Volvo’s Experience with ISO 50001/SEP

Bert Hill
Manager, Health Safety and Environment
Volvo Group North America

World Energy Engineering Congress
September 2016

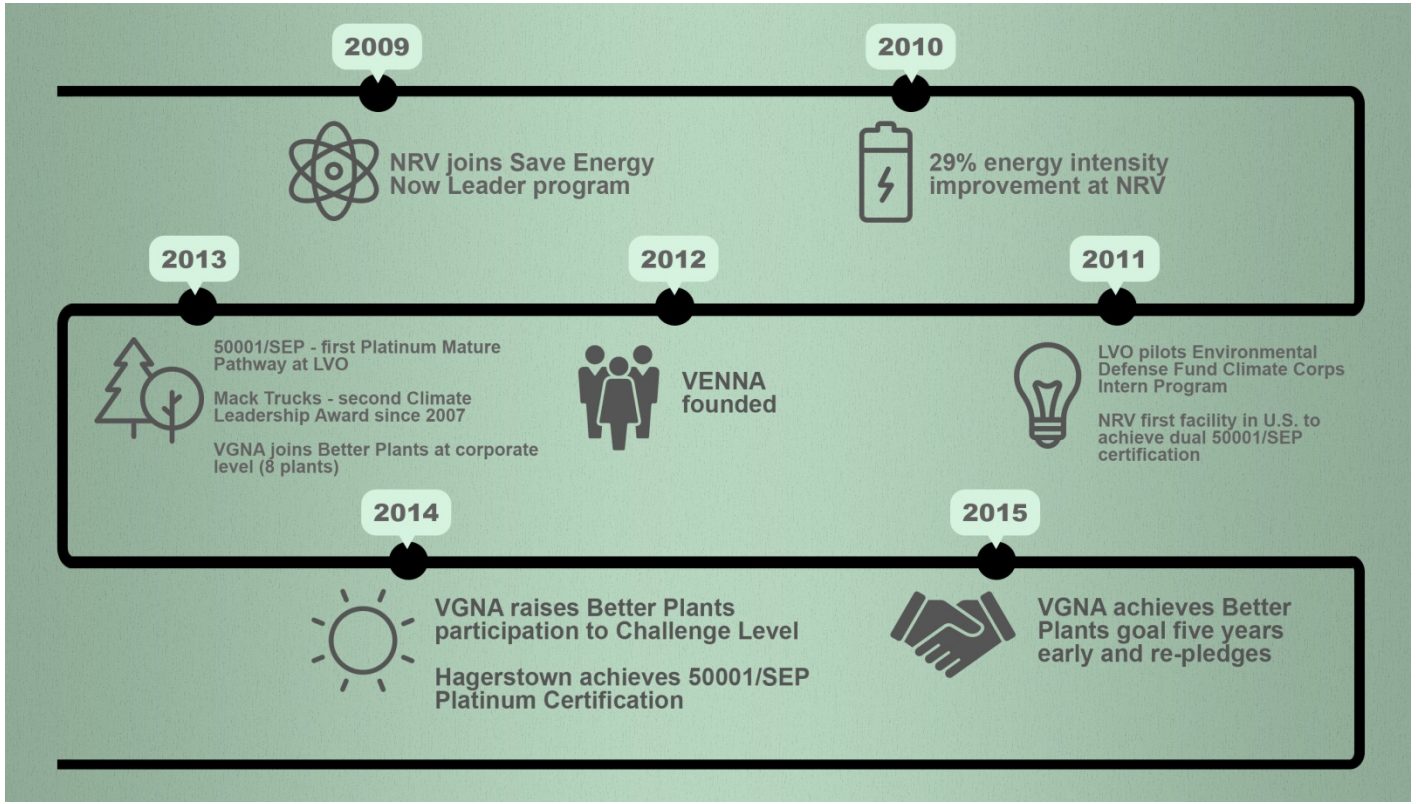
VOLVO

VOLVO

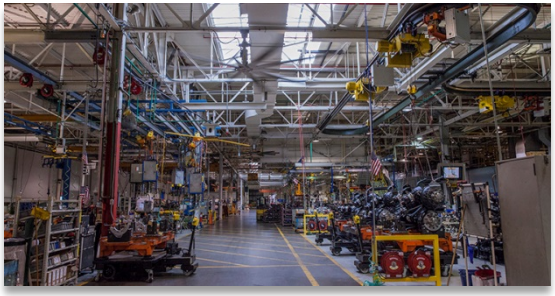
Volvo Group North America

The Volvo brand has been built up over decades and enjoys a solid position worldwide. It is one of the world’s best known and respected brands within the commercial vehicle industry. It is associated with the core values quality, safety and environmental care.

Volvo Group North America Energy Milestones



New River Valley manufacturing plant

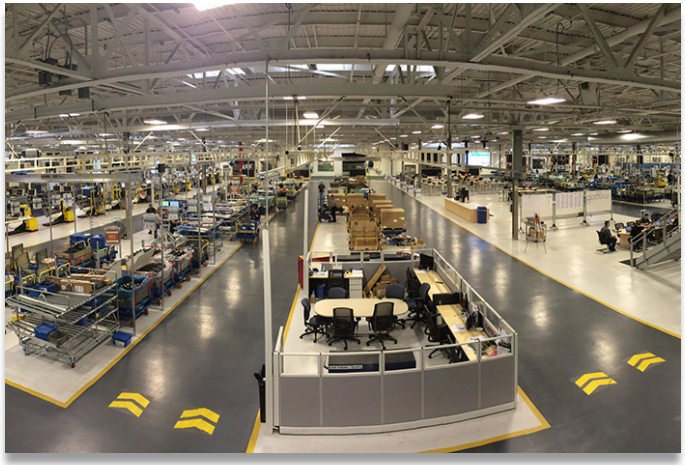


- 1.6-million-square-foot plant in Dublin, Virginia, in the state's New River Valley
- The largest Volvo truck manufacturing plant in the world
- About 2,200 employees
