

# *How to Move a Mountain*

To understand the environment means you know of the interactions between land, water, air issues and how ecosystems sustain life.

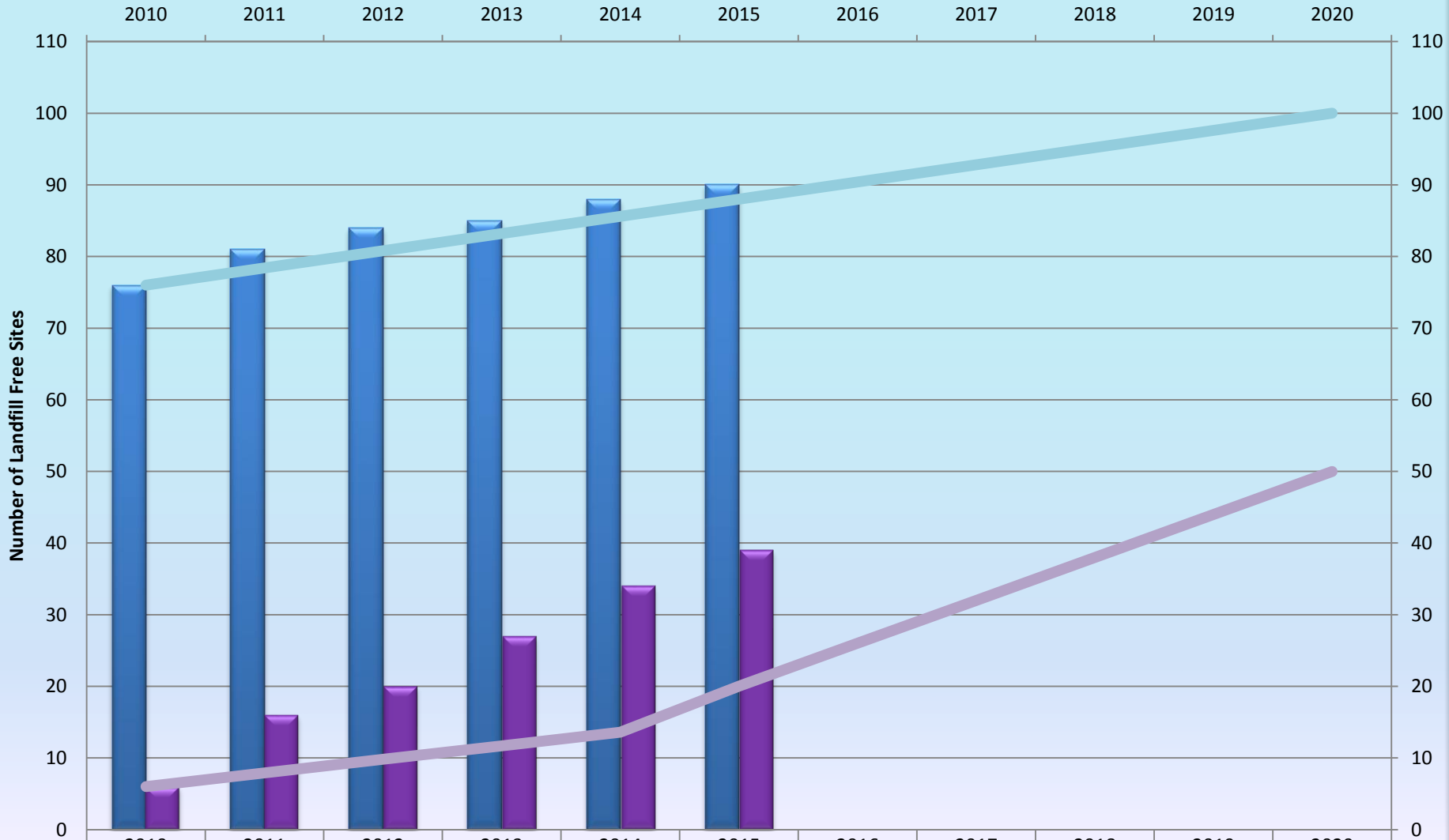
To respect the environment means you appreciate and hold dear those interactions.

