



## Idle Reduction Options, Trends, and Regulatory Barriers to Mainstream Adoption of Idle Reduction Technologies

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Task Force on Vehicle Weights and Dimensions  
Royal York Hotel, November 22<sup>nd</sup>, 2010



## Idle Reduction Options



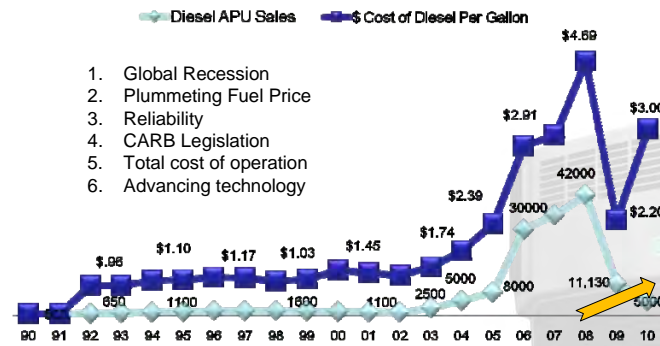


### North American Diesel APU Sales Units Vs Diesel Fuel Price per Gallon

\* EIA

\*\*IRMA

1. Global Recession
2. Plummeting Fuel Price
3. Reliability
4. CARB Legislation
5. Total cost of operation
6. Advancing technology



Nov 22, 2010



## CARB Barrier

The California Air Resources Board issued a regulation to amend Title 13 of the California Code of Regulations. This regulation states that on or after *January 1, 2008*, the truck drivers operating in California shall not operate an internal combustion auxiliary power system (APS) on any vehicle equipped with a 2007 and subsequent model year primary engine unless the vehicle is equipped with an APS meeting the emissions performance requirements, as follows:

- a. Be equipped with a verified Level 3 in-use strategy for particulate matter control, or
- b. Have its exhaust routed directly into the vehicle's exhaust pipe, upstream of the diesel particulate matter after treatment device.

EPA420-S-06-001 April 2006

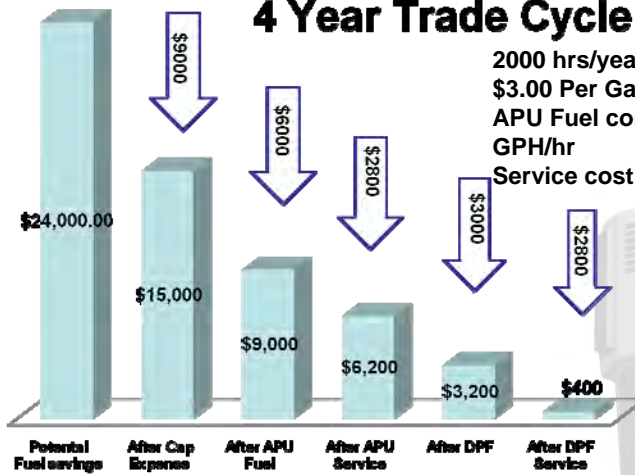




Total Cost of Operation Becomes a Barrier Diesel APU

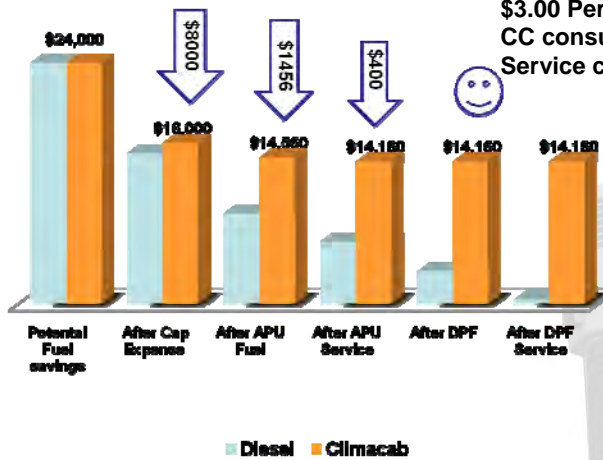
### 4 Year Trade Cycle

2000 hrs/year,  
\$3.00 Per Gallon  
APU Fuel consumption .25  
GPH/hr  
Service cost \$350 /thousand hrs



### 4 Year Trade Cycle

2000 hrs/year,  
\$3.00 Per Gallon  
CC consumption .06 GPH/hr.  
Service cost \$50 /thousand hrs





## Advancement of Batteries

### Odyssey PC2150

- Start and deep cycle AGM
- Maximize value in today's market
  - Longer service life
  - Wide temperature performance range
- Maximum 4 year full replacement warranty!



### Trojan Overdrive AGM31

- Designed for deep cycle heavy-duty truck applications
- Excellent recharge efficiency
- Maintenance free convenience
- Increased safety
  - No acid spills
  - Flame arrestor pressure vent
- Superior vibration resistance
- 24 month full replacement warranty, 6 month pro-rata warranty



