BAE Systems – ES Sustainability journey line

- Decline of Manufacturing
- Projects relocated to other sites
- Identified Opportunities for Energy Reduction
- Launched a Utility Cost Take Out (UCT) Process
- Initiated a "Green" Campaign at BAE Systems
- Began developing and defined an approach to reducing cost
- Turned the "Green" Campaign into Sustainability Initiative focused on the Triple Bottom Line
- Transferred Sustainability Best Practices across BAE Systems' sites
- Presentations to Industries, Institute, & Associations: CPE, ASIS, MIT, LIFT, IFMA, USGBC
- MOE Implemented, Recycling & Employee Engagement Initiated
- Established MOE
ES Sustainability highlights

Energy & Utility Cost Savings

- Reduced total energy usage by 30.1M KWh since 2010
- Reduced total water consumption by 38.7M gallons since 2010
- Carbon reductions of 10% since 2010 (Scope I & II)

Utility Cost Take-Out (UCT) program (est. 2005)

- Delivered >$650K in CTO for 2013
- Monthly A/B team meetings reporting CTO /sharing best practices

Manufacturing Operations Engagement (MOE) program (est. 2013)

- Identified $231.6K in savings, $42K executed
- Engages Manufacturing in CTO process
ES Sustainability highlights

BAE Systems
Sustainability Employee Engagement & Community Outreach

Get everyone ... Rowing In The Same Direction
General awareness training

- Global Sustainability website
- Sustainability Awareness Training
  - For all employees
  - Computer web-based
  - Company accredited
- Conduct sector-wide Earth Day & Energy Day Events
Manufacturing employee awareness

This equipment is an energy hog
Common sense will apply in all cases. No one expects damage to product, safety hazards or failure to deliver quality product on time. However, with reasonable coordination and cooperation, we can learn, grow, conserve, save and develop revenue with these types of actions. All these efforts help prevent the total collapse of the local area electrical grid.

Manufacturing employee awareness

- Decrease electrical load when the grid is in high stress
- Receive compensation from utility company
- Manufacturing Awareness

Results:
- Provides additional revenue
- De-stresses grid to avoid failures/blackouts
- Micro-smart grid

*Common sense will apply in all cases. No one expects damage to product, safety hazards or failure to deliver quality product on time. However, with reasonable coordination and cooperation, we can learn, grow, conserve, save and develop revenue with these types of actions. All these efforts help prevent the total collapse of the local area electrical grid.
Employee Energy Impact

- **desk lamp**: Replace the bulbs in desk lamps with ENERGY STAR qualified bulbs.
- **power strip**: Use a power strip as a central "turn off" point when you are done using office equipment to completely disconnect the power supply.
- **cellphone**: Unplug electronics when not in use.
- **monitor/computer**: Enable power management settings so they automatically enter a low-power mode when not in use.
- **you**: Create a green team with your co-workers to help save energy and reduce office waste.

Take a virtual tour at energystar.gov/work and see what else you can do.
Employee Energy Impact

**Power strip** – Use a SMART Strip Power Strip to modulate a variety of plug loads. The SMART Power Strip controls a variety of plug loads to save energy.

**Multifunction device (printer/copier/scanner)** – Make sure power management features are enabled for energy savings. Whenever possible, select the two-sided print option.
Recycling Initiatives
Encourage and motivate

• Innovative education

“Recycle, Recycle, it’s not hard to do, you can reduce the pollution and help the world too.”
BAE Systems sustainability awards and recognitions
Awards and recognition

• Seal of Sustainability
  • Awarded by Sustainable Business Institute at U.S. Capitol on April 19, 2010, for overall corporate sustainability achievements

• MVP2 Award
  • Awarded by National Pollution Prevention Roundtable for Carbon Reduction

• Building Operating Management – FMXcellence Award

• BAE Systems Chairman’s Awards
  • Bronze & Silver Winner, Gold Nomination - Utility Cost Take Out Process
  • Bronze & Silver Winner, Gold Nomination – Austin Water Reclamation Project
  • Bronze Winner – Building Energy Management System
  • Bronze Winner – Carbon Reduction Program
SUSTAINABILITY MEANS TAKING A CLOSER LOOK AT EVERYTHING WE DO.
Identified Potential Cost Savings of $100K - 200K

• Pilot Sustainability Team established September 2013
• 13 Volunteer Members from Cross-Functional Departments
• Identified 12 Sustainability Projects to be Implemented throughout 2014
• Transfer Best Practice to Other Sites in 2014
Sustainability Committee – Identified ancillary benefits

