



eco-smart solutions in property maintenance

The Greenstation 101

Beautify Your Property

Create a Better Quality of Life for Your Community



THE MONSTER FOOTPRINT



OF GAS POWERED LANDSCAPE
MAINTENANCE EQUIPMENT

The Big Five

- ◆ **Air Pollution**
- ◆ **Gasoline and Oil Consumption**
- ◆ **Non-Organic Solid Waste Creation**
- ◆ **Hazardous Waste Handling
And Dumping**
- ◆ **Noise Pollution**

Gasoline and Oil Consumption Facts

The EPA estimates each weekend approximately 54 million Americans mow their lawns, using 800 million gallons of gas per year. That is enough gasoline to fill the Rose Bowl 8 times to the rim!



Gasoline and Oil Consumption Facts

The EPA states that 17 million gallons of fuel, mostly gasoline, are spilled each year while refueling lawn equipment. (More than all the oil spilled by the Exxon Valdez!)



In 1989 more than 11 million gallons of oil was spilled in Alaskan waters making it one of the largest U.S. environmental disasters in history.

The Fuel Matrix

- Fuel Matrix Fuel Consumption Stats are for ten Los Angeles gardeners.
- Each gardener services 65 to 75 homes per week.
- We were able to determine the average number of gallons of gasoline used by each gardener for each piece of equipment on their truck.
- *Note: This does not include the amount of gas the gardeners use for their work trucks to transport themselves and equipment to their job sites.*



Here is what we found...

Gardening Service Gasoline Consumption

Lawn mower:

Weekly 3 to 5 gallons

Monthly 12 to 20

Annually 144 to 240

String trimmer 2-stroke:

Weekly 1.5 to 2 gallons

Monthly 6 to 8

Annually 72 to 96

Blower 2 & 4-stroke:

Weekly 3 to 5 gallons

Monthly 12 to 20

Annually 144 to 240

Hedge Trimmer 2-stroke:

Weekly .5 to 1 gallons

Monthly 2 to 4

Annually 24 to 48

Let's do the math.

Adding only the low end totals of gasoline use for each gardener

Weekly 8 gallons

Monthly 32 gallons

Annually 384 gallons

The Greenstation conservatively estimates there are 20,000 to 25,000 independent gardeners operating in Los Angeles County

384 annual gallons x 20,000 gardeners = 7,680,000 gallons

The cost: 7,680,000 x \$3.50 per gallon = \$26,880,000.00











Look at the Equipment Before Demonizing the Worker



The DWP's Toolbox



Where's Our Protection?



LAUSD Hedge Trimmer Vid

Gas vs. Electric

LOCAL AIR QUALITY COMPROMISED

Facts about standard gas-powered vs. electric mowers



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Truck and Car vs. 2 and 4 Stroke Gas-Powered Leaf Blowers

	NMHC	NOx	CO
2011 Ford Escape Pickup Truck	0.005	0.005	0.276
2012 Ford Focus	0.016	0.010	0.192
Ryobi 4-stroke leaf blower	0.182	0.031	3.714
Echo 2-stroke leaf blower	1.495	0.010	6.445

The four-stroke Ryobi leaf blower kicked out 6.8 times more NOx, 13.5 times more CO and more than 36 times more NMHC than the Raptor.

The two-stroke leaf blower was worse still, generating 23 times the CO and *nearly 300 times* more NMHC than the crew cab pickup. Let's put that in perspective.



Source: Zeldox (Merck, Ca) (AAA Emissions Testing Site Diamond Bar, Ca.)

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MONICA
COLLEGE

CERTIFIED ORGANIC
ZERO EMISSION PEOPLE-FRIENDLY
GREEN ZONE

by



www.thegreenstationla.com

This area is maintained with only organic products
and gas-free and emission-free equipment.



