



Electric Commercial Lawn Mowers



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Planning and Rules

Commercial Mowers Background

- Long lifetime
- Daily usage
- Heavy fuel consumers

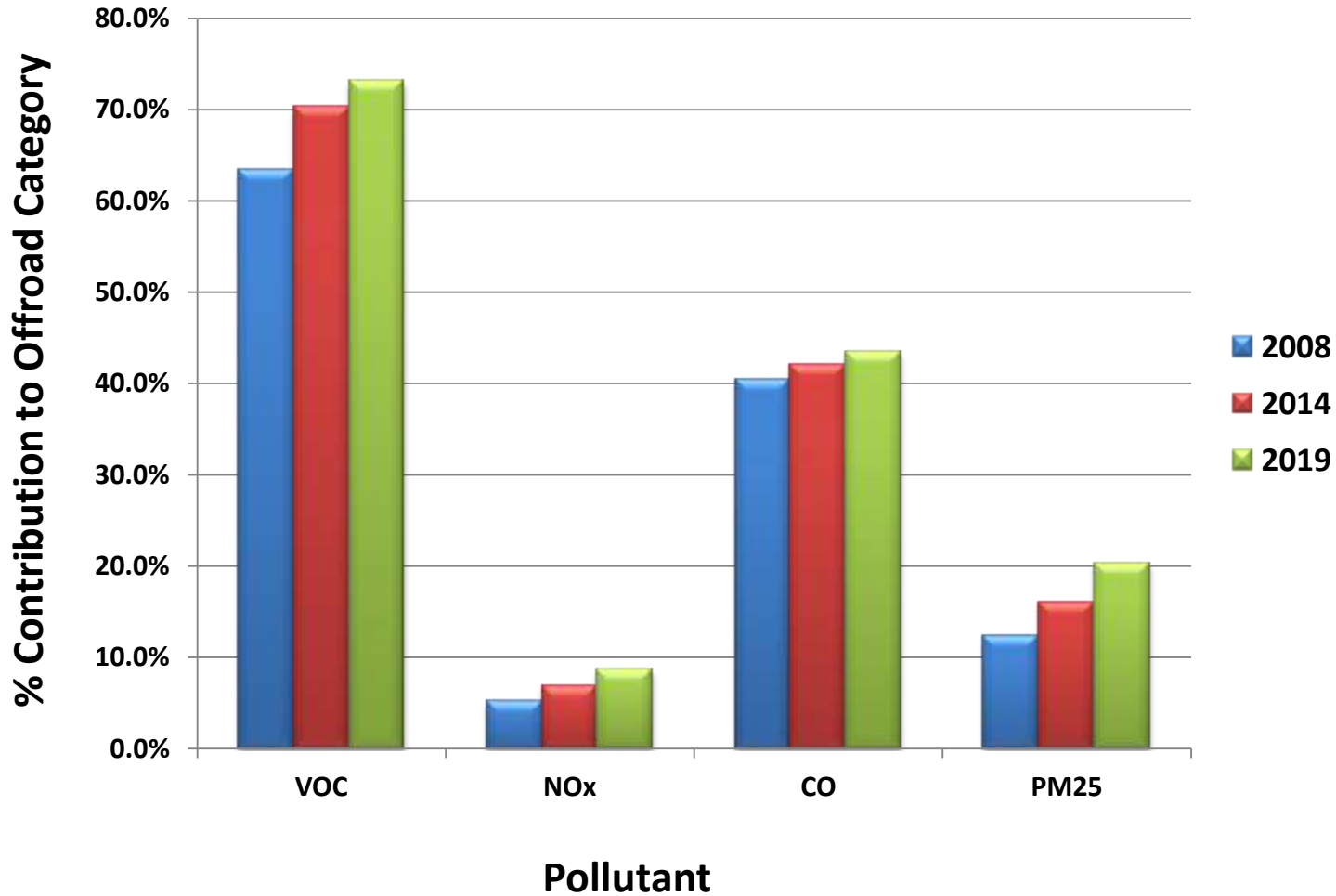