- Cross-Functional Engagement
- Enhanced Diversity and Inclusion
- Improved Communication
- Cost Savings
- Environmental Benefits
- Improved Morale
- Team Building
- Supports Company Objectives
- Employee Engagement/Education
- Stronger Public Image

Supporting multiple Corporate Initiatives:
- Diversity & Inclusion
- Great Place to Work
- Employee Engagement
- Corporate Responsibility
Sustainability Committee – Purpose and charter

- Purpose: Ensure the sustainability of BAE Systems Electronic Systems by continuously improving in the following areas:
  - Lowering Operating Expenses
  - Reduce Energy Consumption
  - Lower/Waste Increase recycling
  - Conserve Water
  - Decrease Carbon Footprint
Sustainability Committee – Team

Sponsor: Site Executive/Deputy
ES Sustainability Manager

Team Chair: Morgan Rooney

Team Members:
1. Director of Operations
2. Engineering Manager
3. Senior Human Resources Business Partner
4. Senior Communications Representative
5. Program Manager III
7. Principle Communications Representative
8. Program Engineering Manager
9. Energy Engineer
10. Sustainability Engineer
11. Facilities Manager
12. IT Lead

The diversity of the group opened our aperture for additional & non-traditional sustainability opportunities
Committee established for 5 months with 12 projects with $100-200K in savings identified
### Sustainability Committee – Project prioritization overview

#### Project Prioritization Tool

<table>
<thead>
<tr>
<th>Projects &amp; Initiatives</th>
<th>Strategic Fit</th>
<th>Economic Impact</th>
<th>Feasibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alignment w/ Company Goals</td>
<td>12%</td>
<td>15%</td>
<td>15%</td>
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<tr>
<td>Market Positioning</td>
<td>12%</td>
<td>15%</td>
<td>15%</td>
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<tr>
<td>Core Capabilities</td>
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<td>15%</td>
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<tr>
<td>Cost Savings</td>
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<td>15%</td>
<td>15%</td>
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<td>ROI</td>
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<td>Growth Potential</td>
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<tr>
<td>Technical Risk</td>
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<tr>
<td>Resources - Financial</td>
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<tr>
<td>Resources - People</td>
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<td>10%</td>
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<td>Sustainability Opportunities with Consolidation (Kiosk Implementation/Removal of use of non-disposable cups)</td>
<td>7</td>
<td>4</td>
<td>1</td>
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<tr>
<td>Supply Chain - Review packaging for reduction of waste</td>
<td>7</td>
<td>4</td>
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<tr>
<td>Carpooling</td>
<td>7</td>
<td>4</td>
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</tr>
<tr>
<td>Install Air Curtains (Loading Dock Area)</td>
<td>7</td>
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<td>1</td>
</tr>
<tr>
<td>Enhance Communications (Newsletter)</td>
<td>8</td>
<td>4</td>
<td>1</td>
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<tr>
<td>PC Energy Management - turn off monitors/motion sensor desktop lighting</td>
<td>7</td>
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</tr>
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</tr>
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<td>Compact server room, get rid of servers and computers no longer in use</td>
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<td>1</td>
</tr>
<tr>
<td>Excess ML Spec Paint</td>
<td>6</td>
<td>7</td>
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<td>8</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Enhance Recycling Program</td>
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<td>5</td>
<td>1</td>
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<tr>
<td>Implement more sustainable cafeteria services</td>
<td>8</td>
<td>5</td>
<td>1</td>
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<tr>
<td>Mandatory GT001F</td>
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<td>8</td>
<td>1</td>
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<tr>
<td>Motion Sensor Desktop lighting</td>
<td>7</td>
<td>5</td>
<td>1</td>
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<tr>
<td>Shuttles to and from Train Station</td>
<td>7</td>
<td>5</td>
<td>1</td>
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<tr>
<td>Reduce amount of computers per employee</td>
<td>8</td>
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</tbody>
</table>

#### Project Prioritization Tool

- **Note:** Sort by selecting all cells then click “Data” in the navigation menu and “Sort”. You can sort by Project Score (Largest to Smallest).