- Manufactures full line of Volvo trucks for North American market
- Certified to ISO 9001 Quality and ISO 14001 Environmental Management standards
- First U.S. facility to receive dual ISO 50001 and Superior Energy Performance Platinum certification

Lehigh Valley Operations

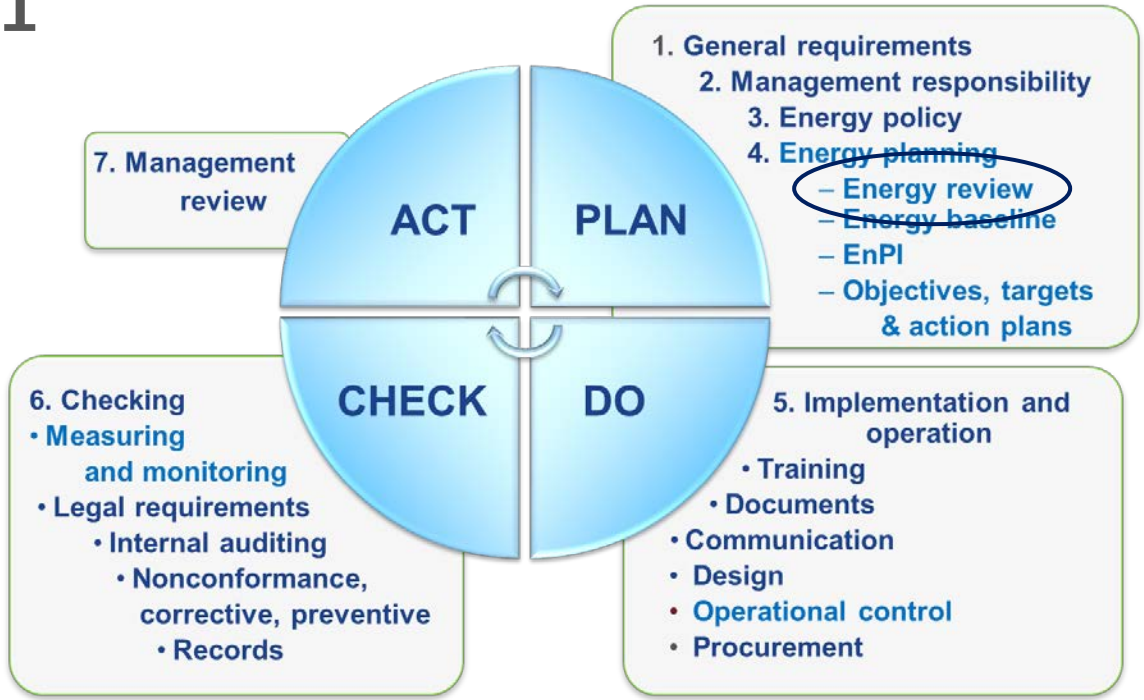
- One-million-square-foot plant in Macungie, Pennsylvania, in the Lehigh Valley
- More than 1,100 employees
- Manufactures entire Mack North American product line
- Certified to ISO 9001 Quality, ISO 14001 Environmental Management and OHSAS 18001 Health & Safety standards
- Member of the U.S. Department of Energy Better Plants Program with commitment for 25% energy consumption reduction by 2025
- First facility in the United States certified to ISO 50001/ANSI MSE 50021 (Superior Energy Performance) – Platinum Mature Pathway