TAYLOR-DUNN
06522

RECYCLE









GROUNDS DEPT STORAGE
IRRIGATION SHOP

irrigation

ORGANIC
LEARNING
GARDEN

WELCOME





GREEN ZONE INITIATIVE PROGRAMS

GREEN ZONE LOG SHEET

Address:



Week of	Date	Mower Hourly Usage	Sweeper Hourly Usage
March-04			
March-11			
March-18			
March-25			
April-01			
April-08			
April-15			
April-22			
April-29			
May-06			
May-13			
May-20			
May-27			
June-03			
June-10			
June-17			
June-24			
July-01			

Certificate of Completion

This certifies that

Has successfully completed the training requirements of
Greenstation 101

On this ____ day of _____













CERTIFIED GAS-FREE & EMISSION-FREE
GREEN ZONE SPECIALIST

Ask Me How You Can Create a Green Zone. www.TheGreenstationLA.com



MALIBU
COUNTRY MART

MALIBU COUNTRY MART
COUNTRY STORE
GARDEN CENTER













RESEARCH AND DEVELOPMENT

DEPARTMENT OF ENERGY

Battery Powered Automobile Funding Awardee List October 2011

RECOVERY ACT AWARDS FOR ELECTRIC DRIVE VEHICLE BATTERY AND COMPONENT MANUFACTURING INITIATIVE

Applicant	DOE Award (Dollars in Millions)	Project Locations	Technology
Cell, Battery, and Materials Manufacturing Facilities			
Johnson Controls, Inc.	\$299.2	Holland, MI Lebanon, OR (Entek)	Production of nickel-cobalt-metal battery cells and packs, as well as production of battery separators (by partner Entek) for hybrid and electric vehicles.
A123 Systems, Inc.	\$249.1	Romulus, MI Brownstown, MI	Manufacturing of nano-iron phosphate cathode powder and electrode coatings; fabrication of battery cells and modules; and assembly of complete battery pack systems for hybrid and electric vehicles.
KD ABG MI, LLC (Dow Kokam)	\$161	Midland, MI	Production of manganese oxide cathode / graphite lithium-ion batteries for hybrid and electric vehicles.
Compact Power, Inc. (on behalf of LG Chem, Ltd.)	\$151.4	Holland, MI	Production of lithium-ion polymer battery cells for the GM Volt using a manganese-based cathode material and a proprietary separator.
EnerDel, Inc.	\$118.5	Indianapolis, IN	Production of lithium-ion cells and packs for hybrid and electric vehicles. Primary lithium chemistries include: manganese spinel cathode and lithium titanate anode for high power applications, as well as manganese spinel cathode and amorphous carbon for high energy applications.
General Motors Corporation	\$105.9	Brownstown, MI	Production of high-volume battery packs for the GM Volt. Cells will be from LG Chem, Ltd. and other cell providers to be named.
Saft America, Inc.	\$95.5	Jacksonville, FL	Production of lithium-ion cells, modules, and battery packs for industrial and agricultural vehicles and defense application markets. Primary lithium chemistries include nickel-cobalt-metal and iron phosphate.
Exide Technologies with Axion Power International	\$34.3	Bristol, TN Columbus, GA	Production of advanced lead-acid batteries, using lead-carbon electrodes for micro and mild hybrid applications.
East Penn Manufacturing Co.	\$32.5	Lyon Station, PA	Production of the UltraBattery (lead-acid battery with a carbon supercapacitor combination) for micro and mild hybrid applications.
Advanced Battery Supplier Manufacturing Facilities			
Celgard, LLC, a subsidiary of Polypore	\$49.2	Charlotte, NC	Production of polymer separator material for lithium-ion batteries.
Toda America, Inc.	\$35	Battle Creek, MI	Production of nickel-cobalt-metal cathode material for lithium-ion batteries.
Chemetall Foote Corp.	\$28.4	Silver Peak, NV Kings Mtn., NC	Production of battery-grade lithium carbonate and lithium hydroxide.
Honeywell International Inc.	\$27.3	Buffalo, NY Metropolis, IL	Production of electrolyte salt (lithium hexafluorophosphate (LiPF6)) for lithium-ion batteries.
BASF Catalysts, LLC	\$24.6	Elyria, OH	Production of nickel-cobalt-metal cathode material for lithium-ion batteries.
EnerG2, Inc.	\$21	Albany, OR	Production of high energy density nano-carbon for ultracapacitors.
Novolyte Technologies, Inc.	\$20.6	Zachary, LA	Production of electrolytes for lithium-ion batteries.
FutureFuel Chemical Company	\$12.6	Batesville, AR	Production of high-temperature graphitized precursor anode material for lithium-ion batteries.
Pyrotek, Inc.	\$11.3	Sanborn, NY	Production of carbon powder anode material for lithium-ion batteries.
H&T Waterbury DBA Bouffard Metal Goods	\$5	Waterbury, CT Holland, MI	Manufacturing of precision aluminum casings for cylindrical cells.