AQMD Residential Lawn Mower Exchange

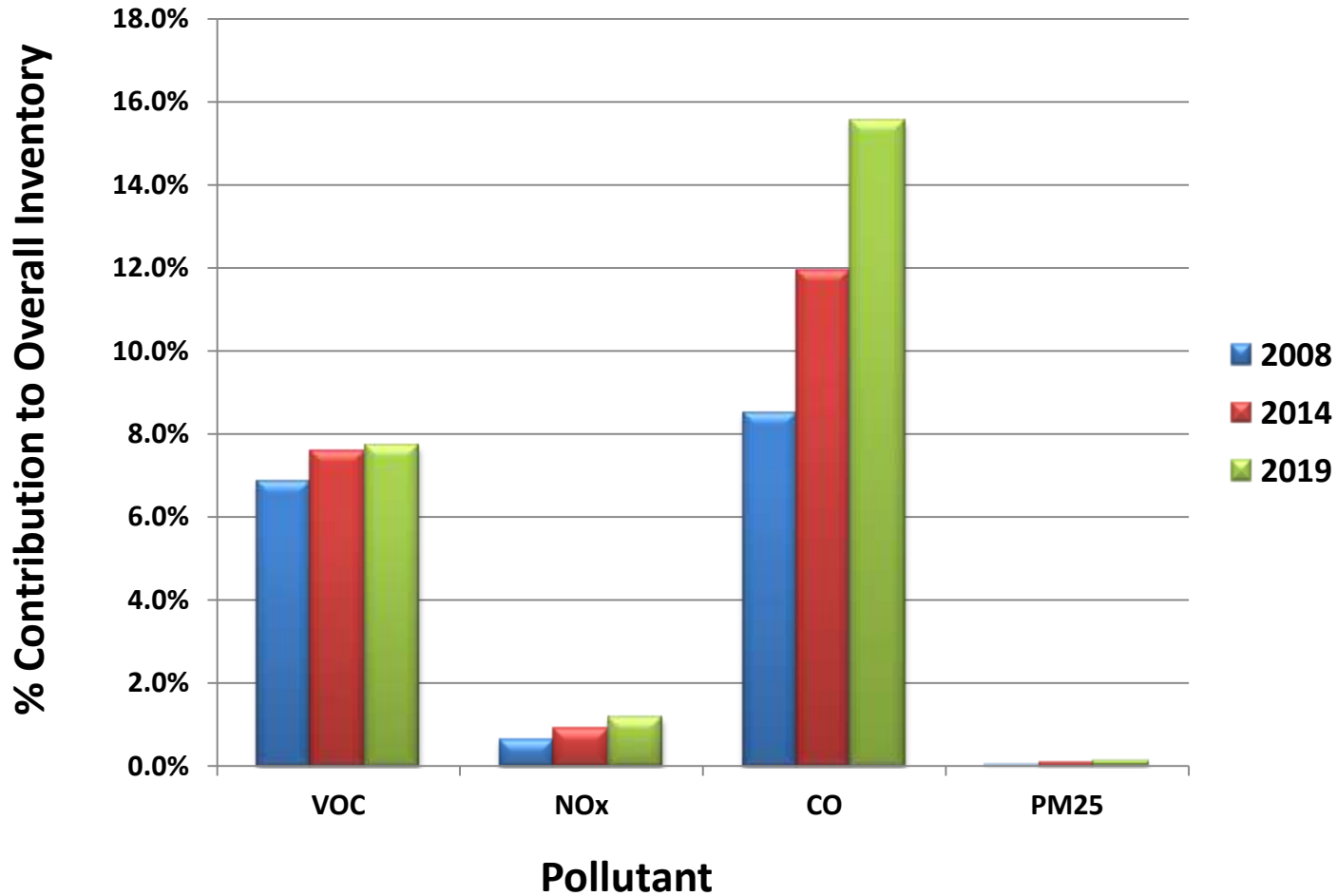
- Exchange gas mower for battery operated electric at reduced cost
- To date 47,000 mowers exchanged
- Mowers not suitable for commercial operation