Hagerstown Powertrain plant



- 1.5-million-square-foot facility in Hagerstown, Maryland
- Approximately 1,500 employees
- Develops and manufactures heavy-duty diesel engines (all GHG-2014 certified), transmissions and axles for Mack and Volvo trucks, Volvo Bus and Prevost
- Certifications: ISO 9001 for quality management, ISO 14001 for environmental management, ISO 50001 for energy management and Superior Energy Performance platinum level by the U.S. Department of Energy

ISO 50001



Light blue text represents new data-driven sections in ISO 50001 that are not in ISO 9001 & ISO 14001

Source: U.S. Department of Energy

Significant Energy Uses

- Air Compressor and Dryers Replacement - Replace 1 Compressor and 3 air dryers plus air piping arrangement – Approximate Annual Energy Savings 19,000 MMBtu.
- Area Indoor Air Temperature Reduction - Reduce indoor air temp during heating months from 72 to 65 degrees – Approximate Annual Energy Savings 32,000 MMBtu.
- Removal of Central Air House fans (wall) - Remove dividing wall in Central Air house & four 125 HP fans associated to move air through the wall – Approximate Annual Energy Savings 20,000 MMBtu.
- Continual improvement & Better Utilization of Building Automated Systems (BAS) Throughout the Facility & Shutdown Scheduling - The BAS covers majority of facility floor lighting, air compressors, HVAC, chillers, boilers, etc. – Approximate Annual Energy Savings 16,000 MMBtu.