<table>
<thead>
<tr>
<th>Project</th>
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<tr>
<td>Mandatory GT001F</td>
<td>7.5</td>
<td>1.8</td>
<td>3.8</td>
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<td>4.1</td>
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<td>1.2</td>
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<td>1.3</td>
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<td>1.2</td>
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<td>1.1</td>
<td>0.5</td>
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</tbody>
</table>
## Project Proposal

### Project Title
Network Printer Removal Process

### Team
- Darryl Shepard
- Nick Daclick
- Bob Hinter
- Steve Hennwacker
- Gary Natta

### Approval

<table>
<thead>
<tr>
<th>Title/Position</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review Network Printers and Remove all Obsolete Printers</td>
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<td></td>
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</tbody>
</table>

### Project Description
- Decrease utility costs
- Decrease Maintenance Costs
- Decrease paper usage

### Purpose & Objectives
- Significant reduction of Network Printer
- Significant reduction of consumables

### Project Deliverables
- Obtain list of network printers
- Conduct network printer audit
- Remove all obsolete printers

### Scope of Project & Possible Execution
- January: Review/Audit
- February: Recommendations
- February-March: Implement
- Budget: $900
  - Labor to review/audit: 20 hours
  - Labor to Implement: 20 hours

### Timelines

<table>
<thead>
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<th>Activity</th>
<th>Timeline</th>
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<tbody>
<tr>
<td>Review/Audit</td>
<td>January</td>
</tr>
<tr>
<td>Recommendations</td>
<td>February</td>
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<tr>
<td>Implement</td>
<td>February-March</td>
</tr>
<tr>
<td></td>
<td>March</td>
</tr>
</tbody>
</table>

### Possible Challenges
- Employee cooperation

### Responsibilities & Coordination
- ____________________________
Sustainability Committee – Project timeline

- 12 Sustainability Projects Identified
- ~ Half to be implemented in Q1
- Second half will begin implementation in Q2

Total Estimated Potential Cost Savings of $100K – 200K
Sustainability projects

1. Network Printer Reduction
2. Excess Material Reduction
3. Enhance Carpooling Program
4. Install Air Curtains – Loading Dock Area
5. Compact Server Room
6. Augment Communications
7. Improve Recycling Program
8. Site-wide Sustainability Training – ST001W
9. Implement Compost/Community Garden
10. Supply Chain – Review packing for reduction of waste
11. Sustainable Opportunities with Site Consolidation – Kiosk Implementation
12. PC Energy Management
Sustainability Committee - Project example

Network Printer Reduction
- Team recognized opportunity to reduce the number of Network Printers on site
- Audit Performed:
  - 130 Network Printers
  - 40 – 60 Printers could be removed
  - $1K per printer in maintenance savings
  - $40K - $60K total in savings identified
Sustainability Committee - Project example

Community Partnerships – Car-Pooling

- Developed partnership with 511NY Rideshare through Huntington Chamber of Commerce
- Partnership developed to enhance site car-pooling program
- 511NY Rideshare is a free service of the NY State Department of Transportation offering:
  - Ride matching Services
  - Vanpools and Shuttles
  - Parking Management
  - Guaranteed Ride Program
  - Attractive and cost-effective employee benefits
Sustainability Committee - Project example

Community Partnerships – Community Garden

- Select members of Sustainability Team met with VP of Global Environmental Affairs & Safety and Director of Environmental Program at Estee Lauder in Melville, NY
- Mission was to research community garden implemented at Estee Lauder and share Sustainability Best Practices
- Gained knowledge on successfully implementing community garden in an office environment
  - Learned other Sustainability Best Practices including:
    - Kiosk Implementation
    - Password protecting Network Printers to eliminate personal printers
Community garden implementation

Community Partnerships – Community Garden

- 66 Plots (5X5, 10x10, 10X20)
- 78 Employees Signed up (Over 10% of population)
- Sub-Committee Formed
- Local Nursery & Horticulturist on site on Earth Day to sell plants
- May 15 Held Ribbon Cutting
- Next phase – Hold Farmer’s Market with Produce from Garden
  - Proceeds will go to local Charity
What can you do?

**Senior Management/Leadership Support & Promotion**
- Support
- Promotion

**Human Resources Change Management**
- Education
- Clean Air NY Programs
- Information Programs
- Community

**Energy Team Measurement & Benchmarking**
- Baseline Energy Consumption
- Benchmarking
- Promotions & Campaigns

**Information Technology Energy Efficiency**
- ENERGY STAR equipment
- Data center efficiency
- Sleep Modes
- Computer shut-off policies
- Video conferencing

**Purchasing Materials & Resources**
- Sustainable purchasing
- Energy
Questions?

Lead by example
Help support ES' Sustainability Initiative

For more information, log on to the Sustainability website at http://www.usa02.na.baesystems.com/es/it_adds_up/index.htm
Questions?

Morgan Rooney - Morgan.Rooney@baesystems.com