Lawn and Garden Equipment Emissions - Contribution to Offroad Category



Lawn and Garden Equipment Emissions - Contribution to South Coast Inventory



Commercial Mower Categories



Front Mowers



Commercial Turf

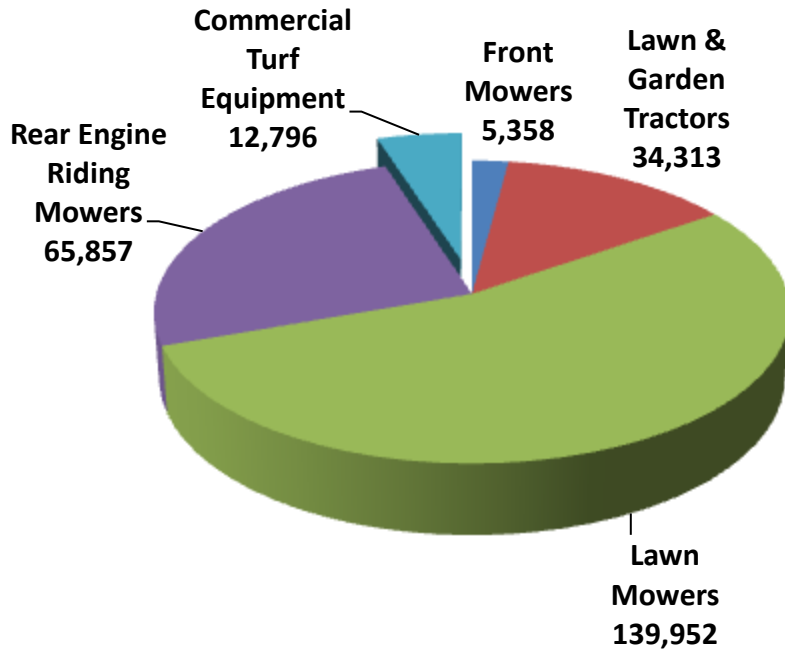


Rear Engine Rider

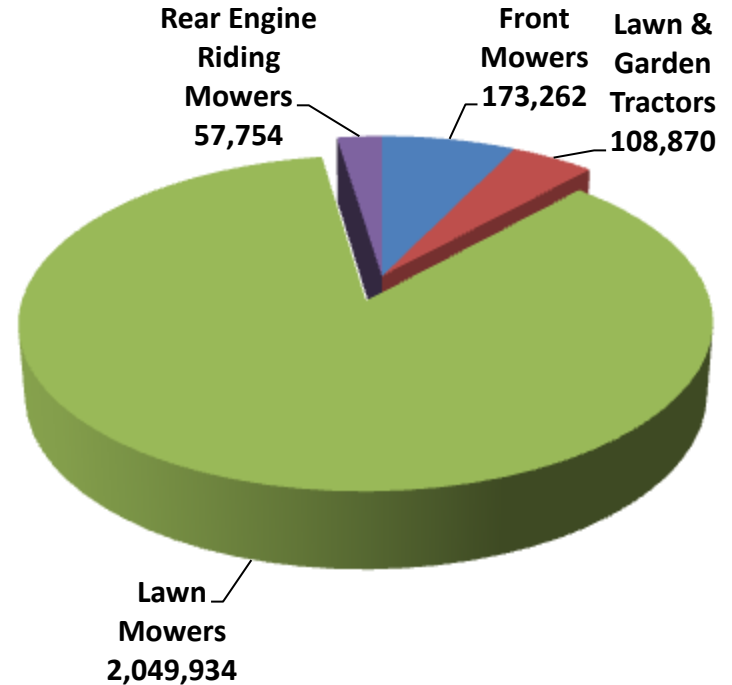


South Coast Basin Mower Population*