Updated: October 2011

Applicant	DOE Award (Dollars in Millions)	Project Locations	Technology
Advanced Lithium-Ion Battery Recycling Facilities			
TOXCO Incorporated	\$9.2	HO Lancaster	Hydrometallurgical recycling of lithium-ion batteries.
Electric Drive Component Manufacturing Facilities			
General Motors Corporation	\$102	Warren, MI Wixom, MI	Construction to U.S. manufacturing capabilities to produce the second-generation GM global rear-wheel drive electric drive systems.
Delphi Automotive Systems, LLC	\$89.3	Kokomo, IN	Expansion of manufacturing for existing electric drive power electronics components for both passenger and commercial vehicles.
Allison Transmission, Inc.	\$65.8	Indianapolis, IN	Increasing U.S. capacity of manufacturing hybrid systems for the commercial truck market.
Ford Motor Company	\$65.3	Stirling Heights, MI	Producing a Ford electric drive transaxle with integrated power electronics in an existing Ford manufacturing facility.
Remy, Inc.	\$60.5	Anderson, IN	Establishing a state-of-the-art platform for hybrid electric motor and control.
MOU Technologies, Inc.	\$48.1	Fresno, CA	Expanding established production systems and volume manufacturing environment.
Magnum Electric Systems of America, Inc.	\$40	Holly, MI	Increasing production capacity of electric drive components manufacturing plants located in the U.S.
Electric Drive Subcomponent Manufacturing Facilities			
KEMET Corporation	\$12.1	Simpsonton, PA	Production of DC bus capacitors including soft wound film electrolytic capacitors necessary for electric drive systems.
SBE, Inc.	\$8.1	Barnes, VA	Outfitting a high-volume manufacturing facility to build DC Bus Capacitors for the electric drive vehicle industry.
Powertek, Inc.	\$8.1	Yonkers, PA	Creating an electric drive semiconductor development, manufacturing, and production center.

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Advanced Battery Supplier Manufacturing Facilities			

THE
COFFEE BEAN

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ROCK STAR

MALIBU MUTTS
GRILL

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INITIATIVE
PARKING FOR
ELECTRIC
VEHICLE
CHARGING
ONLY



MALIBU
GREEN



If all of the gas-powered lawn and garden equipment were converted to zero-emission appliances, it would have the same impact as:

Eliminating one-third of all passenger cars in terms of reducing reactive organic gases, and

One-fifth of all passenger cars in terms of reducing carbon monoxide

COMMERCIAL PROTOTYPE LAWNMOWER

- 20 inches cutting width
- 36volt 30Ah lithium battery
- Up to 2 hours working time
- Self propelled speed 1.2 m/sec
- Cutting height 1 1/2 inches (3.8cm) to 3 1/2 inches
- Heavier duty rubber wheels, chassis, handles, electronics



Lithium Battery Development

- Unsurpassed Safety
- Superior Run Time
- Exceptional Cycle Life

