation Sourcing Strategy

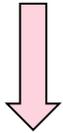
- **Convert 50% of our network miles to natural gas**
- **Strongly express our intentions to utilize carriers with natural gas powered equipment, identify carriers who are already engaged and motivate those which are not**
- **Collaborate with Energy providers such as Clean Energy, Trillium and AMP America and Shell**
- **Create 3 way partnerships with Energy Providers, Carriers and Shippers to increase utilization of natural gas**
- **Gain an immediate cost advantage to diesel fuel while driving toward a NG based surcharge program**
- **Leverage university partnerships to advance understanding**
  - OSU (Fisher Cluster Project)
- **Identify Rate of Growth Targets, Potential Savings and Environmental Benefit**





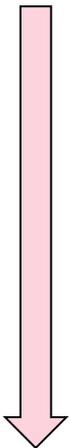
# Current and Future Conversions

- **2012: 1.7 Million Miles moved via NG**



- Nearly \$500 K in fuel savings
- 766 MT reduction of GHG

- **2013: Grow to 4.0 Million miles via NG**

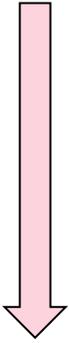


- Additional 2 Million miles in lane conversions ~ \$1.4 MM Savings for 2013
  - 1800 MT reduction in GHG.
- Additional Lanes with carrier Interest
- Analyze FSC options and perform business case study for different models
- Work with Energy providers and other shippers for network growth
- Collaborate with OSU in sustainability and business case study
- Get commitments from carriers that are purchasing natural gas tractors



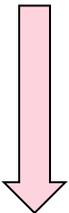
# Future Goals and Strategy

- **2014 to 2016**



- Double our miles moved each year
- Solicit natural gas pricing on STP beginning in 2014
- Have natural gas equipment being utilized in all of our businesses
- By 2016 reduce Fuel Cost relative to diesel by over \$8 MM and reduce GHG by 14000 MT

- **2017-2020**



- Continue to double our miles
- Reduce Fuel spend by \$15 MM relative to diesel by 2020
- Utilize collaborative relationships built with non competitive shippers to maximize use of natural gas power and improve conventional cost basis





# Near Term Limiting Obstacles

- **Cummins 12L Engine: January production delayed until April**
  - There was a problem with cracks around spark plug housing
  - Production of 300 - 500 engines planned between April and July
  - 1000 per month beginning in August, 6 weeks from production to market
- **Limited Fueling Stations available:**
  - Trillium, 18 built. Clean Energy has 63 in some phase of construction though just 13 functioning with fuel
    - Variability of our lanes and lack of round trips make it difficult for us to be sole driver of a station
- **Lack of round trips**
  - No guaranteed way for carriers to stay within fueling infrastructure
  - Carriers have large investment in equipment and need to put at least 120,000 miles on tractor annually





# Obstacles (Cont')

- **Carrier Return on Equipment Investment**

- Additional \$50K+ per tractor
- Residual value of tractor is undetermined
- Lease options are not favorable
- Truck dealers charging full sticker price
- \$.25 - \$.30 per mile cheaper to operate than diesel
  - However shippers want the savings passed along to them
  - How will carriers get a ROI while passing fuel savings along?
    - Partner with fueling stations and receive significant discount on fuel beyond price at the pump
    - Potential government incentives and rebates for fuel and equipment
    - Use as growth strategy for new business as Dillon did with OC
    - Share the fuel savings with the shipper

- **Maintenance Challenges**

- Additional shop improvements required as well as training for their mechanics
- Cost varies by location as it is mandated by fire marshal. This can be a sizeable investment to service a handful of tractors





# Solution Approach

- **Declare our Vision, Express Intentions and Identify Carriers**
  - **Owens Corning is taking a strong stand on Natural Gas**
    - It is a Domestically Acquired Fuel
    - It is more environmentally friendly
    - The cost is significantly lower and much less volatile
  - **Owens Corning and Carrier Expectation**
    - We will build strong relationships with carriers who are aligned with our goal
    - Lack of Interest could cost the carrier opportunity with Owens Corning
- **Build Shipper Alliances**
  - **Major obstacle is our lack of round trips**
    - No guaranteed way for carriers to stay within fueling infrastructure
    - Fueling Station location depends on moving at least 200K DEG annually
      - Inconsistency in our lanes may not require enough fuel volume to support a station
    - Carriers have large investment in equipment and need to put at least 120,000 miles on tractor annually





# Solutions Approach

- **Collaborate with Energy Providers**

- **Clean Energy**

- Primarily a LNG provider. We have shared lane data and inbound business to Savannah is supporting a fueling station build

- **Trillium**

- CNG provider that has an aggressive growth plan for stations in the Midwest on I94, I65, I69, I80, I75 and I70. Currently looking to fund a station for business centered around our Brookville plant

- **AMP America**

- Fueling Station Provider, collaborating with Trillium
- Partner provider in Brookville opportunity
- Sharing lane data for them to identify matches with other shippers





# Solutions Approach

- **OSU Sustainability Project**
  - What is the business case for building or partnering in fueling station builds at or near our plants?
  - Help us build a environmental scorecard that measures emissions reduction for NG and IML usage
  - What will be the tractor residual value after 3 – 5 years and, what is the demand for used equipment and what will it be in 3 – 5?
  - How will economies of scale affect the price of equipment, mainly the tractors fuel tanks?
  - How long will NG pricing remain stable and what is anticipated spread off diesel over next 3 – 5 years?
  - How will exportation of LNG affect domestic NG pricing?
    - Will price get inflated?
  - **What is the expected growth rate of the fueling infrastructure**
    - In addition to Trillium and Clean Energy who else is participating and what is that growth plan?

