DECISION TOOL: IDLE-REDUCTION SOLUTIONS

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All idle reduction systems can bring fuel savings benefits to the fleets that use them. But it is also true that most of these systems face challenges depending on driver abuse, maintenance levels, system age, climate of operation, and more. The following tables provide some thoughts on options to consider when optimizing one of the core systems that are currently prevalent in North American fleets.

Trucking Efficiency

Trucking Efficiency is a joint effort between NACFE and the Carbon War Room to double the freight efficiency of North American goods movement by 2016 through the elimination of market barriers to information, demand and supply.

CARBON WAR ROOM

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Decision Tool – Idle-Reduction Solutions

Figure A: Currently Use Diesel APUs	
If your fleet's challenge is:	**Consider making these changes:**
Can't keep the sleeper cool enough in the summer	• Change exterior cab paint to a lighter color • Use hotels for HOS restart periods • Make sure to cold soak the sleeper with the main HVAC system before shutting off the main engine • Add thermal window curtains • Order new trucks with extra insulation
Idling costs in the winter are too high	• Order new trucks with extra insulation • Add a fuel-operated heater/turn off APU whenever possible • Utilize the bunk curtain to keep heat in the sleeper • Add thermal window curtains
Maintenance costs and service frequency is too high	• Switch brands of APUs • Move away from APUs to automatic engine start/stop systems with a Clean Idle engines • Move away from diesel APUs to battery HVAC systems and battery charging automatic engine start/stop systems
Total vehicle weight is too high	• Move away from APUs to automatic engine start/stop systems with a Clean Idle engines
Want to lower overall vehicle operating expenses and be more "green"	• Add AC outlets, or off-board AC power, or a truck stop electrification system to your longer stopping points such as distribution centers, near border crossings, etc.

Figure B: Currently Use Battery HVACs	
If your fleet's challenge is:	**Consider making these changes:**
Batteries drain before the sleep period or HOS restart is complete	• Add a battery charging automatic engine start/stop system • Make sure to cold soak the sleeper with the main HVAC system before shutting off the main engine • Minimize any hotel loads that may be draining the system • Utilize off-board AC power to run the HVAC system and charge the batteries • Add a solar charging panel to the sleeper or trailer roof • Switch to a diesel APU for longer run time
Battery replacement costs are too high	• Minimize battery cycling with any of the bullet points in the previous item
Batteries need to be replaced too frequently	• Minimize battery cycling with any of the bullet points in the previous item • Ensure all electrical power connections are clean, tight and sealed appropriately.
Can't keep the sleeper cool enough in the summer	• Change exterior cab paint to a lighter color • Use hotels for HOS restart periods • Make sure to cold soak the sleeper with the main HVAC system before shutting off the main engine • Add thermal window curtains • Order new vehicles with extra insulation • Switch to an APU system with a higher Btu cooling capacity
Want to lower overall vehicle operating expenses and be more "green"	• Add AC outlets, or off-board AC power, or a truck stop electrification system to your longer stopping points such as distribution centers, near border crossings, etc.

Figure C: Currently Use Automatic Engine Start/Stop System	
If your fleet's challenge is:	**Consider making these changes:**
Idling costs in the winter are too high	• Order new vehicles with extra insulation • Add a fuel-operated heater/turn off APU whenever possible
Can't keep the sleeper cool enough in the summer	• Change exterior cab paint to a lighter color • Order new vehicles with extra insulation • Use hotels for HOS restart periods • Make sure to cold soak the sleeper with the main HVAC system before shutting off the main engine • Add thermal window curtains
Want to lower overall vehicle operating expenses and be more "green"	• Add AC outlets, or off-board AC power, or a truck stop electrification system to your longer stopping points such as distribution centers, near border crossings, etc.

Figure D: Currently Use Truck Stop Electrification	
If your fleet's challenge is:	**Consider making these changes:**
Not enough places to plug in for power	• Add AC electrical outlets to all light poles in your parking lots. May be a great time to transition to a more efficient type of lighting while making it easier to access power on your lots. • Ask your freight customers to consider the same thing as part of their overall sustainability efforts
Can't use the AC powered devices in the vehicle when not connected to an AC power source	• Add an inverter, preferably a model with a battery charger so that when the vehicle does have access to AC power it will charge the batteries

Figure E: Currently Use Fuel-Operated Air Heaters (optionally: Air & Coolant Heaters)	
If your fleet's challenge is:	**Consider making these changes:**
Batteries are discharged too soon	• Add a battery charging automatic engine start/stop system • Minimize any hotel loads that may be draining the system • Utilize battery charger and off-board AC power to keep the batteries charged • Add an auxiliary starting battery system • Utilize an auxiliary CPAP battery to reduce the loading of CPAP on the main batteries
Want to lower overall vehicle operating expenses and be more "green"	• Add AC outlets, or off-board AC power, or a truck stop electrification system to your longer stopping points such as distribution centers, near border crossings, etc.