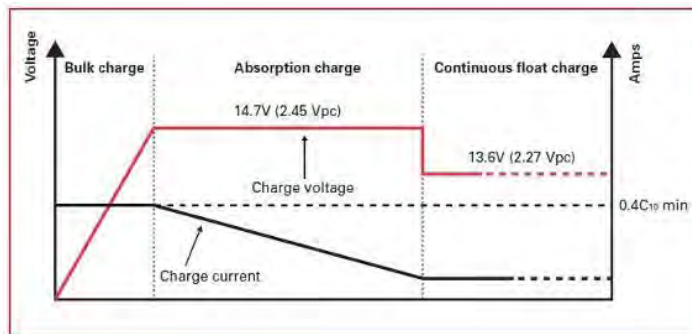
Glacier Bay Company Confidential



## Advancing Technology Climacab Power Management

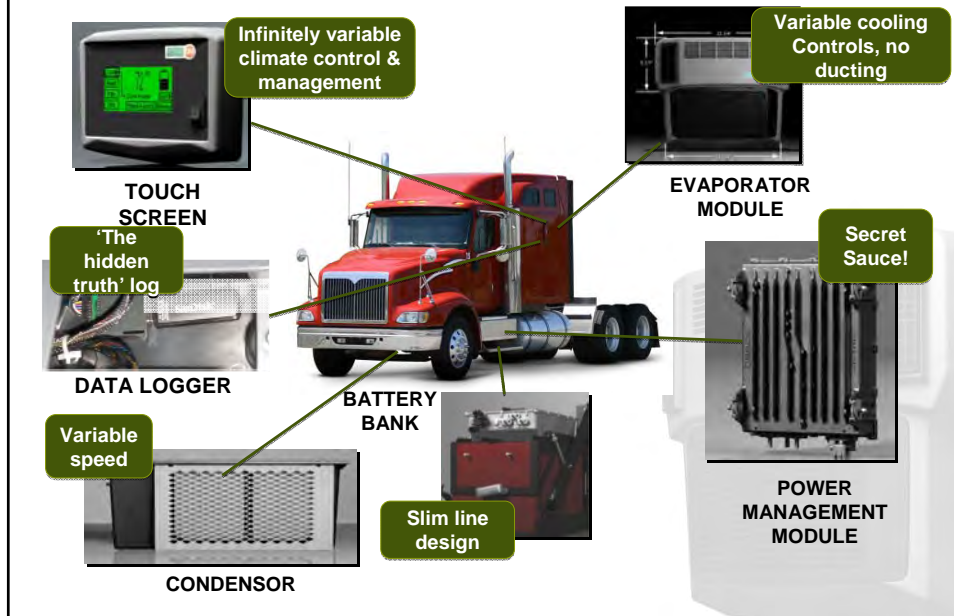
ClimaCab battery is charged per a prescribed AGM-type profile with 3 main steps:

- Bulk charge using the maximum available alternator current, up to 14.7 V.
- Absorption charge maintaining 14.7 V. The current decays to 8A.
- Float charge maintains the battery at 13.6V until the truck engine is turned off and charging and discharging of AGM Batteries





## The ClimaCab System



## Touch Screen

- Easy to read back lit display
- Intuitive, easy to use set and forget operation
  - Dial in the exact desired temperature
- Create fleet specific usage protocols
- Capture / analyze operational data
- Service diagnostic trouble shooting interface
- Integrates with aftermarket heaters



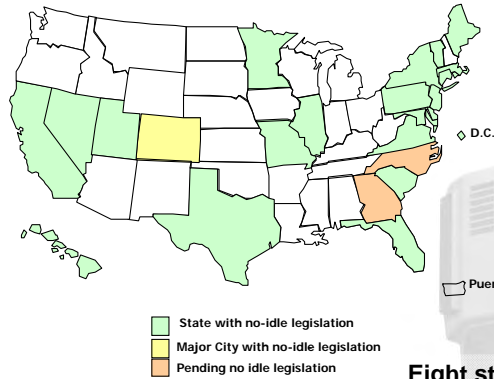
### Benefits

- Driver Retention
- Maximum energy savings
- Fleet management
- Timely trouble shooting resolution



## No-idle legislation

### States with no-idle Legislation



Source: American Transport Research Institute

Eight states passed no-idle legislation in 2009

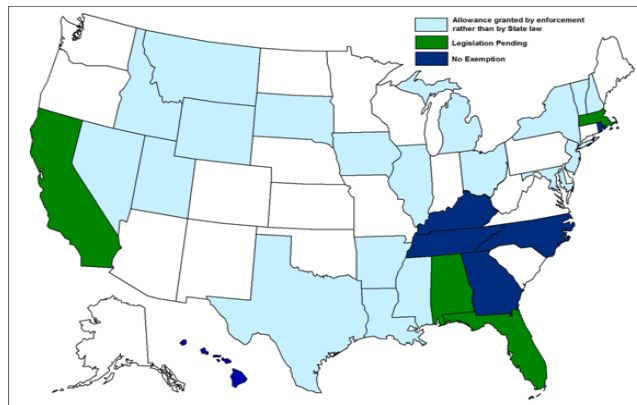
Twenty one states now have no-idle legislation

13



## Energy Policy Act of 2005

Allowed for a 400-pound weight exemption for the additional weight of idling reduction technology. States were given the discretion of adopting this exemption without being subjected to penalty.



White: Allowed  
Blue : Enforcement Officers  
Green: Pending Legislation  
Dark Blue: No Exemption

Source: US Dept. of Energy

[http://www1.eere.energy.gov/vehiclesandfuels/facts/2010\\_fotw627.html](http://www1.eere.energy.gov/vehiclesandfuels/facts/2010_fotw627.html)

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## Over Coming The Remaining Barriers with Incentives

### Excise Tax Exemption for Idle Reduction Devices

II Section 206 of the Emergency Economic Stabilization Act of 2008 (the bill that created the TARP bank bailout) allows an exclusion from heavy truck excise tax for idling reduction devices and advanced insulation used in certain heavy trucks and trailers.

### Small Business Jobs Act

II .5 Million Tax write down for Capital Expenses purchased in 2010.

### **“Advanced Energy Tax Incentives Act of 2010”.**

Tax credit to 50% up to \$5000 of the cost of an idling device “Bingaman Bill”

