

# ***Trimac Transportation Inc. Journey To “LNG Fueled Tractors”***



***Tom Rule General Manager***

***Industrial Gas Business***

***Trimac Transportation Inc.***

- *Bulk Carrier USA Operations Headquartered in Houston, TX*
- *Product Lines – Chemical, Cryogenics (IG) & Dry Bulk*
- *66 Terminals*
- *1400 Drivers*
- *1100 Tractors (600 company owned)*
- *2,572 Trailing Equipment*
- *North American Operations (USA, Canada, Mexico )*



# Journey To LNG Tractors



## *Journey To LNG Tractors – 1<sup>st</sup> Step*

- *Have North America's Leader in Clean Transportation become a customer of North America's Premier Bulk Carrier*

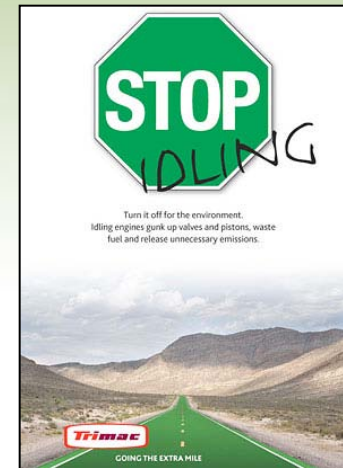


# • Journey To LNG Tractors – 2<sup>nd</sup> Step

GOING THE  
EXTRA MILE

## IT PAYS TO BE GREEN

- Committed to Sustainability – Business & Environment
- Reduce Resources Consumed
  - Diesel Fuel
    - Lowers Operating Costs
    - Lowers Emissions
    - Reduces Environmental (Carbon) Footprint
    - **Alternative Fuels - LNG**
- Commitment to Environment
  - Core pillar of our culture & history
    - Among 1<sup>st</sup> to switch from gas to more efficient diesel
    - Introduced advanced diesel engines into fleet
    - **Alternative Fuels - LNG**
    - Supported emission control technologies –reduction of nitrogen oxides 50% - particulates 90%
    - Advocate of regulatory changes – larger payloads – less fuel consumption



## ***Journey To LNG Tractors – 3<sup>rd</sup> Step***

- ***Leverage for Efficiencies – Fuel Savings***



# LNG Tractors

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- *Hurdles*

- *Cost*
- *Infrastructure / Supply of LNG*
- *Maintenance / Weight*
- *Acceptance / Operations*



# LNG Tractors

## ■ **COST**

### ■ *CAPITAL INVESTMENT HIGH*

#### ■ *Need Offsets*

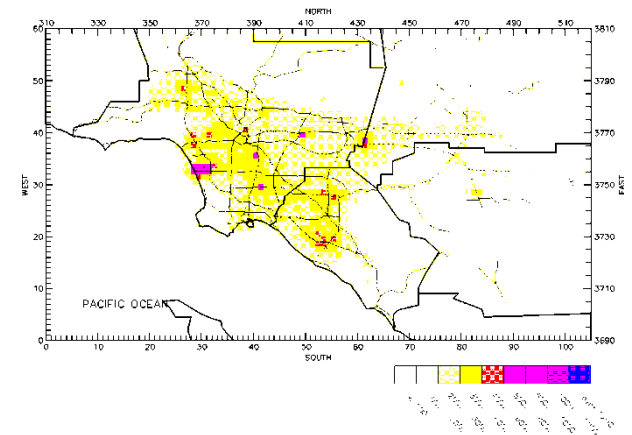
#### ■ *State and or Federal Grants*

- *Texas – Remove, Destroy, Containment Area, Time, Miles*

- *California – Containment Area, Time , Miles*

- *Tax Incentives*

- *Operating savings LNG vs Diesel*



# LNG Tractors

- **Infrastructure / Supply of LNG**

- *Local / Regional Lanes*
- *Containment Areas – Quality Air Management Districts*
- *Public Access Stations (Present Users)*
  - *Los Angeles Basin*
  - *Phoenix*
- *Commercial Stations*
  - *Under Construction Pilot IS 10 Houston*
  - *Port of LA*



# LNG Tractors

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- ***Maintenance / Weight***
  - *Insure your service provider can perform*
  - *Maintenance Technician Training*
  - *Local / State Regulations i.e. Texas*
  - *Hand Tooled (Westport Retrofit)*
  - *Extended Warranty*
  - *Tanker Operations Weight Sensitive*



# LNG Tractors

- *Acceptance / Operations*
  - *Driver Training*
  - *Mechanic/Technician*
  - *Methane Detection/Alarm System*
  - *Onboard LNG Fuel*
  - *Roll Stability Systems*
  - *OBC – Qualcomm Systems*



# LNG Tractors Trimac

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- **First – Demo Tractor – Clean Energy late 2008**
  - *90 Days Houston – Dallas Lane 400 Miles RT 5.6 MPG*
- **Delivery of 2 Tractors Nov 2008**
  - *1 Boron, CA – LA Basin Lane , 300 Miles RT – 84 K, 5.6-6.2 MPG*
  - *1 Houston – Dallas Lane – 65 K, 6.0 MPG*
- **Delivery of 19 Tractors Mar 2010**
- **7 California / Arizona Lanes Hauling LNG Fuel**
- **1 Texas Lane Hauling LNG Fuel**
- **14 Houston Texas Local Lanes Hauling Chemicals**



# Wrap up

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## **1. Need compelling reasons**

1. *Our customer*
2. *Commitment to environment*
3. *Potential fuel cost savings*

## **2. Capital investment**

1. *Grants*
2. *Tax credits*
3. *OEM's – "we need relief"*

## **3. Operations**

1. *Commitment from OEM's*
2. *Commitment from Dealerships*
3. *Commitment from your organization*





***THANK YOU***