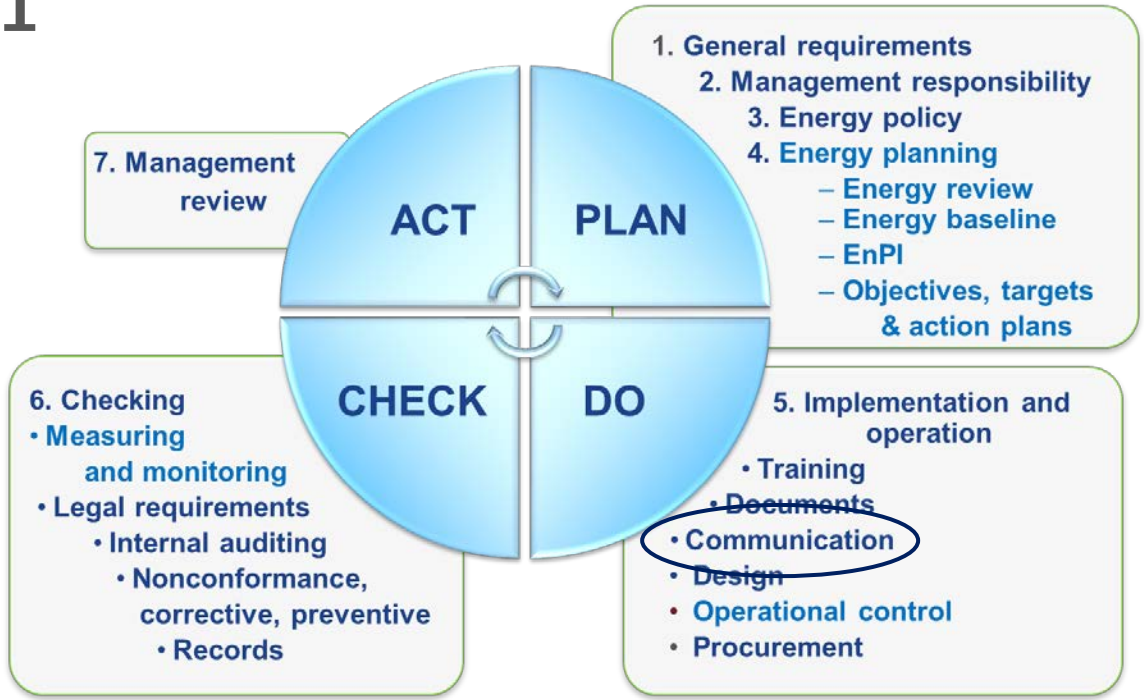
Significant Energy Uses

- Plant Lighting Retrofit (2010-2013) - Replace HID & T8 Lamp fixtures with T5 & LED Lamp fixtures – Approximate Annual Energy Savings 31,000 MMBtu.
- Regenerative Dynamometers Utilization - Utilize diesel engine test dyno to generate electricity – Approximate Annual Energy Savings 15,000 MMBtu.
- Heat Treat Equipment Decommissioning / Elimination - Eliminate more than 20 process equipment from Heat Treat due to inefficiencies and low utilization including furnaces, presses, etc. – Approximate Annual Energy Savings 15,000 MMBtu.

Significant Energy Uses

- Total heating system retrofit - Install 120 infra-red heaters plant wide and eliminate Hot Water Heating except office area which will use a local more efficient unit – Approximate Annual Energy Savings 28,000 MMBtu.
- Furnish and install ONE new 50 HP air compressor within Tire Area - Replace constant speed 100 HP air compressor with a VFD 50 HP compressor with auto on /off setting as well – Approximate Annual Energy Savings 4,000 MMBtu.
- Incorporate lighting controls (time of day, weekend & holidays) - Control plant production area lighting with limited lightings (5-10% on based on the old schedule) during off time. Tie lighting schedule with operation and production activities – Approximate Annual Energy Savings 14,000 MMBtu.

ISO 50001



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ISO 50001 – Communication and engagement

Volvo Group Trucks Operations - NRV

HOW CAN YOU HELP REDUCE ENERGY USE?

- *Turn off lights & fans when not required*
- *Shut down computers at end of day*
- *Print double-sided*
- *Report compressed air leaks, water leaks, broken doors & windows*
- *Do not prop doors open while heat is running*
- *Help us come up with new energy saving ideas!*

Volvo Group Trucks Operations
Doc # Name

VOLVO

ISO 50001 – Communication and engagement

BULLDOG ENERGY

	Kwh's/month	$/month
Reduce building Temperature 5 Deg.	500,000	$30,000
Room lighting sensors	1,527	$91
Reduce lighting in Administrative office	11,520	$700
Remove lights from vending machines	2,679	$160
Remove personal heaters from under desks	7,040	$300
Turn off dock lights at night (when unoccupied)	20,160	$1,209
Turn off flag pole lights	192	$14
Install solar water heater	3,425	$250

ENERGY BUSTERS

Watts in Your Wallet

ISO 50001/SEP Reflections

- 50001/SEP provides a systematic, robust, verifiable approach to energy management
- Certification helps keep long-term management attention on energy issues
- Recognition and intangible benefits
- Leverage existing management system infrastructure for consistency and familiarity
- KISS

Thank you!