Commercial



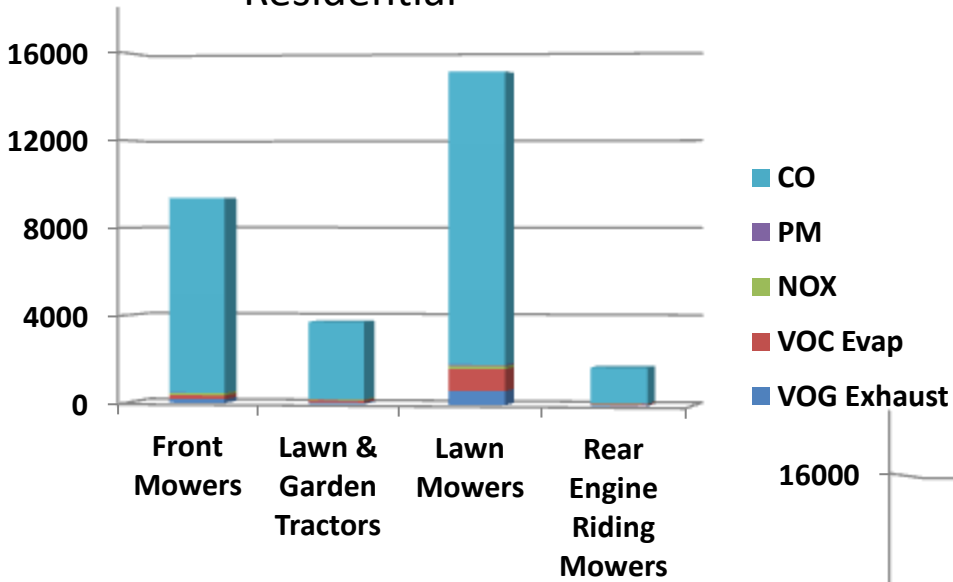
Residential



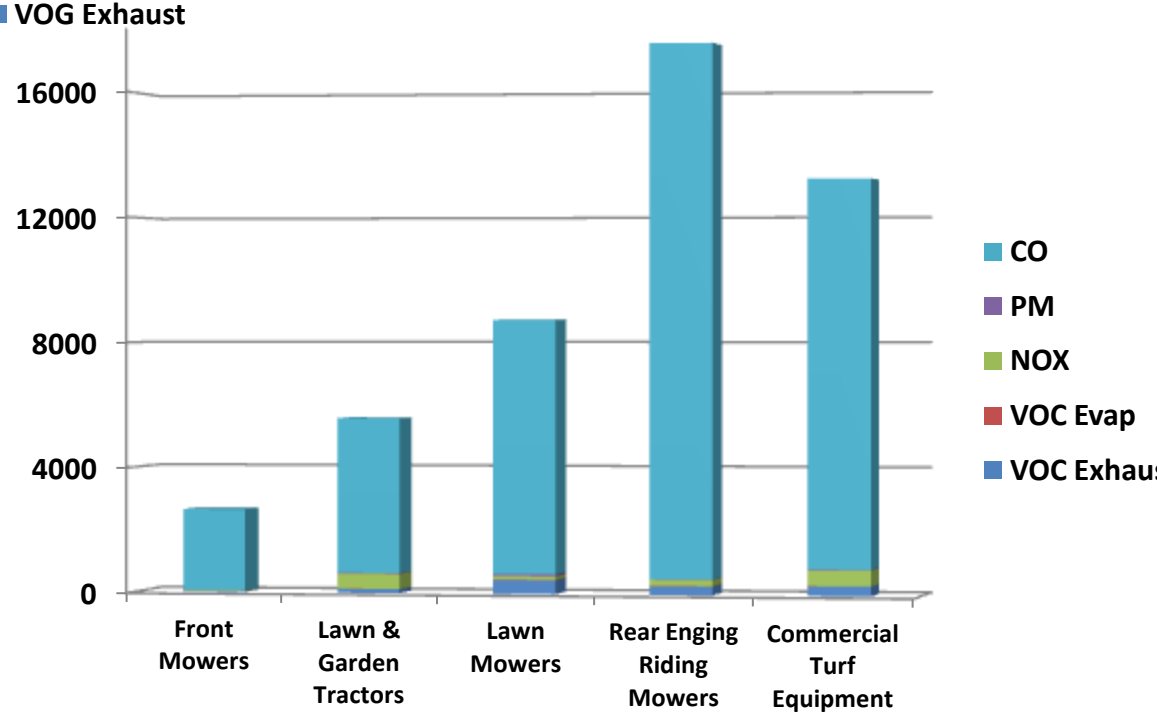
* 2010 estimates from Offroad Model

Emissions tons/year

Residential

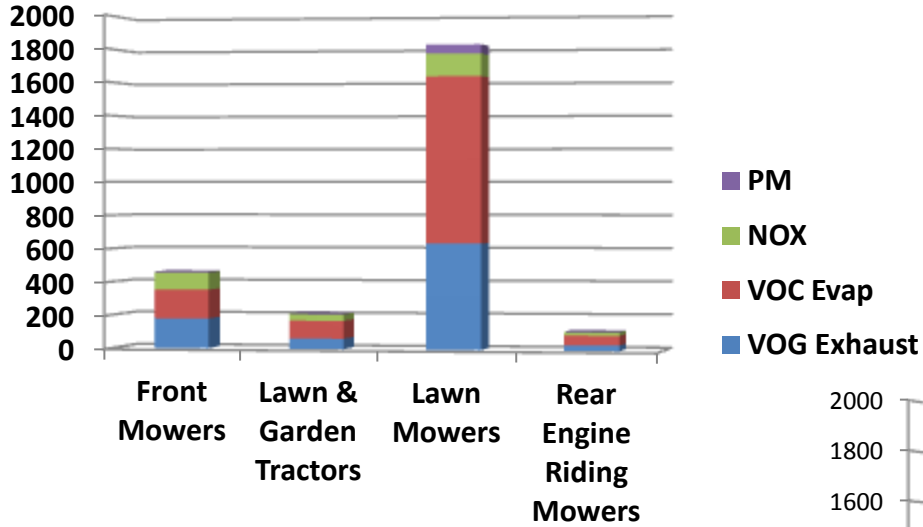


Commercial

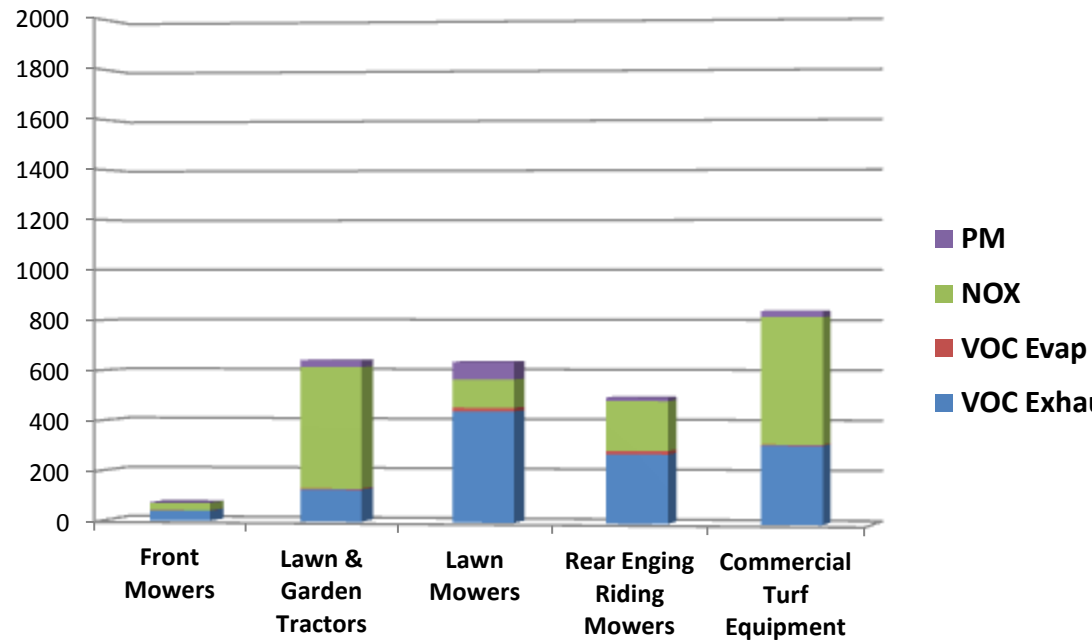


Emissions tons/year

Residential