To take action for the environment means you embrace these concepts and positively impact society. It is the foundation of sustainability.





In order to take action within the auto sector, we must understand the BOM, BOP and BO?.

# Landfill Free Operations Tracking Chart

Rev. 11-2-15, Note - Non-manufacturing glidepath changed in 2015 to 50 Operations



Microsoft Excel  
Worksheet

 Mfg	76	81	84	85	88	90	0	0	0	0	0
 Non-Mfg	6	16	20	27	34	39	0	0	0	0	0
 Glidepath Non-Mfg	6	8	10	12	14	20	26	32	38	44	50
 Glidepath Mfg	76	78	81	83	86	88	90	93	95	98	100

# Making Good Programs Great

## Supporting SP Technologies projects

- Enviroplas approved to supply 100% recycled content from Delphi into GM vehicles
- Circular commodity mgt. Plastic film bailer to enable bailing packaging film to process into vehicle seating liners and trash bags
- Goodwill Industries into SP relationship
  - Began recycling dunnage, plastic containers, caps, plugs,
  - Recharge and recycle vehicle batteries
  - E-waste program
  - Fiber, plastic drums, totes reused
- Communicated landfill free/zero waste program

# SP Related Technologies, projects Making Good Programs Great

- Oil management – General Oil and Aveitas
- Extended lessons learned/best practices to:
  - MEP
  - Mexico and Canada (CEC)
  - RMI (Regional Manufacturers Institute)
- MFR Solvent wiper recycling into vehicle components
- Gayle Technologies, Ultrasound technology
- Spoke to the benefits and challenges of energy from waste - Covanta
- FTS Flame adhesion promotion technology
- MPS Vehicle air bag deployment technology

- Filtration media recycling
- Potassium Hydroxide reuse options
- Materials and technology exchange proposed 10-11-09
- Gage - Paint purge recycling across the US
- Test America
- Cartridge filter recycling and reuse
- Functional black plastic recycling
- TPE recycling, GDCs Enduraprene
- Converting scrap vehicle components to make coats for the homeless
- We have showed some interesting creative recycling technologies

- Goodwill Toledo - Cardboard container exchange, reuse
- MFR Plant absorbent recycling and reuse
- Everybody's Paint - Latex household paint reuse
- Tony Joseph - Cardboard shredding/bailing technology
- USBCSD Materials exchange program
  - ROC Detroit
- Offal blank reuse BAE
- Light weight recycled content pallets
- MFR, Dave Briggs - Oily sludge centrifuging, solids removal, water removal for oil reuse
- Composting and repurposing steel baskets, Detroit Dirt, Pashon Murray, Detroit urban farming movement
- Packaging reuse/recycling and repurposing, plastic corrugate, green garage
- Gulf of Mexico oil Spill
- Cardboard part