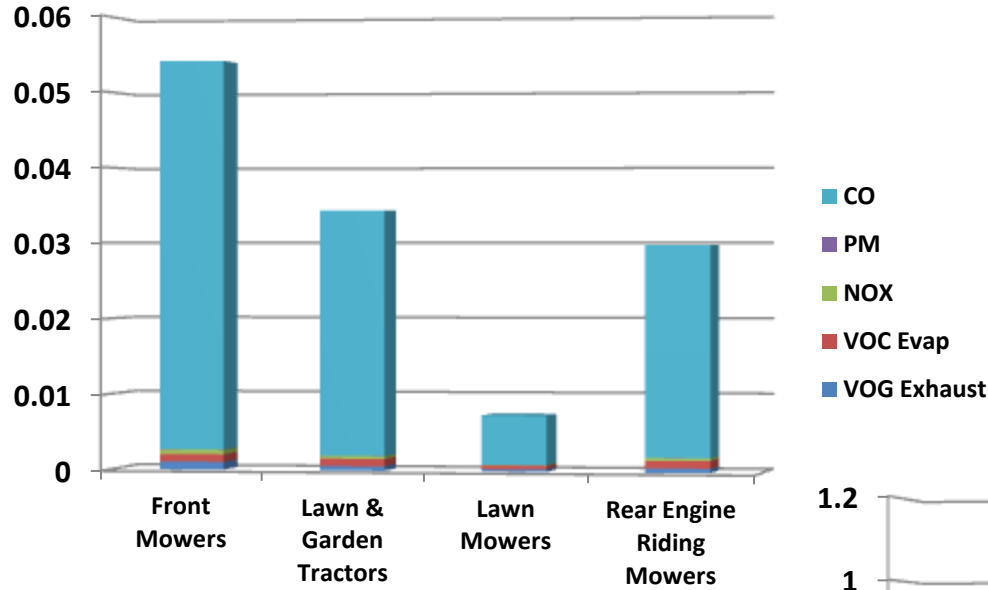


Commercial

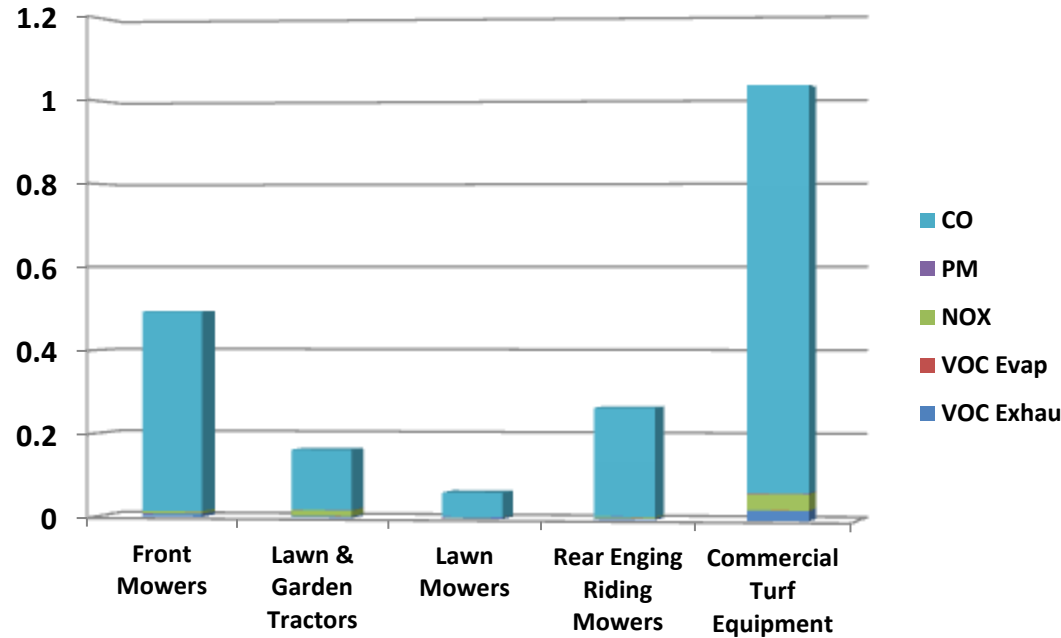


Emissions per unit tons/year

Residential

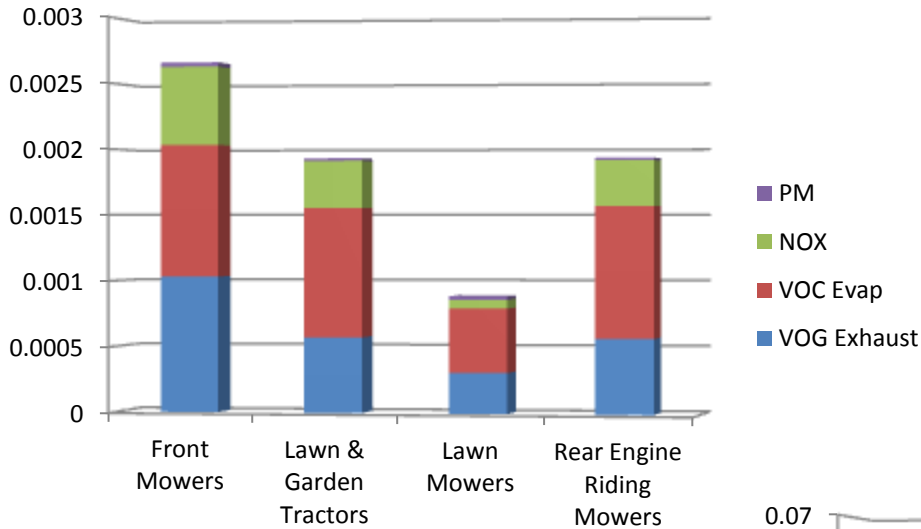


Commercial

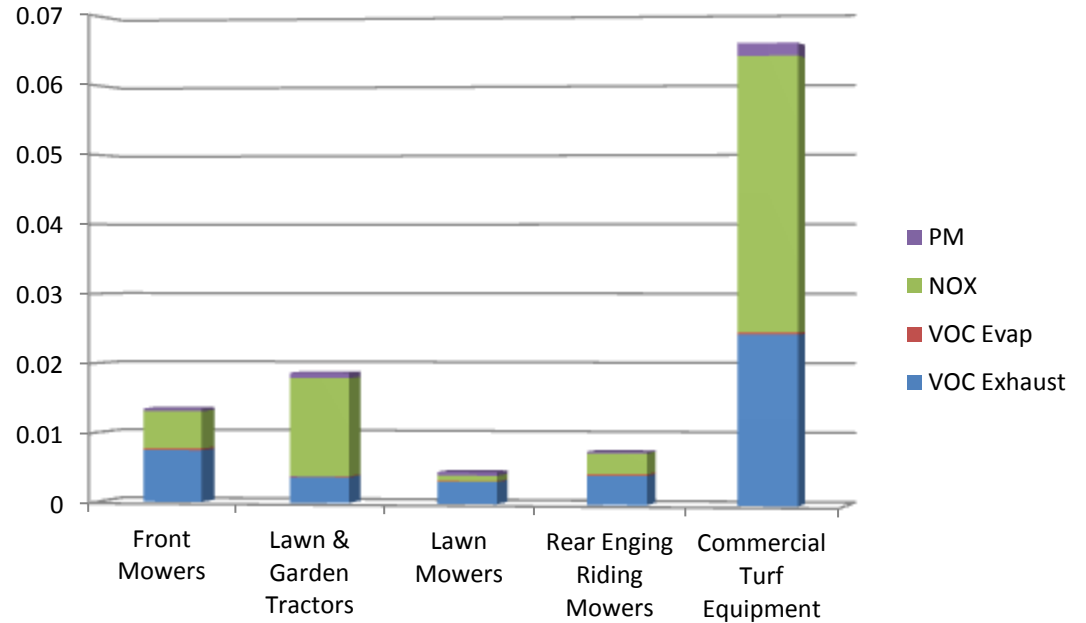


Emissions per unit tons/year

Residential



Commercial



Current Market for Commercial Electric

- One Product

- Yard Hustler Zeon Mower (replaces 15 to 25 hp)
 - 42” cutting width
 - 1.5 to 2 hour run time (standard lead acid)
 - Additional battery configurations can extend runtime



Electric Commercial Mower Advantages/Disadvantages

Advantages

- Reduced energy costs
- Quieter operation
 - 98 dBA electric vs. 103 dBA Gasoline
- Reduced Maintenance

Disadvantages

- Run time
- Charging time
- Battery costs

Next steps

- Further review of usage and emissions
- Review potential for going electric in larger width commercial mower
 - Run times (battery technologies)
 - Charging times
 - Costs
- Better understand cost effectiveness (emissions and fuel savings)
- Possible demonstration project/ incentives