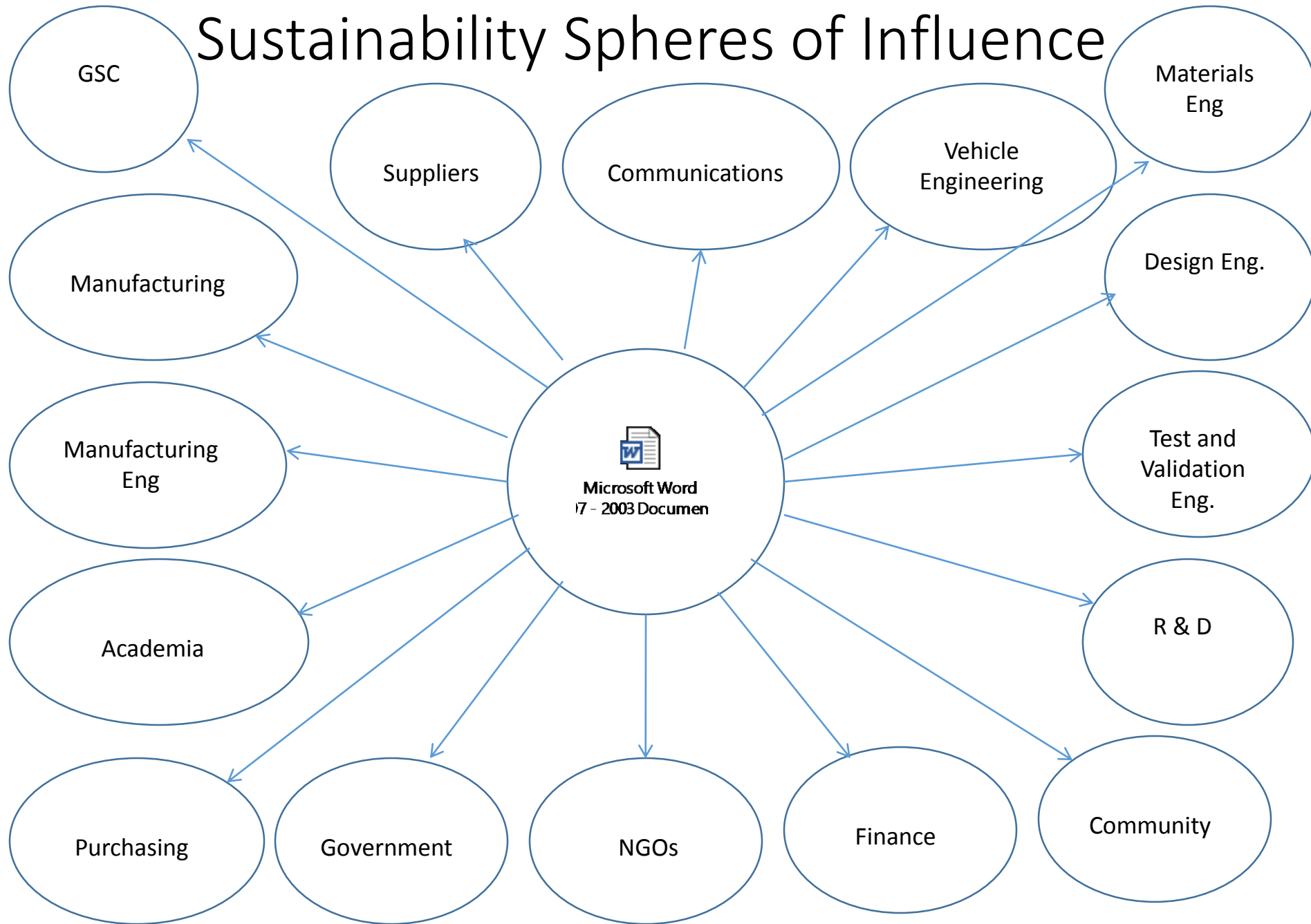




## Incorporating a total systems perspective in a project

1. Wildlife habitat (pollination through flowers and plant planted in the garden and bees)
2. Community Outreach (St. Peter and Paul warming house mission, women entrepreneur Detroit Dirt)
3. Landfill Free (continued improvement for several LF plants and motivating factor for the steel shipping crates turned into garden beds, Volt battery covers, Kokomo engine control module trays)
4. Renewable energy (steam used to heat Detroit buildings)
5. Carbon intensity reduced (Volt battery covers reused, Kokomo engine control module tray reuse, plant sequestration, screen elimination)
6. VOCs reduced from reuse of covers as compared to creating demand for new planters and no VOCs used to create the raised bed gardens.
7. Energy efficiency – location ideal for sunlight penetration directly to plants
8. Water efficiency – raised beds enable watering efficiency through consolidation of plants/space
9. Total waste – reused covers, baskets and Kokomo trays reduces total waste for Orion, Brownstown and Kokomo

# Sustainability Spheres of Influence





*Of all sustainability aspects, the most important involve people, because we are ultimately responsible to care for natural resources, all life forms and most importantly each other. If we respect one another, everything will fall in place.*

*Progress is only limited by our perseverance*